Space for creative and entrepreneurial activities?
Coworking spaces in the entrepreneurial landscape
of an economically challenged region

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for the degree of Doctor of Philosophy

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DECLARATION

I declare that this work has not previously been accepted in substance for any degree and is not being concurrently submitted for any other degree.

I further declare that this thesis is the result of my own independent work and investigation, except where otherwise was stated (a bibliography is appended).

Finally, I hereby give consent for my thesis, if accepted, to be available for photocopying, for inter-library loan, and for the title and abstract to be made available to outside organisations.

Anita Fuzi (Candidate)

20th December 2016
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ABSTRACT

Coworking is an emerging form of work organisation, whereby independent entrepreneurs, micro-businesses and freelancers ‘work alone together’ in shared spaces, in which the emphasis is on community, relationships, productivity and creativity.

Accounts of coworking are widespread, but empirical studies are sparse, particularly those which bring together a range of perspectives, i.e. the providers, current users, and potential users, and consider its role, actual use and positive affect. Existing work is largely focused on metropolitan areas of Europe and the United States. To this end, this thesis addresses the gap in current knowledge by exploring whether coworking is an effective model for increasing creative and entrepreneurial activities in an economically challenged region, using South Wales as a reference region. The thesis furthermore seeks to advance understanding of how coworking spaces should be designed to maximise creative and entrepreneurial activities in economically challenged regions. The research questions of the study are addressed through a three-phase approach, using a mixed methods research design.

The literature is reviewed through the lens of William’s ‘interaction model for creative behaviour’, which emphasises three key factors for enhancing creative activities in a creative workplace: the skills of its people; the physical environment; and the social (cultural) environment. The roles and relevance of these three factors in enhancing creative activities within a coworking organisation are studied through 31 thematic interviews with coworking space providers in four geographical areas (USA, Europe, UK, and South Wales), and 142 questionnaire responses from current coworkers and potential users of such spaces located in the Cardiff City Region.

The findings of this thesis indicate that coworking is viewed as significantly beneficial for performance, across the range of areas investigated - from network growth to higher levels of creativity, motivation and productivity in the context of an economically challenged region. Moreover, the results suggest that creative and entrepreneurial activities in the context of an economically challenged region can only be maximised through the combination of the three factors identified, along with the pre-studied particularities of a given region’s societal and economical context.
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<td>APS</td>
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<td>BIS</td>
<td>Department for Business Innovation and Skills</td>
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<td>Small- and medium-sized enterprise</td>
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# Chapter One: Introduction

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1.1 Introduction

Back in 1981 Alvin Toffler coined the concept of the ‘electronic cottage’ (Toffler et al., 1981); meaning that people, particularly those engaged in ‘knowledge work’, in the future, would no longer need a ‘huddle’, as they would be less bound to a traditional workplace. Technology would increasingly make working from home and other remote locations possible.

Thirty-five years later, while there is evidence that teleworking, especially home working, is not as ubiquitous as Toffler might have predicted,¹ data from the Office for National Statistics does show that in 2014 there were 4.6 million self-employed workers in the UK which is more than at any point over the past 40 years. In broad terms, the self-employed can be defined as workers who directly provide services and do not have a contract of employment. Official statistics furthermore shows that of the 4.2 million home workers, two-thirds (2.5 million) were registered as self-employed (ONS, 2014). Home workers are defined as those who usually spend at least half of their work time using their home, either within their grounds or in different places and using it as a base (ONS, 2014). Moreover, data from Labour Force Survey suggests that there were an estimated 1.91 million freelancers (those, who work for clients under a contract for services, hold the type of job defined as a self-employed job, and do not employ others during the reference period) as part of the UK self-employed population in 2015. While we should bear in mind that there are still 25 million people in ‘normal’ employment, an increase in self-employment of more than 1 million since the turn of the millennium (and 15% since the beginning of the economic crisis in 2008) suggests that significant changes are occurring in the nature of employment. The three occupational categories with the highest increase in self-employed workers during this period have been managers, directors and senior officials (47.2%), and professional occupations (19.2%). For freelancers, the largest occupational groups of all freelance workers are associate professional and technical (41% of all freelance workers), professional (36%), and managerial (23%) occupations (including artistic, literary and media; managers and proprietors in other services; teaching and education professionals; and IT and telecommunication occupations).

¹ http://www.bbc.co.uk/news/magazine-21588760
(Kitching, 2016). So perhaps this is where the inhabitants of the ‘electronic cottage’ are to be found - not working remotely for someone else, but for themselves.

Figure 1-1: Change in number of home workers, the self-employed, and freelancers between 2008 and 2014 in the UK

Source: ONS, LFS and IPSE

Figure 1-1 above shows that, in the self-employment, home-based business and freelancer categories, there has been an upward trend since the start of the financial crisis in 2008. These trends are however by no means restricted to the UK (further discussed in sections 3.3. and 3.4).

Self-employment however cannot be equated with entrepreneurship (Toft, 2016). The self-employed are simply those who, whether by choice or necessity, work through their own businesses rather than being directly employed by someone else. Self-employment can be viewed as a category between employee and business owner that covers a multitude of work arrangements (i.e. engaged in work for a daily or weekly rate, or for specific jobs) (Toft, 2016). Most self-employed people own little capital and are not particularly committed to growing their businesses. On the contrary, an entrepreneur is a person who perceives an opportunity and creates an organisation to pursue it (Bygrave, 1997). Entrepreneurship can be conceptualised as a process by which individuals and groups generate novel ideas, sort through them to identify those that are most promising,
present the ideas to relevant stakeholders, mobilise resources and support, and embody their idea in an organisational form that engages in market-based competition (Knudsen and Swedberg, 2009). The entrepreneurial process involves all the functions, activities and actions associated with perceiving opportunities and creating organisations to pursue them (Bygrave, 2013). Creativity is important to entrepreneurs because not only must their initial ideas exhibit the dimensions of creativity (i.e. novelty, usefulness and appropriateness) to justify firm formation but the capacity to sustainably create commercial value from ideas must also be demonstrated throughout the whole entrepreneurial process (Duxbury, 2012).

The shifts in economic and business environment, and the changes in culture and lifestyle resulting in new ways of working beg the question of where these creative and entrepreneurial activities are being carried out. As a self-employed entrepreneur or freelancer one can either rent one’s own office – which is expensive and for many tasks probably not needed, or work at home with the various distractions and disadvantages that entails (Mason and Reuschke, 2015). One other option might be to use ‘third places’, such as local coffee shops (Oldenburg, 1989). Although often convenient these inevitably have drawbacks of their own, not least the somewhat random set of encounters to be found therein. Hence the idea of ‘coworking’ has arisen.

Coworking spaces are flexible, shared, rentable and community-oriented workplaces occupied by professionals from various sectors. Coworking spaces are particularly designed to encourage collaboration, creativity, idea sharing, networking, socialising and generating new business opportunities for start-ups, freelancers and small firms (Capdevilla, 2014; Parrino, 2013; Spinuzzi, 2012). The relevant literature suggest that they are the kind of work environments where all the preconditions identified for successful entrepreneurial activities can be found at one place: a supportive and productive business climate, an environment where creativity and innovation can flourish, a strong and diverse knowledge base, and a well-developed business and social network (Harryson, 2008; Kijkuit and Van Den Ende, 2007; Ko and Butler, 2007; Lee et al., 2004; Rosa et al., 2008).

Coworking is not just about sharing a physical space. It is about establishing a community of likeminded people (consisting of freelancers, entrepreneurs, start-ups and small
companies) who share the same values and enjoy creating synergies. However, almost every kind of work relation can be described as coworking. In this research the term coworking is restricted to ‘likeminded but lonesome’ (Merkel, 2015) types of work relations that take place in shared and flexible spaces where members are mainly entrepreneurs, start-ups and location-independent professionals in knowledge intensive, high-technology, new media, and creative industries, and share the values of “collaboration, community, openness, sustainability and accessibility” (Kwiatkowski and Buczynski, 2011a). According to this view, coworking refers to the activity/task (i.e. interaction, collaboration, networking and knowledge sharing) carried out in the space instead of the physical space per se.

Two main aims have been set for this research study. Firstly, the thesis seeks to advance theoretical understanding of how coworking spaces support the creative and entrepreneurial activities of their member businesses in an economically challenged region. Secondly, a practical contribution of this thesis is to provide knowledge on whether coworking is an effective model for increasing creative and entrepreneurial activities in an economically challenged region. In particular, this thesis aims to provide an in-depth insight into how coworking spaces currently work, and how they should be designed to maximise creative and entrepreneurial activities in an economically challenged region. To do so, South Wales as a reference region is chosen to address the identified gap in the literature of how coworking spaces work beyond high density urban areas.

The present chapter presents the personal motivation and the rationale for the research, the research aims and objectives, a brief synopsis of the employed research design and approach, the context of the study, and the structure of the thesis.

1.2 Personal Motivation

The researcher’s interest and motivation for this study stems from her curiosity about innovation and creativity. Prior to this study, the researcher conducted research into how SMEs benefit from ‘open innovation’ and ‘living lab’ collaborations. She was keen to understand how smaller scale collaborative environments work and sustain creative and
entrepreneurial activities. The researcher has been presented an opportunity (via a Research Innovation Award) to study entrepreneurial practices within collaborative work environments in the context of South Wales.

### 1.3 Rationale for the Research

The research has the potential to make a significant impact on the emergent but as yet under-explored area of coworking spaces by using the shared themes of creativity and entrepreneurship to bridge the research agendas of design, management and organisational studies and regional development disciplines.

There are two main rationales underpinning this research.

The first rationale originates from an identified gap in the literature. Entrepreneurs, businesses and mobile workers belonging to the creative, technology and new media sectors tend to locate themselves in high density urban areas with the hope of enjoying the positive effects of knowledge spillovers and clustering, while having access to various forms of financial support. However, in big cities the cost of real estate is high and it is often difficult to find available and affordable offices that are able to accommodate the needs of start-up businesses, entrepreneurs and non-traditional workers (e.g. freelancers, mobile workers) (Green, 2014). These professionals require new collaborative ways of working in an environment that enables social practices such as collaboration, interaction and networking. As a consequence, in past years, a dramatic increase in cheaper alternative work environments has been seen. Coworking spaces are one such environment, purposefully designed to support co-creation, interaction, collaborative work and networking amongst members.

There are a number of studies that have tried to explain the advantages and disadvantages of working in coworking spaces but these have overwhelmingly been carried out in large cities by coworking practitioners. Even though the topic has raised the interest of scholars, academic research has not paid much attention to these newly emerging shared work environments. Existing research has mainly focused on coworking spaces in big cities (Barcelona, London, Paris, Berlin, New York) with the aim of understanding the characteristics of coworking spaces, the people who use them, and the reasons they do so.
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To the best of the researcher’s knowledge, there is only one master’s thesis addressing coworking in a rural context (Heikkilä, 2012), and no published study exploring coworking spaces in middle-sized cities from various perspectives (coworking space providers, members\(^2\) and non-users\(^3\)). There is a lack of knowledge of how coworking spaces work and are perceived in middle-sized cities and less urbanised areas; e.g. do people actually need these collaborative work environments given the differences in lifestyle and mentality, for self-employed business activity? If so, how are they used compared to their ‘big brothers’ located in high density metropolitan areas?

Several reports suggest that medium-sized cities (with populations between just below 250,000 and just over 500,000) and their hinterlands (wider city region) will become primary economic drivers (Cox, 2012; Dobbs et al., 2011; OECD, 2012). OECD (2012) recently found that across developed countries, 43% of national growth between 1995 and 2007 came from outside leading cities/city regions. In the UK between 1995 and 2007, ‘intermediate regions’ accounted for 57% of net growth. Labour market statistics furthermore confirm the increase in the self-employed and project-based worker population worldwide (for example non-employing businesses accounted for 76% of the business population in the UK in 2015) (OECD, 2012). This begs questions of where those businesses operate and what kind of workplaces they find appropriate for their daily business operation. Therefore, this research makes a unique contribution to the understanding of how coworking spaces might act as appropriate entrepreneurial environments supporting various forms of creative behaviour in smaller places and economically challenged regions.

The second rationale derives from a possible implication in the economic regeneration context. Wales is a weaker economic region within the United Kingdom and its economy faces a number of difficulties, underperforming in many areas compared to other UK regions. The Welsh economy has witnessed a series of structural changes in its recent history, which have caused many issues around entrepreneurship and business productivity. Many countries and regions face similar difficulties and challenges in terms

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\(^2\) Members refer to those who are regular users of coworking spaces. The cut-off point for considering one a member is one day a week usage of coworking, however, in reality most people are more frequent users.

\(^3\) Those location-independent freelancers and entrepreneurs who do not currently use coworking spaces on a regular basis but might use them occasionally (less than one day each week). These non-traditional workers usually prefer to change their place of work based on the activity they carry out, or/and use their home as a base.
of entrepreneurship. This research could offer guidance on how coworking space might be used as an effective model to support creative and entrepreneurial activities in economically challenged areas.

1.4 Research Aims and Objectives

The present thesis addresses the gap in current knowledge of how coworking spaces work, are perceived, and support creative and entrepreneurial activities in an economically challenged region.

In order to achieve this overall aim, the following two research questions are set:

1. Is coworking an effective model for increasing creative and entrepreneurial activities in an economically challenged region?

2. How should coworking spaces be designed\(^4\) to maximise creative and entrepreneurial activities in an economically challenged region?

The key objectives of the research are:

1. To identify relevant research on coworking spaces in order to understand the coworking phenomenon in a broader sense.

2. To investigate ‘state of the art’ coworking practices and identify preconditions for supporting creative and entrepreneurial activities in selected coworking spaces in the USA, Europe and the UK.

3. To identify the conditions, challenges and opportunities in managing coworking spaces successfully in the Cardiff City Region, and other key areas in South Wales with regards to enhancing creative and entrepreneurial activities.

4. To explore coworking communities in the Cardiff City Region as well as other key areas in South Wales.

\(^4\) In a broader sense, design refers to the physical, social and facilitative context of the coworking organisation.\(^4\)
5. To explore the perception of places and practices of ‘informal coworking’ enhancing creative and entrepreneurial activities in the Cardiff City Region.

6. To develop a set of recommendations of how to best adopt the coworking space model in cities similar to the Cardiff City Region, and regions similar to Wales.

1.5 Research Approach

To answer the research questions and achieve the objectives indicated, this study is exploratory in nature, and takes an ‘interpretive constructionist’ worldview.

A case study strategy was considered most appropriate for this particular study because it allows a combination of methods, and takes account of the wider context. Within a case study approach, mixed methods can be employed to collect data through a variety of means. A mixed methods approach was deemed appropriate because it allows for a richer body of data to be collected, and triangulation between different sources, leading to more robust findings.

Objective 1 aims to outline the central findings from the literature review, and describe the crucial factors and preconditions that support the creative and entrepreneurial activities of co-located yet independent member businesses in coworking spaces. For this purpose, Williams’ (2013) ‘interaction model for creative behaviour’ is used as a framework to understand how the various elements (physical, cultural (social), and other people) in a given creative workplace affect peoples’ creative and entrepreneurial activities. While it should be kept in mind that there is an existing body of literature addressing the supporting elements of creativity and entrepreneurship at the micro and macro level, due to the evolving and emerging nature of the concept of coworking, it is necessary to identify ‘state of the art’ coworking practices in order to improve the understanding of how they work beyond what can be found in the literature. Thus, Williams’ model is used as a framework to help analyse coworking practices in selected spaces in the USA, Europe and the UK, and to examine the role and relevance of each

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Also called ‘jelly’, casual gatherings and events where freelancers, home workers and small business owners get together to work, chat and collaborate (Jackson, 2013). Jelly groups meet regularly (usually monthly) in cafés, pubs, libraries, community centres, hubs and other locations. After a certain time, attendees might require a permanent basis of work, and might establish different kinds of collaborative workspaces depending on what best suits the needs of the group (e.g. maker space).
facilitative condition necessary to enhance creativity, leading (in some cases) to successful entrepreneurial activities in coworking organisations (Objective 2). The methods for achieving Objective 2 were thematic interviews with coworking space providers (founders/community managers) and site visits (‘State of the art’ phase).

Parallel with reviewing ‘state of the art’ practices, Objectives 3 and 4 aimed to identify conditions, challenges and opportunities in managing coworking spaces with regards to enhancing creative and entrepreneurial activities, and explore coworking communities in the Cardiff City Region and other key areas of South Wales (CCR coworking phase). The six methods selected in the CCR coworking phase were thematic interviews, site visits, participant observation, observation, questionnaire survey, and informal interviews. Initially, five interviews (at the five original coworking sites) were intended to be carried out during this phase, but, as more spaces opened after the data collection had ended, in order to provide a more comprehensive picture of the present coworking spaces in South Wales, six other recently opened spaces were included.

The last phase of the primary data collection called CCR non-user phase, aiming to achieve Objective 5 (i.e. exploring the perception of places and practices of informal coworking enhancing creative and entrepreneurial activities in the Cardiff City Region) employed informal interviews, observation and a questionnaire survey in places where location-independent professionals and home-based entrepreneurs gather with the primary aims of working, interacting and sharing.

The information gathered from these sources helped explore whether coworking spaces can be used as an effective model to increase creative and entrepreneurial activities, and if so, how they could be designed to maximise those activities in an economically challenged region. The recommendations are the outcomes of the ideas and strategies that emerge from the results, aiming to increase creative and entrepreneurial activities in partnership with coworking spaces in cities having similar characteristics to the Cardiff City Region, and regions similar to Wales.
1.6 Case Study Context: The Cardiff City Region

In Chapter 4 a comprehensive introduction to the case study context is provided. The chapter starts with the economic development and entrepreneurship policy context of Wales, and highlights the key characteristics of its economy, labour market, and community, entrepreneurial and business culture, setting the backdrop to the study. The chapter also outlines the city and city-region context of Cardiff and the surroundings (referred to as the Cardiff City Region), providing a closer look at its entrepreneurial ecosystem and its key players in supporting collaborative working practices.

Located at the Western edge of the United Kingdom, Wales is a region with a population of some 3 million people. A smaller population is concentrated in the Northeast, while the West, central and Northwest areas of Wales are rural and sparsely populated (Figure 1-2).

Figure 1-2: Map of Wales with population density, 2015

Source: ONS
Chapter One: Introduction

Of the 12 regions in the UK, Wales is the least economically competitive (Huggins and Thompson, 2010) with the lowest level of GVA per capita, and low levels of income, productivity, employment and economic activity, all significantly below the UK average.

Wales is a heterogeneous country economically and culturally within its sub-regions, and is categorised into three broad types: 1) areas with significant urban and city development, which, along with the capital city Cardiff (including Newport), Swansea and Wrexham; 2) the wider South Wales Valleys sub-region, which was previously the coal mining and industrial heartland of Wales, but for many years has been engaged in a process of economic restructuring, consisting of Blaenau Gwent, Bridgend, Caerphilly, Merthyr Tydfil, Neath Port Talbot, Rhondda Cynon Taff, and Torfaen; and 3) localities with significant levels of rural and agricultural dependence, consisting of Anglesey, Carmarthenshire, Ceredigion, Conwy, Denbighshire, Flintshire, Gwynedd, Monmouthshire, Pembrokeshire, Powys and the Vale of Glamorgan (Huggins and Thompson, 2015a). The more rural North and West of the country along with the industrial South Wales Valleys have for a number of years qualified for Objective 1 Convergence assistance from the European Union, and are receiving the highest level of support in the 2014-2020 phase.

In terms of city-regions, as the principal sub-national dimension for economic development policy across the UK, the country can be divided into two: the Swansea Bay City Region and the Cardiff Capital Region.

Cardiff, the capital city, located in the Southeast of the country, is the largest urban area with a population of 1.5 million across the wider city-region, and is promoted as the nation’s economic ‘dynamo’ and ‘powerhouse’ (Welsh Government, 2015). The city-region includes ten local authorities: Cardiff, Vale of Glamorgan, Bridgend, Newport, Caerphilly, Rhondda Cynon Taff, Merthyr Tydfil, Torfaen, Blaenau Gwent, and Monmouthshire.

The Swansea Bay City Region with a resident population of 688,000 supporting some 302,000 jobs and containing around 22,000 businesses, is the other major driver of the Welsh economy. The city-region includes four local authorities: City and County of Swansea, Neath Port Talbot, Carmarthenshire and Pembrokeshire (Swansea Bay City Region Board, 2016).
From a geographical point of view, the primary focus of this thesis is the Cardiff City Region, as the region has significant start-up performance and has seen the emergence of various collaborative workspaces occupied by creative and technology entrepreneurs. Even though the Swansea Bay City Region also has the potential to break into the emerging collaborative workspace market, it is not as developed as the Cardiff City Region, and therefore the Swansea Bay City Region is not studied in depth. Nevertheless, to be able to develop a set of recommendations for how the coworking space model might be able to support creative and entrepreneurial activities more effectively in medium-sized cities, other initiatives located in the Swansea Bay City Region were also of interest.

1.7 Structure of the Thesis

In order to achieve the research aims and objectives, the study is presented in 11 Chapters, as illustrated in Figure 1-3.

After the background theories, serving as a framework to analyse the relevant literature and results emerging from the primary research, discussed in Chapter 2, an overview of the work trends shaping the new world of work and supporting the spread of coworking spaces around the globe is presented in Chapter 3. Chapter 4 reviews the background literature to coworking: the collaborative community workspace concept and the coworking phenomenon in detail. In Chapter 5, a background to Wales and the Cardiff City Region context is provided with the aim of setting the scene for the scope of the case study. Chapter 6 describes the methodology and methods used in the research. Chapter 7 provides empirical results on ‘state of the art’ coworking practices in selected coworking spaces worldwide. Chapters 8 and 9 focus on coworking spaces located in the Cardiff City Region and other key areas of South Wales, exploring the phenomenon and practices from various perspectives (providers, members and non-users) with the aim of gaining profound and detailed insight into how these spaces work and support creative and entrepreneurial activities in the context of a middle-size city and an economically challenged region. Chapter 10 presents a general discussion of the entire findings of the study, while Chapter 11 presents the research journey in brief, conclusions of the key findings, the original contribution to knowledge, implications for practice, policy and student/graduate entrepreneurship, and future directions for coworking research.
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1. Introduction
2. Theoretical Background Review
3. An Overview of Work Trends
4. Review of the Background Literature to Coworking
5. Setting the Scene: South Wales and the Cardiff City Region
6. Research Methodology
7. Findings I - 'State of the Art' Coworking Practices
8. Findings II - The Coworking Organization: Variations for South Wales and the Cardiff City Region
9. Findings III - Coworking Members’ and Non-members’ Experience in the Cardiff City Region — A Contrast
10. Discussion of Key Findings
11. Conclusions

Figure 1-3: Structure of the Thesis
Source: The Researcher
Chapter Two: Theoretical Background Review

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2.1 Introduction

This chapter presents the theoretical background of the thesis. It begins by briefly reviewing the literature on creativity with particular regard to the workplace (its physical attributions, and societal and cultural characteristics). The chapter then proceeds to introducing two models appropriate for over-viewing the relevant literature on coworking spaces, and analysing and reporting the outcomes of the primary research. The first model, the ‘interaction model for creative behaviour’ (Williams, 2013), emphasises that each element of the creative workplace (the social/cultural environment, the physical environment and the individuals therein) influences creative outcomes equally. The model highlights that the space needs to reinforce the culture, the culture needs to reinforce the peoples’ behaviour, and the peoples’ behaviour needs to be supported by the space. The outcomes (i.e. products or services) are developed from peoples’ creative behaviours or processes, which are made possible by how those people perceive the environment within which they are working. The second model introduced in this chapter, called the ‘engage/disengage model’ (Williams, 2013), explains that in order to be creative, people undertake one of a number of creative behaviours, either engaging with people and situations, or disengaging from people and situations, in a given organisation, depending on the activity they wish to carry out. The final sections give an overview of the entrepreneurial individual, and the conditions that are crucial for entrepreneurs and businesses to succeed in a given place (at city/regional level). The existence of these conditions in the context of South Wales is reviewed in Chapter 5, in order to foresee whether South Wales and the Cardiff City Region is a ‘good place’ to start a business.

2.2 Creativity and the Creative Individual

Creativity is the ability to produce work that is both new and valuable (Amabile, 1983; Amabile et al., 1996; Csíkszentmihalyi, 1996). New means unique, with an original point of view, unusual, useful, effective, efficient, breaking from existing patterns, contributing something to the field or society in general which was not there before, and serving a purpose. However, it is hard to decide if something new also means something creative, and to what extent. Some scholars (e.g. Razeghi, 2008; Sutton, 2001) argue that being
Creative often means the reconfiguration of old ideas that requires imaginative and non-routine thinking, whereas others say that the social context (consumers or businesses) (Dahlgren et al., 2008; Hunter et al., 2007; Plucker and Beghetto, 2004), and the observer’s perspective (Fillis and Rentschler, 2006) define what is new and valuable. Creativity is, as argued by Ford (1996), a “domain-specific, subjective judgement” (p. 1115). Csikszentmihalyi (1996) claims that the experts within a domain are the gatekeepers of such value judgements and determine what is creative, because they have the relevant knowledge. A domain encompasses the cultural aspects that include the “structured knowledge system that an individual must access and gain knowledge of in order to create something new and make a change” (Duxbury, 2012, p. 11).

Scientists in the 19th century equated creative personality characteristics with ego-mania, obscure and incoherent thought, and a tendency to impulsiveness (Lombroso, 1877; Nordau, 1895). Scholars in the 20th century such as Feist (1999) claimed that particular characteristics such as affective illness, drive, ambition, and aloofness determined the creative person. Society in the 21st century accepts that creativity is a character strength (Csikszentmihalyi and Csikszentmihalyi, 2006). Csikszentmihalyi (1996) and Peterson and Seligman (2006) state that a creative individual is both smart and naïve at once, rebellious and conservative, playful and disciplined, and interchanges between imagination and fantasy. Further personality characteristics of a creative individual include broad interest, attraction to complexity, high energy, independence of judgement, autonomy, intuition, self-confidence, ability to resolve amenities, openness to experience (including openness to fantasy, aesthetics, feelings, actions, ideas and values) (Sawyer, 2012), divergent thinking (thinking ‘outside the box’) (Guilford, 1950) and cognitive style (the way individuals think, perceive, remember information, solve problems, and make decisions) (Barron and Harrington, 1981; Shalley et al., 2004). Amabile (1996, 1988) concludes that, at a personal creative task level, there are three major components necessary for supporting individual creativity: 1) domain-relevant skills, which include familiarity with and factual knowledge about the domain in question, relevant technical skills and special talent; 2) creativity-relevant skills, which refers to the ‘something extra’ of creative performance, including a cognitive style favourable to taking new perspectives on problems, exploring new cognitive pathways, and a working
style conducive to a persistent and energetic pursuit of one’s work; and 3) intrinsic task motivation, which refers to self-motivation to do a task because the individual wants to, not because she/he was ordered to (Amabile, 1988, pp. 130-133).

### 2.3 The Physical Space Enabling Creativity

In the earlier research of Amabile (1996, 1983) and Csíkszentmihályi (1996) on creativity, the physical environment appears mostly extensively, and is used only in the psychological sense of a social or anthropological environment. Amabile (1996) argues that those “physical environments that are engineered to be cognitively and perceptually stimulating, can enhance creativity” (p. 249). Similarly, Csíkszentmihályi (1996) acknowledges that the physical environment is a facilitating condition for creativity as it affects thoughts and feelings positively, but claims that “it is not what the environment is like that matters, but the extent to which you are in harmony with it” (1996, p. 354). He also argues that there will probably never be evidence “to prove that a delightful setting induces creativity” (p. 135). On the contrary, Franck (1984) claims that the physical environment, both built and natural, influences behaviour, and as such, creativity. She adds that people have the power to determine what the space is by claiming that “we are all determinists, insofar as we believe that in certain circumstances and under certain conditions the environment does have some influence on behaviour” (1984, p. 416).

The first researcher to take into consideration the interaction between workplace and workforce on team creativity was Tatsuno (1990). He found that the office design has an effect and can actively support creativity and idea-generation. He examined the ‘creativity-inducing environments’ implemented by the Japanese Ministry of International Trade and Industry, that were used to “create mood for more creative research and more human interactions amongst employees” (Tatsuno, 1990, p. 90-92).

McCoy (2000) found a significant relationship between the features and properties of the physical environment and the creative achievement of teams. She concludes that teams need, 1) diverse areas in which team members can work collaboratively and without disruption; 2) a high degree of control over the design; and 3) a physical environment that enhances maximum opportunities for effective communication, thinking and collective
working. She also found that standardised work areas and conference rooms are less likely
to foster creativity.

A physical environment that is perceived as attractive can be inspirational and
motivational to people, and foster creativity (Amabile et al., 2005; Haner, 2005). Physical
features, such as colours, may have a positive influence on a person’s mood (e.g. Küller
et al., 2006), which is assumed to foster creativity through the generation of a large
number of ideas (e.g. Amabile et al., 2005; Davis, 2009). Isen (1999) finds that inducing
positive mood (by stimuli) leads to higher levels of performance in dimensions relating
to creativity. Further elements of the physical environment that support employees
creativity, listed by Dul and Ceylan (2011), are 1) furniture; 2) indoor plants/flowers; 3)
calming colours; 4) inspiring colours; 5) privacy; 6) window view to nature; 7) any
window view; 8) quantity of light; 9) daylight; 10) indoor climate; 11) sound; and 12)
smell (Dul et al., 2011; Dul and Ceylan, 2011). Knight and Haslam (2010) find that people
report a greater sense of psychological comfort when they feel they have control over
their workplace. Creating a pleasant environment enhances job satisfaction and well-
being. They conducted experimental research in a variety of settings: lean (basic office
furniture and equipment only); enriched (office space decorated with plants and art
chosen by a designer); and empowered (participants allowed to decorate their space but
then re-arranged by the management). Their results indicate that enriching a lean space
with plants and pictures increases well-being and productivity by 17%, whereas
empowered lean spaces (decorated by the participants) increase these performance
outcomes by 32%.

2.4 The Social-organisational Context for Creativity

For several decades, researchers such as Amabile and Csíkszentmihályi have tried to
identify and describe factors and principles of the social context that can enhance the
creativity of individuals in organisations. Some of the key factors they highlighted in their
research are the importance of access to knowledge and the necessary tools; interaction
with people from a range of backgrounds; the need for autonomy; the willingness to take
risks and overcome the fear of failure; the setting of challenging goals that match skill
levels; and the importance of time for “immersion in concentrated activity” that Csikszentmihályi (1996) described as ‘flow’. More recent work by Loudon and Deininger (2014) highlight the importance a person’s ‘state of being’ has on creativity, where they define ‘state of being’ as “the emotional, mental and physiological condition of a person” (p. 4). McCoy and Evans (2002) note that although a number of creative thinkers have themselves acknowledged the role that the environment (in its various forms – physical, social and organisational) can potentially play in facilitating or indeed hindering creativity, creativity research itself has typically been skewed towards the study of personality traits.

The work of Amabile (1988) represents an attempt to tackle this issue with its explicit reference to the characteristics and qualities of the social-organisational context of the work environment. The conditions beneficial to creativity identified therein are, 1) freedom in deciding what to do or how to accomplish a task, or a sense of control; 2) good project management, with a manager who serves as a good role model, shows enthusiasm, has good communication skills, sets a clear direction without managing too tightly, protects her/his team members from distraction, and matches tasks to workers’ skills and interests; 3) sufficient resources with access to the necessary facilities, equipment, information, funds and people; 4) encouragement and enthusiasm for new ideas; 5) various organisational characteristics including a mechanism for considering new ideas, a corporate climate that acknowledges cooperation and collaboration across levels and divisions, and an atmosphere were innovation is celebrated and failure is not judged; 6) recognition, in an atmosphere where work is rewarded and appropriate feedback is given; 7) sufficient time to think creatively and explore various perspectives; 8) challenge, arising from working hard on tasks and projects important for the organisation; and 9) pressure or a sense of urgency, internally generated from competition with outside organisations or a general desire to accomplish something important (pp. 147).

In her later study, co-authored with colleagues (1996), she lists different forms of encouragement observed to have a positive influence on creativity. These are 1) organisational encouragement, such as encouragement of risk taking and of idea generation, supportive and fair evaluation of new ideas, reward and recognition of creativity, and supporting the collaborative flow of ideas throughout the whole
organisation; 2) supervisory encouragement, such as goal clarity, open interaction across all levels of the organisational hierarchy, and support of teams’ work and ideas; and 3) work group encouragement, enabling cooperation and collaboration (pp. 1159-1161).

### 2.5 Interaction Model for Creative Behaviour

Williams (2013) in her thesis built a model based on Franck’s (1984) research that explains the nature of the link between the physical space and creative behaviour in the workplace. She argues that a creative workspace contains the skills of its people, the physical environment (the right number of spaces, appropriate affordances, hygienic properties and a design that inspires and motivates), and the cultural or social environment (whether it provides trust, and is curated). These influence each other in such a way that the space reinforces the culture, the culture reinforces the peoples’ behaviour, and the peoples’ behaviour is supported by the space (Groves and Marlow, 2016). Williams’ model proposes that “creative products develop from people’s creative behaviours or processes, which in turn are made possible (or inhibited) by how those people perceive the environment within which they are working. This perception arises from the interaction between people’s own skills and personality, the physical environment they work in, and the social or managerial culture of the organisation” (Williams, 2013, p. 48) (Figure 2-1).

![Figure 2-1: Interaction model for creative behaviour, based on Williams (2013)](image-url)
2.6 Engage/Disengage Model Enabling Various Behaviours

Williams’ (2013) other interesting model is the ‘engage/disengage’ model, which explains that, in order to be creative, people undertake one of a number of creative behaviours: firstly, engaging with people, information and ideas by purposefully looking for them as well as by accidentally ending up in serendipitous situations; secondly, disengaging from others in order to better engage with thinking, to focus and be involved cognitively with the activity through silent and private solo-work; and finally, disengaging from the subject or problem by walking away from it to have space for refreshing their mind in whatever way works for them (Williams, 2013).

Figure 2-2 shows the spaces supporting the various creative behaviours. In the ‘dwelling’ an individual can disengage from all distractions and focus on solo, quiet work. The ‘bazaar’ refers to the space where individuals can find out what is happening, and who is around. The ‘den’ allows team members to disengage from external pressure and not be distracted by others. The ‘neighbourhood’ supports interaction with other groups or teams. Finally, the ‘plaza’ is the place where individuals and teams can connect, a place for serendipitous encounters, informal chats, social activities and reflection (Groves and Marlow, 2016).
Spaces for disengagement and privacy can be private booths with small single-user tables in corridors, or quiet chill-out areas. To enable engagement, spaces with attractors such as coffee machines or water-coolers might be appropriate. For harnessing the ‘plaza’ type of serendipitous encounter, social spaces and the canteen are the best places within the organisation. However, organisations might want to consider public and semi-public places to enhance creative behaviour through engagement as well as disengagement. Past research on creativity has found that much of the creative activity takes place outside the workplace (Loudon and Deininger, 2014). The ‘eureka’ moment can occur at any time, for example, on the cusp of sleep, under the shower, out walking or when cooking. As the next chapter describes, people like to change environments based on what they find appropriate for their given activity and state of being. Cafés and restaurants for example are appropriate places for productive meetings, while libraries and the home office are places not to be interrupted. Also, moving from one place to another brings an element of

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**Figure 2-2: Types of spaces accommodating different types of creative behaviour, based on Williams (2013) and Groves and Marlow (2016)**
diversity to peoples’ brains. The spatial context ranges in terms of scale and location: individual workstations, team spaces, a floor, a building, the block, the neighbourhood, the district, the city, the hinterland of the city, all create the parameters of creativity (Groves and Marlow, 2016; Laing, 2013). Section 3.2 provides detailed insight into how different types of environment affect creative thinking and behaviour, and why organisations need to think ‘outside the box’ to ensure their competitive advantage.

Understanding how the different types of setting can support creative behaviours and activities helps organisations think about the possible implications. Not all types of setting need to be provided by each organisation, however, the permission and freedom to communicate and collaborate with people from different disciplines, and indeed from other organisations, and stakeholders including end users, the public and semi-public, as well as home offices, could also be considered.

### 2.7 Entrepreneurial Creativity and the Entrepreneurial Individual

Entrepreneurship is the ability and willingness of individuals to perceive and create new economic opportunities, to introduce their ideas into the market, making decisions on location, the use of resources and organisations, while facing uncertainty and other obstacles (Wennekers and Thurik, 1999). Creativity is recognised as an important driver for entrepreneurs to discover new business opportunities and successfully start ventures. It is the origin of the entrepreneurial process when it comes to making strategic decisions (e.g. Argyris, 1990; Schumpeter, 1934).

Entrepreneurship is a form of creativity. It can be considered business or entrepreneurial creativity because new businesses are often original and useful (Sternberg and Lubart, 1999). Amabile (1997) refers to entrepreneurial creativity as the generation and implementation of novel and appropriate ideas for venture creation that requires “a combination of intrinsic motivation and certain kinds of extrinsic motivation – a motivational synergy that results when strong levels of personal interest and involvement are combined with the promise of rewards that confirm competence, support skill development, and enable future achievement” (Amabile, 1997, p. 18). Entrepreneurial creativity is however not limited, instead, it exists before, during and after the lifetime of
a particular venture as it is formed partly by the social world and partly by those responsible for the decision making process (Fillis and Rentschler, 2006).

Whiting (1988) identifies self-confidence, perseverance, high energy levels, calculated risk taking, the need to achieve, being intuitive and being flexible as the main characteristics of an entrepreneurial individual. An entrepreneur is defined by a combination of personality traits (Schumpeter, 1934) which are high levels of extraversion, conscientiousness and openness, and a lower score for agreeableness and neuroticism (e.g. Obschonka et al., 2013; Seibert and Zhou, 2006). However, it is important to make the point that a creative individual does not necessarily have an entrepreneurial personality and mind-set, but entrepreneurial activities certainly require creativity throughout the whole entrepreneurial process.

Gender and level of education are also associated with entrepreneurship. Men are more likely to start businesses than women (Brush, 1992), and individuals with higher levels of education are more likely to start businesses and have a greater ability to identify and exploit a wide range of business opportunities (Robinson and Sexton, 1994). The availability of capital in the form of wealth and income is also positively associated with entrepreneurship (Kihlstrom and Laffont, 1979). Moreover, migration provides a fresh viewpoint on the resources available in an area that positively relates to early-stage entrepreneurship (Kalantaridis and Bika, 2006).

Figure 2-3 summarises entrepreneurial characteristics, those coming from the social world, personal ones such as cognitive skills, and creative traits such as vision, judgement, curiosity and opportunity recognition. The combination of these factors is responsible for enabling the entrepreneurial individual to achieve a competitive advantage.
Figure 2-3: Creativity in Entrepreneurship

Source: Fillis and Rentschler, 2010
2.8 Contextual Factors that Shape and Support Entrepreneurial Activities

Entrepreneurship is seen as a major contributor to economic growth and employment creation. As such, the vast majority of research into entrepreneurship has focused on understanding the wider economic and societal factors affecting the creation and development of new firms. This section brings together the wider societal and economic conditions that attract creative individuals to a place, and influence business creation and development.

‘Quality of place’ factors have an influential role in attracting talent to cities. According to Florida (2008) these are tolerance and openness to various ethnic, racial and lifestyle groups; an authentic and attractive built environment; high levels of social cohesion; and the opportunity to take part in (or at least consume) a variety of cultural activities and related amenities. Other scholars such as Glaeser (2005) suggests that climatic amenities, various dimensions of quality of life, housing costs and opportunities for wage-enhancing interaction are of principal importance to urban population growth. Clark et al. (2002) claim that particular amenities such as urban attractions (parks, museums, galleries, orchestras, signature buildings) drive urban growth. Storper and Scott (2009) argue that cities develop primarily on the basis of their job-generating capacities rather than amenities. Social proximity of actors within the network (i.e. being within easy reach of other inventive talents), the tendency of actors to be in the network (the formation of tightly knit groups of creative talent), and the openness of the network (its embeddedness in global/local networks), are particularly desirable for knowledge creation and diffusion, and thus have a crucial role in attracting creative talented individuals. Economic literature suggests that the spatial clustering of knowledge, innovation, creativity and economic performance is mainly driven by the existence, and the ease of creation, of a dense mesh of social interactions (formal and informal) in urban areas, facilitating the transmission and exchange of knowledge (Glaeser and Gottlieb, 2006). This network of relationships generates pervasive localised knowledge flows among actors, and guarantees a fast diffusion of ideas at the local level, which in turn boosts the productivity and creativity of all local actors (Jaffe et al., 1993). Social proximity within and across cities can
facilitate the transfer and acquisition of knowledge, cliquishness (of actors in the network), trust, reciprocity and a sense of belonging, which in turn stimulate socialisation of knowledge, and common and shared learning practices (Breschi and Lenzi, 2016).

On a regional level, Arminton and Ács (2002) found industrial intensity, income growth, population growth and high levels of human capital to have a close relationship with new firm formation. Wyrwich (2012) identifies other drivers influencing entrepreneurial activities, such as the social, regulatory and legal systems. Furthermore, economic context, economic growth, industrial conditions and infrastructure (Davidsson et al., 1994), levels of immigration (e.g. Reynolds et al., 1994), and the availability of financing (e.g. Bartik, 1989; Reynolds et al., 1994) are all important for new venture creation. Saxenian (1999), and Stuart and Sorenson (2003) note the importance of networks, especially social relationships in starting a new firm or setting up a new organisation. Lee et al. (2004) argue that the creativity and diversity of a region work together to increase regional capacity, and accelerate entrepreneurial activity. It is argued that the more diverse the region, the lower the barriers to enter and stay in the region (e.g. Boschma and Fritsch, 2009), thus low barriers can play an important role in attracting talent and human capital (Lee et al., 2004). Freytag and Thurik (2007) suggest that other factors play important roles in new firm formation, specifically the culture of a given territory. Tylor (1871) defines culture as “that complex whole which includes knowledge, belief, art, morals, law, custom, and any other capabilities and habits acquired by man as a member of society” (p. 1). Culture relates to shared systems of meaning within and across social groups (Hofstede, 1980). The cultural traits of a place may influence its business culture, especially its entrepreneurial capacity (Mueller and Thomas, 2001). Minniti (2003) suggests that personal motivation, the institutional environment, and the economic and business environment determine involvement in entrepreneurial activities. Culture may play a role in influencing all three factors by establishing socially accepted behaviour, motivation and economic objectives (Aoyama, 2009; Denzau and North, 1994); and may drive the development of the physical and built environment.

Huggins and Thompson (2015a) find a range of dimensions significantly associated with entrepreneurial activity within local economies, including social cohesion, collective action and social rules. Their research finds evidence that in more entrepreneurial regions
the acceptance of social rules is stronger, and the region is more individualistic and diverse culturally. More socially diversified and open localities are likely to have a community culture open to innovation-led economic development (Florida, 2002). On the contrary, for localities in more peripheral regions the socio-spatial culture is less favourable because such localities lack the relevant financial, physical and human capital. However, their strong rates of collective action suggest that building upon community resources may be one way to overwhelm the challenges they face (Huggins and Thompson, 2016).

2.9 Summary

The first part of this background chapter has introduced some of the key contributions researchers have made in the field of creativity. In the sub-field of social psychology, creativity researchers have been sceptical as to whether physical space has any direct effect on creativity (e.g. early works from Csíkszentmihályi (1996, 1975, 1988) and Amabile (1983, 1996)). The predominantly environmental psychologist Franck (1984) found evidence of the link between creativity and physical space. Moreover, in the field of innovation and creativity management researchers have demonstrated through a wide variety of case studies the existing link between physical space and creativity, and predicted that in the future the physical environment specifically designed to support innovation and creative behaviour, activities and outcomes will be critical from an organisational perspective in order to keep up with challenges related to competitive advantage.

The right environment causes positive affect, which refers to things that are pleasurable and contribute to effectual well-being. Positive affect leads to the sort of cognitive variation that stimulates creativity (Amabile et al., 2005; Wyer and Srull, 1994). Fredrickson (2001, 1998) found that positive emotions such as joy and love broaden a person’s available repertoire of cognitive actions and the scope of attention, which should increase the probability of creativity. These findings from the literature suggest that at an organisational level, the right physical environment needs to co-exist with the right social environment in order to support, most importantly, well-being, which creates fertile soil
for creative activities to grow. Maximum well-being leads to maximum creativity, and entrepreneurial activity (Figure 2-4).

Figure 2-4: The relationship between well-being, creativity and entrepreneurship

Source: The Researcher

The middle part of the theoretical background review has introduced two models, Williams’ ‘interaction model for creative behaviour’ and the ‘engage/disengage’ model, that are adopted as a framework for analysing the relevant literature on coworking, as well as the outcomes of the primary research. The ‘interaction model for creative behaviour’ highlights that a balanced perception of the physical and social/cultural environment influences a person’s creativity (activity and outcome), whereas, the ‘engage/disengage model’ presents variations for environments where people can engage and disengage, regarding their state of being, i.e. what kind of work environments suits them best for their particular activity and well-being.

Highly creative people are attracted to places where they find tolerance and openness to different ethnic, racial and lifestyle groups; an authentic and attractive built environment; high levels of social cohesion; and the opportunity to take part in (or at least consume) a variety of cultural activities and related amenities (Florida, 2008). A thick web of social
interactions and networks is positively associated with the migration of the ‘creative class’ (those people “who add economic value through their creativity”) to particular places. On a regional level, other external conditions such as the economic, societal and financial context, industrial conditions, infrastructure, and availability of diverse and highly skilled human capital, are necessary conditions that positively affect entrepreneurial activities (e.g. Lee et al., 2004; Huggins and Thompson, 2015).

Wider work trends also influence the way people carry out work, particularly those engaged with creative and entrepreneurial activities regardless of their employment status (employee of a corporate organisation or running a business on their own). The next chapter gives an overview of these trends.
Chapter Three: An Overview of Work Trends

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3.1 Introduction

This chapter discusses the changing business, social, and technological trends that shape the way people work in the 21st century. Firstly, the chapter reviews the evolution of the corporate office into a workplace supporting collaboration, interaction and serendipitous encounters by providing various types of work area, each accommodating a different type of activity. Going beyond the need for various spaces within organisations, corporate employees in the 21st century have different expectations of work, in terms of mental well-being, than past century workers. They deliberately seek to join organisations that support the social aspects of work such as the opportunity to have greater work-life balance, quality time for interacting, being creative, and having private thinking time if the completion of a given task requires it. In 2014 the New York Times reported the outcomes of a research project conducted by the Harvard Business Review among white-collar employees across a broad range of industries and sectors. The results highlight four key aspects important to employee satisfaction and productivity at work: 1) physical - relating to spaces where employees can go to “recharge” when required; 2) emotional - relating to being valued for the contributions they make to the organisation; 3) mental – relating to the autonomy given to them so they can decide the most important task to work on, and the best place to work to focus on that task; and 4) spiritual – relating to the purpose of their work and how that links to their own skills and intrinsic motivation (Schwartz and Porath, 2014). These shifting expectations at work hold true not just for Baby Boomers and Generation X, but also Generation Y (Millennials) and Generation Z, who have only recently entered the job market. They all have similar requirements: time and space for innovative thinking and creativity, flexibility in terms of time and location, and work-life integration are just a few attributes youngsters highly value in the workplace (oDesk and Millennial Branding, 2013; PricewaterhouseCoopers, 2013).

In parallel with the evolving corporate office concept, more people, by choice or for other reasons, are becoming self-employed, preferring other locations to undertake work such as home, coffee shops, or even while travelling. These new working patterns and

situations are supported by the rapid rise of new info-communication technologies and affordable electronic devices that can be easily moved around.

As a consequence of these work, societal and technological trends, new types of workspaces have emerged supporting both the self-employed style of work and the corporate working culture. This chapter provides an overview of these trends.

3.2 The Evolution of the Corporate Office

The transformation of office spaces has a rich history, back to the 19th century. In America, large office buildings began appearing in the late 1800s in response to the need for coordination and control over growing primary and secondary sector industries, including manufacturing (Duffy, 1997). Enormous technological advances supported the growth of offices (e.g. the Remington typewriter entered the office in 1874, Bell’s telephone in 1876, and elevators by 1860). According to American census data, 750,000 people were engaged in professional services in 1860, and by 1910 there were more than 4 million office workers in America. Offices with only a few clerks suddenly had hundreds. New managerial systems were needed to manage these huge masses of clerks. William Dudley “Big Bill” Haywood, a union organizer, was the person who transferred Taylor’s scientific management (1911) theory to the office, aiming to increase office workers’ efficiency through tight control (Saval, 2014). Office workers were forced to become aware of their bodies and their motions and were under constant supervision. “Pictures of offices from the time show foreman-like workers pacing the floors over sitting clerks with their heads bowed – no one seeming to make light conversation, no one daring to turn their eyes from their work” (Saval, 2014, p. 61). The spread of Taylorism made managers believe that only a slight shift in office arrangements could change behaviours and allegiances at work. For instance, the early management theorist R.H. Goodell described the effect of constant disruption on clerical workers when visitors passed by in a corridor (Saval, 2014). Other studies in the field of industrial and organisational psychology focused on the effects of ambient conditions (e.g. lighting, temperature, ventilation) on workers’ productivity (Morgan, 1916; Vernon, 1921, 1919). During the 1940s-1960s, the attention of scholars shifted to the interaction of individuals within the built environment, demonstrating how manipulation of the physical
environment could produce profound differences when people interact with each other. For instance, the spatial arrangement of furniture was found to affect the nature and amount of conversation between individuals (Osmond, 1959; Sommer, 1959).

In the 1960s, businesses were exploring new ways of organising workplaces (Becker and Joroff, 1995). These included office landscaping (replacing fixed walls with reconfigurable panel systems) and integrated systems-furniture (divider systems) with the aim of boosting space efficiency and flexibility. Non-territorial offices, that were popular in the 1970s, allowed individuals to move between work zones based on the tasks they had to undertake instead of having their allocated desks.

The widespread introduction of open-plan offices can also be dated to around the same time, attracting the interest of industrial and organisational psychologists (Brookes and Kaplan, 1972; Hundert and Greenfield, 1969; Zeitlin, 1969) who explored the relationship between workers and their physical workspace (Duffy, 1997). The open-plan office became the dominant office choice for organisations, primarily for economic reasons (Brookes and Kaplan, 1972; Duffy, 1997; Laing, 2006; Vischer, 2007). Fewer interior walls meant higher density of employees, and this resulted in substantial savings for companies (rental, land or building costs), and lower services (heating) and security charges (Duffy, 2000; Zeitlin, 1969). Another driver of the rapid adoption of open-plan offices derived from the assumption that they foster inter- and intra-team communication, and more open and collaborative working practices that allow individuals to share task-relevant information, promote feedback, create friendships and increase job satisfaction and motivation (Brookes and Kaplan, 1972; Oldham and Brass, 1979; Zalesny and Farace, 1987). Studies have also found that more open workspaces generate greater group sociability (Brookes and Kaplan, 1972), and change the pattern of interaction: employees spend less time with formal meetings and more time with informal communication (Brennan et al., 2002) enabling serendipitous encounters (positive accidental meet-ups). Although open plan offices have been assumed to lead to more open and collaborative working practices (e.g. Brookes and Kaplan, 1972), they have also been found to have a negative effect on cognitive processes and task performance (e.g. Cohen, 1980; Oldham et al., 1995). Increased distraction or interruptions such as noise (e.g. Baron, 1994; Brookes and Kaplan, 1972); decreased levels of concentration (e.g. Oldham and Brass, 1979); lower levels of motivation (e.g. Oldham and Brass, 1979); and a lack of
psychological privacy (e.g. Brookes and Kapan, 1979), have all been shown to be downsides of open plan offices.

Going beyond efficiency and designing a workplace that leads to human interaction became a vital goal of companies in the twenty-first century (Becker, 2005). As Thackera explains, “the only thing a company has that cannot be bought or copied is the knowledge and creativity of its people” (Thackara, 1997, p. 40). He emphasises that innovation is important and that the key to being innovative is cross-disciplinary or interdisciplinary collaboration. This is in line with Turner and Myerson’s (1998) discussion about the importance of space design that allows cross-disciplinary interactions between many types of people within an organisation. They describe a new concept in office design where a space is designed for people to interact within the workplace in an environment that feels like a social club. “The club is informal and unhierarchical because it is not based on precedent or territory, and it is a great environment for cross-fertilization of ideas because you will meet people there other than those you originally intend to meet” (Turner and Myerson, 1998, p. 116). Opposite to the traditional club model where an elite group of often ambitious, successful, intellectual people with common interests join to share and enjoy its services, the new club-like office relies on a very different sort of timetable, for networkers who do not have to be told what to do or where to be at a certain time but nevertheless need a space to meet, exchange ideas, and share resources. Handzic and Chaimungkalanont (2004) find that a club style environment supports ongoing socialising and an exchange and creation of tacit knowledge. These common (social) spaces within workplaces where employees from various divisions or departments can gather to discuss ideas are a breeding ground for innovation.

As the workplace is essentially a human-ecosystem (Jenkins, 2008), its physical space should be designed with social, cultural, and behavioural elements of human interaction in mind. The degree of satisfaction offered by an environment to those working within it is a key factor in how comfortable they feel in their interactions (Stilgoe, 2005). Thus there is a role for collective creativity to design the appropriate physical space to enable and support random stimulation between employees - such as serendipitous interaction - when people meet each other by chance in a way fundamental to human happiness. One design approach often incorporates social hearts (or hubs) and ‘streets’ that enable serendipitous interactions to take place (Davis et al., 2011). Another approach is
providing areas accommodating different functionalities e.g. team spaces, reading rooms, computer hubs, formal meeting rooms, and ‘activity magnet areas’ such as cafeterias (Allen and Henn, 2006; Becker and Steele, 1995; Gillen, 2006). Importantly, individuals and teams occupy such spaces on an ‘as-needed’ basis, and move around to take advantage of a wide range of facilities.

Becker (2005) argues that every office has a unique ‘organisational ecology’, and, although no two places should be designed alike, there are underlying contributory factors. Duffy, already in 1997, proposed that modern offices should provide workers with a variation of types of workspaces that are the most appropriate to support particular types of workers and working patterns, based on dimensions of autonomy and interaction (hive, cell, den, club) (Figure 3-1).

![Figure 3-1: Duffy’s types of workspaces, based on Duffy (1997)](image)

These categories are similar to those Groves (2010) identified, when examining 38 of the most creative spaces in business, each supporting a different type of creative activity. They are, space for stimulation (that exposes the mind to a variety of stimuli either intentionally or serendipitously, aiming to encourage people to think differently), space
for reflection (to recharge, refresh, focus intensely and quietly contemplate), space to collaborate (that encourages knowledge and information sharing, impromptu gatherings, cross-fertilization, and energising people), and space to play (allowing colleagues to connect in a de-stressed and agenda-less way, and encourage free thinking and experimentation).

Sturm and Schimpf (2011) conducted 13 interviews with R&D and innovation managers of leading Swiss and German companies over a period of six months, proposing six workspace scenarios suited to meeting the needs of R&D work in the coming years. They are: 1) the individual workplace, 2) the creativity workshop, 3) the control room, 4) the prototyping and testing workshop, 5) the project room, and 6) the silent room. This typology fits with Groves’ ideas regarding spaces for different types of creative activity and reflects the need for a work environment that is flexible and can support collaborative project work, but at the same time facilitate effective individual work as and when needed.

The findings of Groves, and Sturm and Schimpf are compatible with those of Fayard and Weeks’ (2011) study on the effects of design on serendipitous interactions. They identify three sets of interactions or ‘affordances’ regarding informal contact in the workplace that have physical and social aspects: proximity, privacy and permission. Thus they conclude that “the most effective spaces bring people together and remove barriers while also providing sufficient privacy that people don’t fear being overhead or interrupted. In addition, they reinforce permission to convene and speak freely. Getting the balance wrong can turn a well-meant effort to foster creative collaboration into a frustrating lesson in unintended consequences”. (Fayard and Weeks, 2011, p. 104).

Myerson and Ross (2006) offer a set of four ‘realms’ of work that are useful in understanding recent trends in office development: the academy, the agora, the guild, and the lodge (Figure 3-2). According to their model, the first realm, the ‘academy’, refers to the corporate realm. It is a learning campus, a place for knowledge production and for its application to work throughout cross-disciplinary collaboration. The second realm, the ‘guild’, refers to the professional realm. It is a cluster of professionals gathering together, sharing skills and knowledge, and building networks, often resembling social space, and attempting to create permeability between community gathering and private spaces. The third realm, the ‘agora’, refers to the public realm, in which organisations and mobile workers are open to the market and function as a talent pool for customers and others.
The fourth realm, the ‘lodge’, refers to the domestic realm, in which the life-work setting is established. Each of these typologies represents a reconnection, either between home and work or education and business, and advances in communications technology have made each a viable work alternative (Bates, 2011).

![Four realms model of the knowledge workplace](image)

*Figure 3-2: Four realms model of the knowledge workplace*

*Source: Myerson and Ross, 2006*

Similarly, Termaat et al. (2014) predict that new workspace concepts have great potential to become the new norm for corporate workers, such as 1) ‘clubs’ (organisations’ headquarters aimed at organisations’ core business; internal focus, facilitating collaboration and knowledge sharing (part of the former traditional office)); 2) ‘campuses’ (collections of offices centred around clubs, focused on task performance (former traditional office)); and 3) ‘hubs’ (regional offices for short/mid-term use, focused on task performance (solo or team)). These alternatives are in line with those that Laing (2013) predicts as the future of corporate work. He suggests that, due to trends in technology, ways of working and the use of space and buildings, organisations will work in increasingly heterogeneous workplaces and in increasingly collaborative urban environments such as ‘open houses’ that are shared by various actors (including
collaborators, partners and the public), ‘cohabited’ workspaces that are open and shared by various organisations with the aim of encouraging intermingling activities, or ‘coworking’ spaces used and shared by individuals and smaller organisations, forming communities. Mixing work and non-work functions within buildings would even be possible, to enhance collaboration and interaction at various scales and between various types of organisations. Laing (2013) argues that workspaces should be created and designed as part of urban places, linked to complementary functions, and supporting activities, that increase the chance for interesting learning processes and serendipitous interaction. Moreover, workspaces and urban settings need to be designed and managed to allow rapidly changing programmes of pop-up experiences such as events around social, cultural and educational themes (Figure 3-3).

Figure 3-3: Emerging patterns of work and use of space, based on Laing (2013)

3.3 Home is Where the Work is

The traditional office, where people sit at dedicated desks working a ‘9-5 routine’ is rapidly being transformed into a highly mobile workplace. Toffler’s (1981) prediction of the ‘electronic cottage’, meaning that workers, particularly those engaging with knowledge work, are no longer bound to a single desk, but could work at home on their
personal computers, has come to reality. People do not necessarily need traditional offices to connect with colleagues and be productive, instead, they can do it via the virtual world, and have face-to-face time only for specific activities. ‘Post-sedentary spaces’, as Mitchell (1995) calls them, are available via networks of information technology. Due to mobility and ubiquitous technological connectivity, the office is no longer a stable entity of place, but has become a ‘networked office’ (Duffy, 2008). It is possible to work across ‘continuous fields of presence’, beyond the office and the building, even using public spaces and the outdoors as alternative options (Mitchell, 2003).

Starting in the 1980s, the ‘home office’ was one of the earliest examples of distributed work, allowing parents and others needing a flexible schedule to work at their homes (Bates, 2011). Home-based telework however was not as pleasant and productive as workers and employers hoped (Becker and Joroff, 1995). As a consequence, by the 1990s, the ‘telework centre’ emerged as a dominant alternative to home-based telework, providing a professional out-of-the-home workplace away from the distractions of home on a part- or full-time basis. Even though Kojo and Nenonen (2014) stress that early versions of shared office facilities appeared in the 1960s under names such as ‘serviced offices’, ‘business centres’, ‘executive suites’ and ‘telecenters’; the peak of their popularity was in the 1990s. Telework centres were telecommunication-equipped work environments combining individual workstations with shared facilities and equipment (Johnson, 2003). Workers had the opportunity to collaborate with others on a formal and informal level. These telecentres were typically located close to employees’ residences and not in the centres of cities, allowing workers to use office space based on their location (Cascio, 2000). Two types of telework centres emerged, ‘non-traditional satellite offices’ and ‘neighbourhood work centres’. Non-traditional satellite offices were located in convenient locations and hosted workers from across an organisation. Neighbourhood work centres, on the other hand, allowed workers from a number of organisations to use offices close to where they lived or needed to be. These centres provided access to a greater number of locations than a single organisation could provide (Fritz et al., 1995).

The expansion of remote working continues and, as recent statistics show, employees value its presence, hoping to improve their work-life balance. According to the Labour Force Survey data, in 2011 almost 14% of the population worked remotely in the UK (from 2005 it had risen by 1.4%). Of these remote workers, more than 60% worked in
multiple locations, whilst nearly one third worked at home (Frary, 2012). A survey of 2,500 people conducted by Regus in 2012 highlighted that two in every five workers worked remotely for at least half the week (Zainzinger, 2012). Moreover, according to a survey conducted amongst 1,400 CEOs in 2009, 46% stated that telecommuting was the second best way, after salary, to attract top talent, with 33% claiming that telecommuting was top of the list (Knoll, 2011). A recent study by Cisco highlights that its employees who worked from home through virtual offices were nearly 50% more productive. In addition, approximately 69% of the Cisco employees surveyed cited higher productivity when working remotely, and 75% of those surveyed said the timeliness of their work improved (Sodexo, 2013).

The classical employment system by which big corporations recruit talent has also changed. Since the financial crisis in 2008, there has been an even greater increase in the number of self-employed people, and people with contingent and alternative work arrangements (e.g. working in jobs that are temporary, shorter-term engagements such as contract work, or working through staffing agencies). In Europe, contingent work already represents 50% of all employment in the EU27 including 15% self-employed population, representing highly educated independent professionals in technology and creative industries (Hatfield, 2015). Nowadays, millions of independent professionals are connected to each other and to companies across continents, localities and networks, and are increasingly integrated into the global production system as big companies increasingly rely on them for specialised expertise, innovation and creative work (Moriset, 2014; Powell and Snellman, 2004). The next section provides insight into this new working population.

### 3.4 Rise of the Independent Mobile Workers and Home-Based Entrepreneurs

Despite the possibilities offered by the rapid increase in information communication technologies (ICT), place has not lost its significance (Pratt, 2000). Instead, digital space and physical space go hand in hand, and with the help of mobile ICT devices the internet can be taken anywhere (Liegl, 2011). Important factors that contribute to the expansion of mobile and nomadic workers include the development of mobile computers, telephones
and the internet (Chan et al., 2007), the introduction of flexible location and time arrangements enabling better work-life balance (DeGuzman and Tang, 2011), telecommuting in the corporate world (Castells, 2011), and the steady rise of self-employment and non-employer firms, especially since the 2008 crisis.

Kalleberg et al. (2000) define ‘standard employment’ as “work performed on a fixed schedule (usually full-time) at the firm’s place of business, under the firm’s control, and with the mutual expectation of continued employment” (p. 257), as opposed to ‘non-standard’ employment which refers to alternative work arrangements (Polivka, 1996), including self-employment, temporary, fixed term contracts, permanent part-time work and marginal part-time work, often characterised by short and unpredictable hours (Kalleberg et al., 2000). The various forms of self-employment classified as ‘non-standard work’ are divided into three main subcategories: self-employment without employees or ‘own account work’; self-employment with employees or employers; and unpaid family workers (OECD, 2000). Recent analysis by the Institute of Public Policy Research (Hatfield, 2015) stresses that the recent rise in self-employment has made a large contribution to the labour market recovery in the UK. In fact, 40% of the growth in UK employment since the second quarter of 2010 is accounted for by the rise in the number of self-employed workers (in 2010 only 13% of workers were self-employed). In 2015, there were 4.6 million people who were part of the self-employed population in the UK (ONS, 2016a).

An important, but hidden, subcategory (Kitching, 2016) of own-account workers is freelancers, variously described in the academic literature as independent professionals (Bögenhold et al., 2014), contractors (Barley and Kunda, 2006), interim managers (Goss and Bridson, 1998), free agents (Pink, 2001), lone eagles (Beyers and Lindahl, 1996), and lattepreneurs (Dunstan, 2015). They work particularly in occupations in the creative and media sectors including journalism, television and radio, film, publishing, photography, make-up, public relations, translation, design, art, and music (Kitching, 2015). Freelance status however is not a legal status. Freelancers may be self-employed proprietors,

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Own-account workers are those workers who work on their own account or with one or more partner, hold the type of job defined as a self-employed job, and do not engage on a continuous basis any employees to work for them during the reference period (OECD Glossary, 2001). The debate over whether the recent rise in self-employment is indicative of a strong labour market recovery or a lack of alternative employment choices in the UK, is ongoing.
partners in unincorporated businesses, directors of limited companies or employees in PAYE umbrella companies (Kitching, 2015). The authors of the Brighton Fuse Study 2 (Sapsed et al., 2015) consider the following categories that cover freelancer status: sole-trader, contactor, consultant, independent professional, a person paid by an agent or one who works under an umbrella company.

With regards to numbers, Pink (2001) claims that “one-fourth of the American workforce (already 33 million people) has declared its independence from traditional work”. In contrast, according to a recent Freelancer Union survey (2012), 13% of the American workforce (21.1 million people) work as freelancers and an additional 32 million part-time freelancing. A study conducted by software company Intuit (2010), predicts that 40% of the US workforce will be freelancers, temps, independent contractors or solopreneurs by 2020. According to a report called ‘Future Working: The Rise of Europe’s Independent Professionals’ (Leighton and Brown, 2013), since 2004, the number of freelancers in Europe has increased by 45% (from 6.2 million to 8.9 million in 2013), making them the fastest growing group in the EU labour market. Kitching (2015) calculates from UK Labour Force Statistics that the UK freelance workforce expanded from 1.04 million workers in 1992 to 1.88 million in 2014, an 82% increase. The number of freelancers is predicted to increase further in the UK. According to Conick (2014) freelancing is seen as a highly attractive and rewarding career option by 87% of students with first or second class degrees.

Several studies demonstrate that big organisations have restructured their operations and shifted to more flexible and cost-saving forms of recruitment. Flexible working practices include part-time, temporary, fixed-term, agency, annual hours, zero hours, shift and home-based working (Kalleberg, 2000; Purcell, 1998). Pink (2001) claims that as many as 90% of major multinational companies “make regular use of temporary workers, either hired directly or supplied by agencies” (l. 569).

Friebe and Lobo (2006) call the new generation of independent professionals ‘digital bohemians’, while Fisher (2008) calls this new social-economic class ‘the digerati’. They have the skills, technology and capital to dominate the new ICT based economy. They are the “technocratic elite-professionals at the forefront of the information society and the technical administration of the capitalist economy” (Fisher, 2008, p. 2). Digerati
entrepreneurs see themselves as nodes in a network (flexible, mobile and ad hoc), rather than cogs in a bureaucratic system. Similarly, ‘digital bohemians’ reject corporate hierarchy because they believe it restricts their creative capabilities. Instead, they are embracing the new techno-cultural possibilities (Friebe and Lobo, 2006; Fisher, 2008). Nomadic worker, nomadic knowledge worker (knowmads) and solopreneur are synonyms for creative, mobile, independent professionals. These people are creative, imaginative, and innovative people who can work with almost anybody, anytime, and anywhere.

Non-employing businesses, small employers and SMEs accounted for 99.9% of the business population at the start of 2015, of which 76% (4.1 million) were businesses with no employees (Department for Business Innovation and Skills, 2016). Moreover, Start-Up Britain’s most recent data on new business registration reveals that 608,110 new UK firms registered with Companies House in 2015 (Yoshioka, 2016). This represents a growth of 8% in just 12 months and beats the previous high mark of 526,446 businesses recorded the previous year (Jones et al., 2014). The increase in new businesses is partly explained by the expanding funding available for entrepreneurs, angel investment networks and crowd funding, as well as tax breaks for those investing in start-ups (DTZ, 2014).

A recent study by Nesta (Bakshi et al., 2015) shows that there were around 2.6 million jobs in the UK’s creative economy in 2013. It states that the creative economy’s contribution to the overall workforce increased from 8.0% to 8.5% between 2011 and 2013 in the UK. In the case of Wales, the creative economy accounted for 3% of all jobs (78,000 people) in 2013, with a 3.3% growth between 2011 and 2013.

Although not all self-employed, freelancers and micro-businesses require collaborative community workspace, these groups include millions of people and the scale of their growth indicates that many of them will require new generational environments in the future that foster flexible working, social interaction and professional engagement (DTZ, 2014; O’Brien, 2011).

Another significant trend is that the home has become an important place for work. As Pink (2001, p. 41) observes, “the home itself is being reconfigured as a place that’s not a respite from work, but the central location for it”. The Office for National Statistics (2014)
defines home workers as “those who usually spend at least half of their work time using their home, either within their grounds or in different places and using it as a base. Home workers include those who are employees of organisations and those who are self-employed. There are two groups of home workers, firstly those who work within their home or the grounds of their home and secondly those who meet clients and customers elsewhere and only use their home as a base” (p. 2). Of the 4.2 million home workers, 1.5 million work within the grounds of their home and 2.7 million use their home as a base. According to the Enterprise Nation Survey in 2008, the majority of home-based businesses operate outside their home office – either in a room that is merely used for business purposes (48%), attached or external premises (for example a garden building), or an extension to the house (Enterprise Nation, 2008). The number of home workers has grown by 1.3 million since 1998 that is a 2.3% increase in the home-working rate (from 11.1% in 1998 to 13.9% in March 2014). Estimates suggest that home-based businesses represent over 50% (2.8 million) of total UK SMEs and their contribution to the economy based on turnover is up to £300 billion (Enterprise Nation, 2014). A growing number of professionals are willing to work as independent consultants (Graber, 2002; Ekinsmyth, 2002). In the last five years, some 237,000 people from knowledge-intensive sectors including professional, scientific and technical activities (management consulting, accounting, etc.) have become self-employed, based at home (Enterprise Nation, 2014). The Home Business Survey (2014) results indicate that home-based businesses are predominantly concentrated in creative and business services (including financial and management consulting), retail, the professional consulting industries (including law, science and engineering), followed by tech services and fashion. In contrast, the self-employed population is dominated by the construction and service industries.

### 3.5 New Generations in Focus

A report by Knoll (2011) suggests that while there are four generations at work at the same time (Silent Generation or Traditionalists (3%), Baby Boomers (33%), Generation X (32%), Generation Y or Millennials (32%)), office design is completely dominated by the worldview of the Baby Boomer generation. Generational shifts can happen,
Traditionalists are disappearing, Baby Boomers are approaching their retirement years, and Millennials are entering the workforce in increasing numbers. While more Millennials are expected to enter the workforce in the near future after finishing their education, a new report by Future Workplace suggests that Generation Z, those born after Millennials, are the “newest game in town” (White, 2016).

Even though all four generations rate the office workspace as important, each generation rates the importance of key workspace features in a different order. Generation Y rate as most important having access to an ‘engaging workplace’, and least important the ‘quality of meeting rooms’. On the other hand, Baby Boomers rate these two features the other way around (Knoll, 2010). The report suggests that these changing priorities drive a fundamental shift in office design meaning that future workspaces will need to provide a consistent, engaging, work ‘experience’ that supports a wide choice of work styles and continuous flow of work, regardless of location.

PricewaterhouseCooper’s NextGen Study (2013) found, that Millennials want more flexibility regarding space and time and the opportunity to shift hours, with 64% indicating working from home occasionally, and 66% highlighting shifting work hours. These findings are supported by research conducted by the Intelligence Group of Millennials, in which 74% of Millennials surveyed indicated the need for flexible work schedules, 88% preferred collaborative culture with flexible working environments, 72% would like to be their own boss, and 88% wanted work-life integration (Asghar, 2014).

Other research conducted by oDesk (2013) found that Millennials approach business in a novel way, with 90% claiming that innovative thinking, creativity and findings one’s own way is important, instead of copying entrepreneurial patterns that symbolise the enterprise. In terms of choosing independent work over traditional jobs, 50% claimed that freelancing was a free decision rather than a situation initiated by job loss. 69% chose freelancing in order to have more freedom, 66% for the possibility of choosing the type of work, and 62% to have control over work.

These results are in line with more recent findings reported by Future Workplace in partnership with Randstad, in which the number of Millennials who said that a corporate office was their preferred workspace fell by 10% to 37%, while the number of Millennials preferring a home office nearly doubled between 2014 and 2016 (White, 2016). The same
report claims, that working in an office would be the workplace preference of 36% of Generation Z in 2016, which is a 20% increase since 2014.

### 3.6 Summary

Knowledge work used to be carried out in traditional offices. The wider trends discussed in this chapter are for continuous change in the 21st century: new markets, new work processes, changing demographics, and new technologies resulting in ‘liquid modernity’ (Bauman, 2013a). Solid structures have been replaced by flexible and temporary solutions both in terms of the location of the workplace and the instant availability of the contingent labour. Hierarchical structures are disappearing, and the work environment has moved outside building boundaries to include multi-functional areas that combine work, housing and leisure.

In line with these trends is the remarkable emergence and expansion of many different forms of workspaces in which interaction, collaboration, learning and community formation take place alongside work related activities. The next chapter provides an overview of the various types of collaborative community workspaces, including coworking spaces, to which this research is particularly dedicated.
Chapter Four: Review of the Background Literature to Coworking

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Chapter Four: Review of the Background Literature for Coworking

4.1 Introduction

The rise of collaborative community workspaces can be seen as part of a broader socio-economic system-shift, the so-called ‘sharing economy’ (Kwiatkowski, 2010). The term ‘sharing economy’ refers to a new paradigm of consumption based on collaboration such as sharing, exchanging and lending goods instead of owning them (Botsman and Rogers, 2010). Even office space can now be consumed collaboratively, providing users with much greater choice and control in picking the most appropriate work environments on an as-needed basis (Laing, 2013).

Gansky (2010) argues that trust is a key element of collaboration and the sharing economy. The possibilities created by new technologies have re-built trust, as people have opportunities to interact and create reciprocal relationships using social media. This increase in connectivity and focus on trust reflects a return to the belief that community is important. Oldenburg, as long ago as in 1989, observed that people, in both work and private life, are looking for a community to be part of. He coined the term ‘third places’, which “host the regular, voluntary, informal and happily anticipated gatherings of individuals beyond the realms of home (‘first place’) and work (‘second place’)” (Oldenburg, 1989, p. 17). Oldenburg (2001) argues that third places are ‘anchors’ of community life that facilitate and foster broader, more creative interaction, and that these places serve as focal points of community life such as cafés, bars and bookstores (Oldenburg, 2001). To become a successful third place, they must be locally owned, independent and small-scale and be based on steady-state business (Oldenburg, 2001).

Furthermore, third places should be highly accessible, within walking distance, free or cheap and involve regularity. These spaces combine a number of conditions that make informal meetings possible and enable the creativity of social interactions through openness, flexibility, viability, conviviality and accessibility (Sundsted et al., 2009). Manzini (2005) states that third places are the product of human relationships, creative interactions, and modes of social and professional organisation that dominate contemporary society.

Even though Oldenburg’s (1989, 2001) third places are not sites that facilitate informal social relationships and civic engagement, but rather are sites for ‘gainful or productive’ work (Waters-Lynch et al., 2016), this neat separation between spheres of domestic,
productive and social activity has become significantly blurred in recent years (Moriset and Malecki, 2009).

These new forms of workplace lie between the home and the primary site of work and facilitate formal productive activities, informal gathering, social interaction, learning processes and so on. These workspaces are ‘collaborative spaces’ where value is created collectively by their users or members, and where people “meet, interact, experiment, ideate and prototype new solutions” (Kao, 2002 cited by Bason, 2010). They are ‘creative platforms’ built on trust, concentration, motivation, knowledge, and instruments for focusing creative efforts and skills (Bason, 2010). Bates (2011) names these spaces ‘collaborative community workspaces’; Waters-Lynch et al. (2016) call them ‘work-learn-play third spaces’; and Virani (2015) calls them ‘creative hubs’. Other scholars such as Schmidt et al. (2014) call them ‘innovation and creativity labs’; and Kojo and Nenonen (2016) call them ‘coworking places’. For simplicity, the ‘third spaces’ where we work with others, discussed in this chapter, are referred as ‘collaborative community workspaces’, as they are labelled by Bates (2011).

This chapter starts with a brief overview of the various types of ‘collaborative community workspaces’ that emerged from the literature, to present a spectrum/typology of spaces, housing independent workers (self-employed entrepreneurs, contingent workers, freelancers, contractors), start-ups and small businesses, to differentiate coworking spaces from other types. Moreover, it explains the coworking phenomenon, looking at its history, the term and its approaches, and offers a review of the relevant academic and practitioner-oriented literature, considering demographic facts, benefits, and the role of the host. The chapter also lists some future trends for the coworking phenomena, and finishes with a conceptual synthesis of the relevant literature.

### 4.2 A Spectrum of ‘Collaborative Community Workspaces’ – the Spaces in which we Work with Others and their Variations

The 21st century has brought new meaning to ‘third place’ environments. Boundaryless work in the corporate context, the changing nature of work, and the rising number of mobile and independent workers, freelancers and micro businesses, implies the need for new spaces of work that facilitate formal productive activity alongside informal social interactions among independent workers, micro businesses and corporate workers. Given
that the primarily interest of this research is independent workers and small businesses accommodated in shared workspaces, the types of workspaces presented in this chapter refer to those environments, respectively.

Figure 4-1 shows ‘work-learn-play third spaces’ as labelled by Waters-Lynch et al. (2016). The X axis represents the historical origin of each term’s first recognition or pioneering example. The Y axis shows the focal activity of each spatial concept on a continuum spanning ‘discovery-play’, ‘learning’ and ‘(individual) work’ (the different types are further discussed in Table 4-2).

In the relevant literature, besides these ‘pure’ typologies supporting co-located work for independent workers and micro businesses, there are further types supporting social practices. Several other terms occur in the literature referring to new generation workspaces such as experimental spaces or hubs, interaction spaces, and several others such as future centres, shared spaces, innovation studios, experimentation spaces, incubators, creative platforms, concept factories, living labs, and innovation gyms (e.g. Bason, 2010; Bates, 2011; Capdevila, 2013; Virani, 2015). Nevertheless, as noted by
many contributors, the differences between these types of workspaces are not always obvious, and often overlap, typical features however can be identified (Brooke et al., 2014; Kojo et al., 2016; Schmidt et al., 2014; Suarez, 2014; Silicon Santier, 2009).

For instance, Schmidt et al. (2014) identify two terminologies, coworking spaces and labs, and both key terms coworking and lab(atory) link with creativity and innovation. In their research they surveyed 53 innovation and creativity labs in Berlin and classified them into five formats: coworking labs, grassroots labs, firm-driven innovation labs, academic-driven innovation labs, and incubators/accelerators. In their work, coworking spaces refer to shared spaces that can be rented on a flexible basis, while coworking labs supplement the service with production spaces and collaboration forms, necessary equipment for production and/or specific services related to users’ activities. However, they also highlight that the differences between these two categories are fluid. Grassroots labs are creative labs, serve as experimental fields for enthusiasts, hobbyists and do-it-yourself practitioners sharing creative practices and interests (e.g. hacker spaces, maker spaces, fablabs). These spaces have equipment and tools, enabling the combination of art and cultural goods with technology. Firm-driven innovation labs are set up by large and often multinational companies aiming to support open innovation processes, break internal routines, help the organisation ‘think outside the box’, and avoid lock-in effects. Academic-driven innovation labs primarily examine and develop prospective products, processes, services and user applications in the ICT, design, new media, energy and automotive fields. Incubators and accelerators, as Schmidt et al. (2014) label them, are laboratories and test-beds for new business ideas and business models.

Other studies classifying kinds of collaborative community workplaces, have been undertaken by Capdevila (2013) and Jackson (2013). Capdevila identifies three characteristics that define a community of practice: being open to the general public, having defined focus and goals collectively agreed by their members, and sharing information and tools that encourage the free sharing of knowledge. These characteristics divide collaborative community spaces into coworking spaces, fablas, hacker spaces and living labs (Wenger, 1999). Jackson (2013) categorises spaces based on how they relate to each other and how connected people are to the people around them, from a social or neighbourly connection to new connections that have value to their work. The spaces Jackson identifies include labs, university labs, incubators, touchdown spaces, traditional offices, homes, coffee shops, coffee shops+ (which she defines as “community coffee
shops that see the potential in the remote workforce and offer up the best WiFi, small tables and sockets-a-plenty”), collectives, jellies, coworking labs, coworking places for innovation, and coworking spaces.

Bates (2011) distinguishes between types of workspaces based on their intent and how easily an independent professional or small business can make use of them. He differentiates coworking spaces, co-tenant spaces, creative and hybrid types of workplaces. The co-tenant type refers to an office with one or more sub-letters, often working in related industries, or with related missions. Creative studios are occupied by artists and often include specialised equipment or facilities. Hybrid spaces combine amenities and programming of several types, and may include innovative facilities or combinations of activities. Other types, such as executive suites and incubators are considered standard shared spaces where the emphasis is not typically on collaborative activities.

In their most recent paper Kojo and Nenonen (2016) identify other typologies, while undertaking research on coworking places in Finland. They used two axes in order to differentiate places: the business model and the level of user access and affordance. The business model is a measure of for-profit or non-profit objectives, and the level of access for the user is whether it is public, semi-public or private. Public offices are those that are publicly accessible and open to everybody free of charge (e.g. libraries). Third places (e.g. coffee shops) are also publicly accessible but the use of the facilities requires purchasing services. Collaboration hubs operate at a bigger scale and are run by organisations with the goal of facilitating collaboration between members of certain interest groups (e.g. design). Coworking hotels are service providers offering shared office space with a short lease and a compact service (e.g. collaborative space for public-sector employees or project groups). Incubators are shared workplaces for a preselected group of individuals or teams to support entrepreneurship. Shared studios are shared offices where an organisation or entrepreneur sublets its workplace with a flexible lease (Table 4-1).

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They define coworking place as an office concept that is operated by an independent entrepreneur, who may, however, receive public financial backing (Kojo and Nenonen, 2014).
Table 4-1: Typologies of coworking places
Source: Kojo and Nenonen, 2016

<table>
<thead>
<tr>
<th>Level of access for users</th>
<th>Business model</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Non-profit</td>
</tr>
<tr>
<td>Public</td>
<td>Public offices</td>
</tr>
<tr>
<td>Semi-public</td>
<td>Collaboration Hubs</td>
</tr>
<tr>
<td>Private</td>
<td>Incubators</td>
</tr>
</tbody>
</table>

Table 4-2 summarises the key characteristics of the most typical and popular ‘collaborative community spaces’ according to purpose, operator, attributions of the physical space, the ‘soft services’ they provide and their business model. The table also lists ‘serviced offices’ as in recent years, they shift their focus to purposefully stimulating interaction and collaborative work among their tenants, and thus can be considered one type (Waters-Lynch et al., 2016). ‘Co-tenant’ and ‘collective’ are very similar to each other, their only distinguishing characteristic being that collectives usually use physical space on a temporary, as needed basis. The ‘hybrid’ space is a multifaceted group of workspaces that combines features from several other collaborative community typologies, and provides a variety of options of services and features for their members (Bates, 2011).
<table>
<thead>
<tr>
<th>Type</th>
<th>Purpose</th>
<th>Operator</th>
<th>Physical space</th>
<th>Business Model</th>
<th>‘Soft’ service</th>
<th>Referred as a type by</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Incubator</strong></td>
<td>To provide capital to commercialise potentially innovative business ideas or business models</td>
<td>Various (investors, multinational enterprises, public sector, universities)</td>
<td>Similar to coworking environments and/or private offices rented by individual companies, conference room, meeting and coaching rooms</td>
<td>Run as a business for profit or not for profit, accommodates start-ups, provides services, mentoring, coaching, advice and events</td>
<td>Business support, Collaborative opportunities, Knowledge exchange, Consultation, Networking, Mentoring, Industry-specific guidance, Connection to investors, funds, loans</td>
<td>Bates, 2011 (referred to as standard shared space) Schmidt, et al., 2014 Jackson, 2013 Kojo and Nenonen, 2016 Bason, 2010 Waters-Lynch et al., 2016 Suarez, 2015</td>
</tr>
<tr>
<td><strong>Accelerator</strong></td>
<td>Fixed-term, cohort-based and bootcamps offering educational and mentorship programmes for start-ups and exposing them to a wide variety of mentors and investors</td>
<td>University, government or investor</td>
<td>Often in coworking space or incubator</td>
<td>Provides stipend or small seed investment to their start-ups and receives an equity stake in the portfolio company in return (approx. 5-7%)</td>
<td>Business support, Collaborative opportunities, Knowledge exchange, Consultation, Networking, Mentoring, Connection to investors, funds, loans</td>
<td>Schmidt, et al., 2014 Waters-Lynch et al., 2016 Suarez, 2015</td>
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<tr>
<td><strong>Maker Space, Hacker Space</strong></td>
<td>Creative experimentation and Collective, often organised as non-non-</td>
<td>Built to suit the needs of occupants</td>
<td>Individual or shared projects, membership</td>
<td>Collaborative opportunities</td>
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<td>Bason, 2010</td>
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<tr>
<td>FabLab</td>
<td>Coworking Space</td>
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<tr>
<td>(crafts combined with digital technologies and arts)</td>
<td>(creative industries e.g. design, media, arts, software development)</td>
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<tr>
<td>collaboration with ideas and tools</td>
<td>To implement creative boundaryless work and learning by collaboration</td>
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<tr>
<td>profit organisation</td>
<td>Operator as entrepreneur</td>
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<tr>
<td>(machines, craft studios, etc.)</td>
<td>Different for every space, often only an open space with rentable desks, meeting rooms and coffee corner, private offices, spaces for recharge</td>
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<td></td>
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<td></td>
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<tr>
<td>includes the shared use of facilities</td>
<td>Desks can be rented on daily, weekly or monthly basis Use of meeting rooms included or can be rented for additional fee</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge exchange Informal networking Community of interest</td>
<td>Informal/Formal networking Curation Community of interest Transactional relationships</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Chapter Four: Review of the Background Literature for Coworking

| **Serviced Office**  
(start-ups, small businesses, travellers, companies from high-technology and service industries) | To provide high-end office infrastructure and front-office support for travellers or individuals to rent a desk with various options (even virtual office membership) | Operator as entrepreneur, company | Similar to coworking environments (open office, private offices, meeting areas) | Provide office infrastructure (open office, private office, meeting room, etc.) and front-office support for clients | Knowledge exchange  
Business support  
Collaborative opportunities | Capdevila, 2013  
Lainge, 2013  
Suarez, 2015  
Virani, 2015 |
|---|---|---|---|---|---|---|
| **Co-tenant**  
(any type of businesses, but related industries) | Share space to reduce rent cost  
Related industries with related missions | Organisation, entrepreneur | Shared office with shared facilities | Subletting on fixed term  
Provides additional income to the host tenant and savings to the tenants | Informal networking  
Knowledge exchange  
Transactional relationships  
Community of interest | Bates, 2011  
(referred to as co-tenant)  
Kojo and Nenonen, 2016  
(referred to as shared studio)  
Suarez, 2015  
(referred to as shared office) |
### Chapter Four: Review of the Background Literature for Coworking

<table>
<thead>
<tr>
<th>Collective (entrepreneurs/freelancers from related fields)</th>
<th>Share projects and space with similar field of work</th>
<th>Entrepreneur, freelancer</th>
<th>Comfortable space specially built to suit the occupants’ needs</th>
<th>Shared projects bring money for the group</th>
<th>Informal networking</th>
<th>Community of interest</th>
<th>Transactional relationships</th>
<th>Knowledge exchange</th>
<th>Transactional relationships</th>
<th>Collaborative opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hybrid</td>
<td>Combines amenities (private and shared office, maker space), tailored services (accelerator, incubator)</td>
<td>Organisation, public body, entrepreneur</td>
<td>Variety of spaces</td>
<td>Desks can be rented on daily, weekly or monthly basis Use of meeting rooms included or can be rented for additional fee Getting into specific programmes through application</td>
<td>Informal networking</td>
<td>Curation</td>
<td>Community of interest</td>
<td>Transactional relationships</td>
<td>Knowledge exchange</td>
<td>Business support</td>
</tr>
</tbody>
</table>

Jackson, 2013
Silicon Sentier, 2009 (referred to as collaborative group)
Kojo and Nenonen, 2016 (referred to as collaboration hub)

Bates, 2011
Laing, 2013


### New Learning Space

| Focus on learning processes, both the ‘hard’ technical skills and the ‘soft’ skills such as self-management, self-confidence, entrepreneurial skills | Various (universities, further education institutions, coworking spaces) | Class-room environment for the courses to be held, break-out, collaborative and coworking areas | Usually a range of full-time, part-time and online courses are available Tuition fees apply | Learning soft and hard skills Collaboration Knowledge exchange Community Networking Professional support | Waters-Lynch et al., 2016 |

| **Table 4-2: Types of ‘collaborative community workspaces’** |
| **Source: The Researcher** |
4.3 The Promise of ‘Collaborative Community Workspaces’

As the previous chapter has outlined, collaborative community workspaces offer a professional environment away from the distractions of home or cafés. These shared environments support both solo and collaborative work, enable opportunities to interact and collaborate with others on a formal and/or informal basis, support knowledge sharing, encourage networking practices, and offer independent workers and micro businesses the chance to share work experience and community.

Even though the main purpose of the various types of space listed in Table 4.2 differ, they all support the ‘soft’ infrastructure (interaction, collaboration, networking, knowledge co-creation, idea sharing) of creative and entrepreneurial activities leading to (in some cases) successful business outcomes, thus, they can be considered collaborative community workspaces.

People joining collaborative community workspaces have the potential to join a like-minded community. Communities support the emergence of trust (Fukuyama, 1995), decrease transaction costs (Storper, 1997), and help overcome informational asymmetries (Granovetter, 1985). Within communities, there are many opportunities to collaborate. “Collaboration is a process in which autonomous actors interact through formal and informal negotiation, jointly creating rules and structures governing their relationships and ways to act or decide on the issues that brought them together; it is a process involving shared norms and mutually beneficial interactions” (Thomson and Perry, 2006, p. 23). Collaboration has many forms with different depths and lengths of engagement. It can occur through formal (planned) or informal (impromptu or serendipitous) relationships, accidentally or through intermediaries such as friends or business partners. It can be face-to-face or virtual depending on its purpose, whether it is sharing information, learning, making decisions, resolving problems, generating new ideas and knowledge, socialising or networking (e.g. Ellison and Glaser, 1994; Lave and Wenger, 1991; Nonaka and Takeuchi, 1995). Marshall (1995) suggests seven core values of collaboration: (1) respect, (2) honour and integrity, (3) ownership and alignment of vision, (4) group consensus, (5) full responsibility and accountability, (6) trust-based relationships, (7) recognition and growth. Bates (2011) found the benefits of collaboration to be many, including faster
principle-based decision-making; a better ability to focus on products and services; greater accountability and responsibility; reduced conflict through open communication; and greater passion and pride at work.

First and foremost, successful collaboration implies the need for physical proximity (Boschma, 2005). Even though geographical proximity, underpinning “the joint production, circulation and sharing of knowledge” (Gertler, 2008, p. 203), has the potential to facilitate inter-organisational learning, it is neither a necessary nor a sufficient condition for success (Boschma, 2005). Other types of proximity are needed to enhance creative performance at the workplace including the presence of common values, attitudes, emotional disposition, shared commitment and the strengthening of communication, trust, alignment and social networks (Boschma, 2005). These are cognitive, social, institutional, organisational and virtual proximitities (Figure 4-3). Cognitive proximity relates to the competences and skills needed to transfer knowledge, and has a role in enhancing successful communication and learning (Boschma and Lambooy, 1999). Organisational proximity denotes the extent to which relations take place between actors in an organisational setting; social proximity measures the socially embedded relations between people at the micro-level; institutional proximity refers to the laws, rules, routines, habits and cultural standards which are common in networking (Edquist, 1997); and virtual proximity is the level of emotional closeness between individuals as developed through the use of information and communication technologies (Groves and Marlow, 2016).
Sharing some degree of common interest or common language is essential to success, nevertheless, too much similarity can be counter-productive (Capdevila, 2014). Scholars note that diversity (heterogeneous backgrounds, skills and expertise) can facilitate access to a wide-range of alternative viewpoints, and information relating to potential markets, new business locations, innovation, sources of capital, and potential investors (Chesbrough, 2006; Von Hippel, 2001). Diversity increases the probability entrepreneurs will find a collaborator or supporter whose resources and skills fit the need of the entrepreneur. Even though knowledge creation often depends on a combination of diverse, yet complementary, competences of individuals (Nooteboom, 1999; Porter, 2008), Suire (2013) notes that a balance needs to exist between too much similarity and too much diversity within networks or communities. Too little mix may lead to predictable and unoriginal outputs, but actors with overly similar characteristics may drive excessive confrontation. A lack of diversity might cause lock-in and stagnation of knowledge within the community (Porter, 1990).

One of the main purposes of establishing collaborative community workspaces is creating social and professional networks (Bates, 2011). People join these spaces with the hope of creating meaningful and mutually beneficial relationships with other like-minded
individuals. Jack (2005, p. 1251) argues that “network activity is a process, taking place over time, a dynamic relationship that involves shifting; networking is a latent contact to manifest ties, transferring relationships to the entrepreneurial situation, identifying entrepreneurial requirements and locating an individual within the network who can help with the actual need. It also involves a two-way process of give and take, a degree of exchange, the trading of information and resources but only when trust is established through knowledge and experience”. Networks are critical for the success of entrepreneurs and small businesses. Networks make possible the flow of information amongst individuals and businesses, provide flexibility, and open up new opportunities to collaborate, turning into successful transactional relationships. Network relations provide not only access to information, advice, capital, professional service organisations and talent (Johannisson et al., 1994; Zimmer and Aldrich, 1987) but also provide emotional support for entrepreneurial risk-taking (Bruderl and Preisendorfer, 1998). Several research studies argue that entrepreneurs consistently use networks to get ideas and obtain information that helps recognise entrepreneurial opportunities (e.g. Hoang and Young, 2000). An individual-level network of entrepreneurs can be divided into advice networks (Cheraghi and Schott, 2014), support networks (Newbert and Tornikoski, 2012) and personal relations (Dubini and Aldrich, 1991).

Trust between members of a network is crucial for fostering innovation through collaboration (Häusler et al., 1994), and positively affects the depth and richness of exchange relations (Saxenian, 1999). Trust reduces transactional costs in searching, validating and exchanging new knowledge by empowering interaction, collaboration, and exchange of resources amongst firms (Jarillo, 1988). Granovetter (1973) differentiates the relationships among individuals in terms of strong and weak ties. Ties function as channels allowing the flow of material and immaterial resources, and have various roles within the network structure (Granovetter, 1973). Strong ties refer to relationships, usually amongst socially homogenous individuals, consisting of high emotional commitment and high frequency of contact; whereas weak ties indicate low emotional commitment and low frequency of contact. The debate about whether one is better than the other is long standing amongst scholars (e.g. Aldrich et al., 1987; Rowley et al., 2000; Zhao and Aram, 1995). Uzzi (1997) suggests that a balanced
network, containing both weak and strong ties, may be more valuable than one or the other. Strong ties can increase the benefits of long-term relationships through increased frequency of interaction. Through a high frequency of contact, strong bonds form, enhancing tacit knowledge and the informal control of one member over the other (Dekker, 2004). Generating and nourishing strong ties however requires a great effort, thus, most people only have five to twenty strong ties in their personal network (Fischer, 1982), and most businesses have only three to ten strong ties (Aldrich and Martinez, 2001). On the contrary, the number of weak ties is infinite. Collaborative workspaces support the formation of both weak and strong ties. While weak ties offer members information, and support in discovering business opportunities, strong ties provide support and access to resources (Liimatainen, 2015).

4.4 The Coworking Phenomenon

Coworking is an increasingly generalised workplace concept. Suarez (2014) notes that the terms co-working and coworking are often mixed together and used interchangeably by both academics and practitioners. To avoid misinterpretation, he highlights that a co-worker is someone working in the same company or office, whereas a coworker is a member of a coworking space. Cowork means independent work in a shared environment (Buksh and Davidson, 2013), and coworking spaces, being similar to ‘collectives of practice’ (Lindkvist, 2005), refer to as shared offices where a group of individuals with more or less heterogenous backgrounds, knowledge and expertise, not having met before, co-locate themselves in the same work environment to work on a task for a limited time while sharing the related cost (Capdevila, 2014).

In this thesis, coworking refers to the practice of working ‘alongside each other’ (Spinuzzi, 2012) in a flexible and shared work environment where desks can be rented on a flexible basis and where like-minded people with heterogeneous backgrounds, skills and expertise form a community. The phenomenon is mainly associated with mobile and creative freelance and self-employed work in knowledge-intensive sectors and creative industries (Merkel, 2015).
According to Deskmag (Foertsch, 2013), the number of coworking spaces grew every workday by, on average, 4.5 spaces between March 2012 and March 2013. By the end of 2016 the number of coworking spaces worldwide had grown to about 11,300, which is a 23% growth compared to the numbers in 2015 (Foertsch, 2016). Deskmag research predicts that the number of coworking spaces will grow to 13,800 and the number of coworkers will exceed 1 million in 2017 (Foertsch, 2016). Moreover, Deskmag’s report suggests that about 60% of already existing coworking spaces need to acquire additional space for their expansion. “Seven out of ten coworking facilitators report that the availability of desk space in coworking spaces cannot keep up with the public’s demand in general” (Foertsch, 2014).

In the past few years this incredible popularity of coworking spaces has come to the attention of practitioners and academics (Baim, 2013; Davies and Tollervey, 2013; DeGuzman and Tang, 2011; Kakko, 2014; Kwiatkowski and Buczynski, 2011a, 2011b; Leforestier, 2009; Nakaya et al., 2012; Olma, 2012; Schuermann, 2014; Suarez, 2014; Sundsted et al., 2009; Silicon Santier, 2009), whose empirical work has mainly focused on defining the term, and understanding its effect on the everyday life of businesses. Research by several scholars has outlined a number of influential factors of productivity, creativity, venture development and social practice across coworking spaces, e.g. the physical work environment, the office setting and design (Doulamis, 2013; Fabbri and Charue-Duboc, 2014; Stumpf, 2013; Gardenitsch et al., 2016); the open social settings and diverse community (Gerdenitsch et al., 2016; Moriset, 2014; Muhrbeck et al., 2011; Spinuzzi, 2012); the professional ‘background’ environment provided by operators (events, services, support, welcoming atmosphere, access to network and external resources) (Deijl, 2011; Muhrbeck, 2011; Fabbri and Charue-Duboc, 2014), and the presence of hosts or managers aiming to coordinate and strategically manage collaboration and interaction (Cabral and van Winden, 2016; Capdevilla, 2014; Garrett et al., 2014; Merkel, 2015; Parrino, 2013).

4.4.1 The History of Coworking Spaces

In this section various connotations of coworking practices are provided. Even though early coworking pioneers independently named their unusual way of work, their common
motivation was the need for physical proximity and social cooperation in a shared space outside the boundaries of a shared formal environment.

Jackson (2013) based on her interview with Alex Hillman,\(^ {11}\) stresses that there is a commonly cited story in America with many variations worldwide in similar circumstances.

“They created Wikis and discussion groups to get the word out and this, I believe, is a large portion of the DNA of why it has turned into what it is today, it is spreading like wildfire and the people that do it are more likely to share than to contain knowledge in any one silo. Meanwhile, simultaneously to that entire story going on, similar stories where unfolding in other parts of the world. There’s a European lineage, an Asian lineage and they sound very similar with different characters”

(Alex Hillman cited by Jackson, 2013 p 32).

The most popular story of how the coworking movement started in America is written by New York Times reporter Dan Fost in 2008. He describes how a young computer programmer, Brad Neuberg, created a solution to his career dilemma in 2005, a solution that spread around the world, changing the way people work.

“Traditionally, society forces us to choose between working at home for ourselves or working at an office for a company. If we work at a traditional 9 to 5 company job, we get community and structure, but lose freedom and the ability to control our own lives. If we work for ourselves at home, we gain independence but suffer loneliness and bad habits from not being surrounded by a work community”

(Brad Neuberg, cited in Jones et al., 2009, p 9).

Frost (2008) states that when Mr Neuberg decided to be a freelancer and created an alternative work environment in 2005, the so called ‘coworking’ movement started. In a later blog article, Neuberg clarified many misinterpretations of his story, highlighting that even though Spiral Muse, a ‘home for well-being’ in San Francisco was the first coworking space, the space was originally a ‘feminist collective’. He had a friend involved in Spiral Muse, to whom he mentioned the coworking idea, saying that he needed an affordable office space. The friend let him use the space two days a week. “The one thing though was that I would have to set up the space each of those days and then break everything down as I couldn’t leave any permanent additions”. The beginning was not as easy as he thought. “In fact no one came for the first month and I would go and set

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\(^ {11}\) Alex Hillman is considered to be the most acclaimed practitioner and thought-leader on the subject of coworking (owner of IndyHall in Philadelphia USA), and the researcher has formally met Mr Hillman twice during conferences, and once during a formal interview session.
up the folding card tables and so on on Mondays and Tuesdays at the space patiently waiting for people but no one came. I realised then that I had to do more outreach and I started handing out flyers and cards and going to coffee shops and talking to people about the idea. Slowly a trickle of more and more people came into the space.” When talking about what helped him to grow awareness of what coworking is, leading to the quick expansion of coworking spaces around the globe, he said that many people just walked into the space without becoming formal members. He just let them see what was happening, and gave them permission them to take the idea of coworking and remix it with their own. Spiral Mise closed after a year, and was replaced by the Hat Factory in 2006. The Hat Factory was the first full-time space actually called a ‘coworking space’.

In his blogpost Neuberg (2014) points out that even though the term coworking was used by DeKoven in 1999 with the aim of increasing awareness of collaborative work techniques and technologies, it was unrelated to the coworking movement and was never applied to shared workspace enterprises (DeKoven, 2013). Instead, DeKoven used the term ‘coworking’ to identify a method to encourage collaborative work and business gatherings coordinated by computers, using the term ‘working together as equals’ to describe people who share “a deep appreciation of the joy of participating in a creative, playful community”. Neuberg claims that even though there were proto-ideas similar to the principles of coworking (i.e. artist colonies, journalist newsrooms, and rent-a-office spaces), none were entirely open communities. Famous spaces include the Writers Room founded in 1978 in New York that hosted 40 writers, or Grotto in San Francisco established in 1994 that was a clubhouse or bohemian retreat that provided workspace for about 30 writers engaged in everything from poetry to journalism (Sundsted et al., 2009).

In a 2013 Deskmag article, Foertsch and Cagnol (2013) provided a brief overview of the history of coworking spaces in the form of a timeline. They stressed that an earlier prototype community oriented ‘coworking-like’ space in the mid-1990s was the La Ruche in Montparnasse, Paris, that met two needs of its residents: it was a community space that cut across traditional boundaries (e.g. nationality and religion), and it became a community of peers that centred on the work of its residents. Although the term coworking space as used today did not exist at that time, some versions existed in the late-1990s. For instance, C-Base in Berlin opened in 1995 as one of the first hacker spaces. It
provided creative space for like-minded people to work together, and held public and coworking events. Due to its main features, C-Base was a pre-stage coworking space (Foertsch and Cagnol, 2013). Another milestone in the development of coworking spaces was the Schraubenfabrik, which was called a ‘community centre for entrepreneurs’ and opened in 2002 in Vienna. This was one of the first coworking spaces that focused on creating a community of like-minded people (Bauer et al., 2014). In 2005, The Hub in London (now Impact Hub) opened its first space as a ‘community of companies’. The motivation behind the small group of social entrepreneurs who decided to open the Hub was to create a physical space to connect ideas (Kennet, 2008). In the same year a ‘community office space for writers and programmers’ opened in San Francisco in Spiral Mouse (Bauer et al., 2014). In 2006 the first jellies emerged and started to organise ‘working events’ in which a few people would meet occasionally for work at a certain location. Two roommates and self-employed home-based software programmers, Anil Gupta and Luke Crawford, realised there was a lack of “other people to share ideas with”, so they started to invite friends to informally work from their apartments. Other locations for occasional meet-ups were coffee shops or private offices; the important aspect was the community (Bauer et al., 2014).

Nowadays the basic features of the coworking concept can be found in various organisational structures, and are being shaped and remixed with other models (e.g. incubators, serviced centres, etc.).

### 4.4.2 Unpacking the Term

Various quotes are available from the current academic and practitioner-oriented literature, each having its own definition of the term coworking space. They have significant differences in service, culture, field of work, size, business model, institutional purpose, adherence to values and movements, coworker employment, level of relations with other spaces and other aspects (Parrino, 2013). After conducting twenty months of research in Austin (US), Spinuzzi (2012) found many contradictions in what coworking is. He claims that the “proprietors and coworkers seem to disagree at every point” (Spinuzzi, 2012, p. 409).
According to Kwiatkowski and Buczynski (2011a, p. 198), coworking is generally defined by five major values: collaboration (“the willingness to cooperate with others to create shared values”), community (intangible benefits, shared purpose), sustainability (“do good to do well and offset the environmental footprint of the space”), openness (free sharing of ideas, information and people), and accessibility (financial and physical accessibility and being diverse).

Table 4-3 provides some definitions of the coworking phenomenon.

<table>
<thead>
<tr>
<th>Source</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coworking Wiki</td>
<td>Independent professionals and those with workplace flexibility work better together than they do alone.</td>
</tr>
<tr>
<td>Brad Neuberg (2005)</td>
<td>The freedom and independence of working for myself along with the structure and community of working with others.</td>
</tr>
<tr>
<td>Reed (2007)</td>
<td>‘Movement’ or a ‘philosophy’ characterised by four common values: collaboration, openness, community and sustainability.</td>
</tr>
<tr>
<td>Fost (2008)</td>
<td>Coworking is connected somewhere between the communalism of the 1960s and the whimsy of the dot-com days of the 90s.</td>
</tr>
<tr>
<td>Sundsted et al. (2009)</td>
<td>Coworking combines the best part of an office environment – community, collaboration and access to the right tools – with the benefits of working at home or working for yourself – convenience, flexibility, autonomy. Social movement.</td>
</tr>
<tr>
<td>Leforestier (2009)</td>
<td>Open source community approach to work.</td>
</tr>
<tr>
<td>Lange (2011)</td>
<td>Bottom-up spaces participated in by workers who strive for independence, collaborative networks and politics, and that share a set of values in a “collective-driven, networked approach of the open source idea translated into physical space”.</td>
</tr>
<tr>
<td>DeGuzman and Tang (2011)</td>
<td>Set-up and dynamics of 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.</td>
</tr>
<tr>
<td>Welter and Olma (2011)</td>
<td>Coworking is simply the natural organisation design of the urban collective manufactory.</td>
</tr>
<tr>
<td>Botsman and Rogers (2011)</td>
<td>Coworking combines the best elements of a coffee shop (social, energetic, creative) and the best elements of a workplace (productive, functional).</td>
</tr>
<tr>
<td>Kwiatowsky and Buczynski (2011a)</td>
<td>A state of mind, a community, and more importantly a revolutionary element of the larger collaborative consumption movement.</td>
</tr>
</tbody>
</table>

12 http://coworking.com/
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<table>
<thead>
<tr>
<th>Author</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wagner (2011)</td>
<td>Coworking is a workspace for socio-cultural enterprises and freelancers.</td>
</tr>
<tr>
<td>O’Brien (2012)</td>
<td>Productive spheres of work, environments of informal interaction, community, social support, collaboration, inspiration and innovation, all based around work-based mobile media consumption.</td>
</tr>
<tr>
<td>Nakaya et al. (2012)</td>
<td>Coworking is a working style to realise the atmosphere of a fun and fulfilling party.</td>
</tr>
<tr>
<td>Schultz (2013)</td>
<td>Coworking brings like-minded people together who share a certain understanding of what work is for them and how they would like to work.</td>
</tr>
<tr>
<td>Bilandzic (2013)</td>
<td>Coworking space is where social learning emerges as a result of people sharing the same workspace for their creative activities.</td>
</tr>
<tr>
<td>Lee (2012)</td>
<td>Coworking spaces are shared work facilities where people can get together in an office like environment while telecommunicating or starting up new businesses.</td>
</tr>
<tr>
<td>Coonerty and Neuner (2013)</td>
<td>Coworking spaces provide hip, comfortable, professional work spaces… along with a professional collaborative community of people who are living, breathing, and succeeding in this new economy.</td>
</tr>
<tr>
<td>John and Gratton (2013)</td>
<td>A third wave of virtual work, that seeks to restore co-location in the digitalising mode of production where tasks can be performed anywhere, anytime.</td>
</tr>
<tr>
<td>Moriset (2014)</td>
<td>Third place between home and work.</td>
</tr>
<tr>
<td>Dunstan (2015)</td>
<td>Coworking allows you to be a soloist but still play with the orchestra.</td>
</tr>
<tr>
<td>Goncalves (2015)</td>
<td>Coworking enables a perfect combination between the work done at home and that done at the client’s own installations.</td>
</tr>
</tbody>
</table>

Table 4-3: Some definitions of the coworking space
Source: The Researcher

4.5 The Coworking Organisation – and the Underlying Model

4.5.1 The Coworking Model

The authors of Silicon Sentier (2009) positioned coworking spaces based on the importance of community and the importance of economic profit. The figure below presents the balance between the importance of community on the vertical axis and the
economic importance on the horizontal axis. Coworking spaces could be positioned where community and profit have equal importance (Figure 4-3).

The existing literature identifies many different approaches that a coworking organisation can take. There are various types based on size, operator, target audience, employment status, sector, services offered, objectives of the space, mode of operation, management, and whether the space is set up temporarily or permanently. Table 4-4 lists forms of coworking organisation that have appeared in the coworking literature.
## Characteristics

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size (small, big, large)</td>
<td>Schuermann (2014)</td>
</tr>
</tbody>
</table>
| Operator (independent, community owned, franchise, cooperative, corporate owned, university owned, public sector powered, serviced centre, real estate agency) | Schuermann (2013)  
Green (2014)  
DeGuzman and Tang (2009)  
Silicon Sentier (2009)  
Kojo and Nenonen (2016)  
Bilandzik et al. (2013)  
Green (2014) |
| Target audience by employment status (entrepreneurs, freelances, start-ups, small businesses, corporate workers, public sector employees, university students and graduates, public) | Brinko et al. (2015)  
Hurry (2012)  
Kojo and Nenonen (2016)  
Schuermann (2014)  
Bauer et al. (2014)  
Bates (2011) |
| Target audience by sector (specific, diverse)                                   | Brinko et al. (2015)  
Spinuzzi (2012) |
| Services (shared facility, formal support, informal support, accelerator - entrepreneurial outcome oriented, hybrid) | Kojo and Nenonen (2016)  
Waters-Lynch et al. (2016) |
| Objectives (economic regeneration and job creation, community building, cost reduction, integrating new way of work into existing structures, stimulating social practices, creativity) | Spinuzzi (2012)  
Potts and Waters-Lynch (2016)  
Cabraal and van Winden (2016)  
Moriset (2014)  
Gerdenitsch et al. (2016) |
| Mode of operation (facilitative, organic)                                       | Parrino (2013)  
Merkel (2015)  
Capdevilla (2013) |
| Time scale (flexible, fixed, short-term, long-term, temporary)                  | Brinko et al. (2015)  
Kojo and Nenonen (2016) |

Table 4-4: Approaches to the coworking organisation

Source: The Researcher
Due to the variety of approaches to coworking models, it can be assumed that the business model of the coworking space does not offer any strict guidelines but rather adapts to the need and requirements of the occasion, and allows flexible changes on demand. Based on the five core values (openness, community, collaboration, sustainability and accessibility), individual microcosms develop in tune with the needs of the current community and shaped by the ideas of its operators/managers/founders (Schuermann, 2014). The right self-identification combined with the right message on the website increasing awareness of what the space stands for, what vision it has, and who it is attracting, are a great part of a successful business model. This is something, coworking spaces need to consider right at the start, when shaping their business model around the needs of their communities.

In general, the following formula applies from the providers’ perspective:

Happy Members = More Revenue

According to Schuermann (2014) the journey a coworking space takes from being an idea to actually opening, contains the following steps. First, the space needs an operator, often a private for-profit start-up run by entrepreneurs (Capdevila, 2014). Owners often attempt to create a work environment that fills their personal needs for a workplace. The founding follows the blueprint of ‘community first’ (two to four catalyst first comers). Then the space is advertised by word of mouth (friends, family, former colleagues), or through social media platforms (to target a wider group). As soon as the founder-community starts working and their appropriate desks or rooms are secured, the business is open. The founders take the role of leaders or may hire hosts to manage the concept (also known as facilitators, animators, community managers, etc.) and find other coworkers to grow the space. The person in charge of community encouragement takes a ‘hospitality-based approach’ (Schuermann, 2013, p. 28), greets everyone, shows them around the space, starts making acquaintances between members, and provides continuous development and encouragement within the community. Coworking space founders often combine the development of their own business with the management of the coworking space, the main purpose being to reduce office costs and create an emotionally and professionally supportive community of like-minded people. Moriset (2014) found that many small scale coworking spaces face low profitability issues, while 70% of large ones (with more than
50 coworker) are usually profitable (Foertsch, 2011). Many small coworking spaces have to keep their membership fees and occupation costs low, and thus cannot really expect significant up-scaling. Consequently, coworking space providers must find additional resources: public subsidies, sales of services (meeting room rental, seminar organisation, coffee shops etc.), or sponsorship by larger firms (Moriset, 2014). Many coworking spaces shift their model to a hybrid approach, making sure additional revenue comes from other parts of the business. DojoGroup for example has extended their model over the years to provide a user lab, a living lab, an entrepreneurship lab, a start-up accelerator and a business club via membership or pay-as-you-go constructions (Grea, 2014).

In his book, Suarez (2014) provides a guide for future coworking space founders to create and run their own spaces. It focuses on the creation and management of coworking spaces and covers all the processes from community building through marketing and sales to how to make the space profitable. Suarez’ proposed business model canvas, shown in Table 4-5, gives a clear representation of the structure by considering the essentials of the business and the reasoning.
Coworking organisations can also be seen as transitional/temporary work models. In his book, Schuermann (2014) highlights how coworking spaces are particularly valuable for young entrepreneurs whose businesses are in the early years of development. According to Schuermann, coworking spaces support start-ups and facilitate the transition from solo entrepreneurship to employer entrepreneurship by opening up opportunities for partnerships, networking and mutual support within the wider community. The function of the coworking space as a temporary work model is explained through the company life cycle, that consists of pre-foundation, foundation and growth (Figure 4-4). Business ideas often come to life when a person is studying or in an employee situation. These ideas are worked out and made more concrete at home. The primary work place for this is the home office. At the beginning of operations, in the founding days, the connection to a
coworking space is sought out. There, the business idea can be worked out in detail, built on, discussed with coworkers and transformed into a business plan (Schuermann, 2014).

![Diagram showing the stages of coworking: Pre-founding stage (Home office), Foundation stage (Coworking space), Growth stage (Rented office)]

Figure 4-4: Coworking as a transitional/temporary work model, based on Schuermann (2014)

### 4.5.2 Coworking Demographics

Since 2011, Deskmag have undertaken a worldwide coworking questionnaire survey, addressing demographic, satisfaction-related questions, as well as questions predicting how the coworking movement will shape work in the 21st century.

In the first global coworking survey (Foertsch, 2011), 661 coworkers took part from 24 countries. According to the results, coworkers were between their mid-twenties and late-thirties, with an average age of 34. About two thirds of coworkers were male and one third female, but the proportion of female coworkers grew from 32% in 2010 to 38% in 2013 (Foertsch, 2012a). The 2011 results indicate that women carried out much shorter projects, and were more likely to have a higher-education degree, but their levels of income were lower than their male coworking colleagues. Female coworkers preferred to have a combination of closed and open workspaces (55%, versus 37% for men), and made more use of meeting rooms (54%, versus 40% for men). The overall size of a coworking space was an important attribute when deciding where to work: 80% preferred a space with less than 50 desks. Interaction and a sense of community were the main criteria female coworkers looked for in the space. The results indicate that female coworkers worked alone less often and in teams more often, and attended more events than men.

Most coworkers had a university degree: 74.4% graduated with bachelor or master’s degree, 4.1% had a PhD 54% of the coworkers were freelancers, 20% of them saw themselves as entrepreneurs employing more than one employee. One in five worked as a permanent employee of a company, of which the majority worked in companies with
less than five employees. Most of the coworkers were from creative industries and new media related fields such as web developers or programmers, although the boundary between job descriptions was blurred and many coworkers specialised in more than one field. Typical occupations included web designers, programmers, consultants, PR and marketing advisers, journalists, writers and architects.

In the second global coworking survey in 2012, 1,500 people from 52 countries took part. Before joining a coworking space 58% of members were working at home, 22% in a regular office, and 4% in coffee shops. 90% of the people surveyed liked to work outside their coworking space, reflecting how much people like the flexibility coworking spaces offer. The home was found to be the second most popular choice for 80% of coworkers, not only for holding meetings but for undertaking core work. Traditional offices and cafés were found to be less popular with only 20% and 14% respectively using them as optional workplaces. What people valued most in coworking spaces was the opportunity to interact with others (84%), the flexible working hours (83%), and serendipitous interactions (82%). 45% of respondents wanted to share knowledge with members, and therefore searched for a strong community. Nevertheless, about half the respondents were happy working mostly alone (53%), and the other half enjoyed working in spontaneous, changing or fixed teams. The survey shows that permanent team workers were not necessarily more sociable, instead, the results indicate that those who preferred solo work (within their coworking space) were more likely to meet other members after work (Foertsch, 2012b).

The third global coworking survey (Foertsch, 2012a) shows many similar demographic results to previous surveys. 53% of surveyed coworkers were freelancers, while the remainder described themselves as entrepreneurs, or employees of either small or big companies.

### 4.5.3 Benefits of Coworking for Creative and Entrepreneurial Activities

Deskmag (2011) describes coworking as “a self-directed, collaborative and flexible work style that is based on mutual trust and the sharing of common core objectives and values between members”. The relevant literature implicitly suggests that coworking spaces
should be interpreted as places which mobile workers and entrepreneurs access with the purpose of enhancing networking practices and social interactions (e.g. Leforestier, 2009; Capdevila, 2014).

Spinuzzi (2012) concludes that coworking provides a solution to ‘professional isolation’, as a shared common space provides community for those who otherwise would not enjoy relational support while working from home. In coworking spaces independent and mobile professionals find diverse but like-minded peers to work alongside. Spinuzzi (2012) also suggests that a diverse environment can positively influence one’s own productivity, creativity, well-being and social embeddedness. This is supported by the Deskmag survey (2012) that found that 92% of surveyed coworkers said their social circle had increased a lot, 80% said their business network had grown, 75% reported an increase in productivity, and 86% said their isolation had decreased. More recent Deskmag statistics report that 71% of respondents noticed an increase in their creativity, 62% that their standard of work had improved, and 68% that their ability to focus had improved since joining a coworking space (Foertsch, 2012b). When coworkers were asked how they describe coworking with adjectives, the four most common answers were: ‘fun’, ‘creative’, ‘friendly’, and ‘inspiring’ (Foertsch, 2012b). Most respondents surveyed by Deskmag in 2011 indicated that their motivation increased (85%), and they had better interaction with other people (88%), since being a member of a coworking space. More than half the respondents were able to organise their working day more effectively, and spend their time at home relaxing and recharging (both 60%). Increased levels of income were also reported by 42% of all coworkers participating in the survey (Foertsch, 2011).

Amongst the other benefits (flexibility, being able to mingle and work with like-minded individuals, better work–life balance, greater job or career satisfaction), community or a sense of belonging, is critical in stimulating business development (Spinuzzi, 2012). According to Deskmag (2012a), 96% of respondents found community to be an important value of coworking spaces: 74% knew nearly every fellow coworker in their community. The location of the coworking space was found to be important by 61%, and only 46% reported that the cost of the membership was the most important element. Similarly, more recent research conducted by Colleoni and Arvidsson amongst Milanese co-workers (reported by Gandini, 2015) found that 48% of the respondents joined the spaces to get a
sense of community, 34% to be able to undertake networking activity, and 55% to overcome isolation and loneliness.

DeGuzman and Tang (2011) highlight that being surrounded by entrepreneurs on a daily basis, coworkers are constantly learning and growing. Knowledge sharing is one of the greatest benefits for members (Parrino, 2013), both formal and informal, including participating in professional workshops and attending social events. Events are particularly important in the life of the coworking community. Cohendet et al. (2014) highlight that events provide good opportunities for people to interact and exchange knowledge and ideas. They facilitate serendipitous encounters and the cross-fertilization of ideas which may turn into transactional relationships. Moreover, events can create awareness amongst members. Dourish and Belotti (1992) argue that being aware of other members enhances synergistic group behaviour. Additionally, public events represent invaluable opportunities to connect with external knowledge and ideas, and to meet potential customers and partners (Capdevila, 2014). Capdevila (2014) argues that coworking spaces are not only places for social interaction, but also shared spaces of knowledge sharing and creation.

In coworking spaces, entrepreneurs and businesses can access other professionals involved in related or complementary work, thereby lowering barriers to trying out new ideas, and reducing transaction and information costs (Pearce-Neudorf, 2014). Coworking spaces represent an organic form of ‘connected-learning’ - a model that regards learning as an interest-driven and socially embedded experience (Bilandzic, 2013). Coworking spaces stimulate collaboration, promote the exchange of knowledge, increase productivity and foster creativity (Stumpf, 2013; Parrino, 2013; Deijl, 2013).

Flexible work settings and design leave members free to decide how they prefer to use the space and its features which facilitates the spirit of sharing and cooperation (Fabbri and Charue-Duboc, 2014). With regards to what coworkers would want within their spaces, the Deskmag survey from 2011 found that 54% indicated they would prefer to share the space with less than 50 coworkers, as more would be distracting (Foertsch, 2011a). In terms of layout and design, the majority indicated that an ideal coworking space would contain a combination of open shared working environments, and smaller closed rooms. The results indicate that 43% of all coworkers rented a dedicated desk, and
57% were either happy or had a neutral opinion about using a hot-desk, which is shared with peers. 99% indicated internet access as a must, 80% stated copy and printer machines would be required, 76% mentioned the presence of meeting rooms, while 61% wanted a café, and 50% a kitchen area (Foertsch, 2011a).

Providers usually design their spaces to meet the various spatial and functional needs of their members: dedicated worksations and hot-desks in shared areas, private offices, reservable conference and meeting rooms, informal spaces such as couches, break out areas, a cafeteria, kitchen or lounge, and basic office amenities, such as WiFi, whiteboards and printers (Liimatainen, 2015). However, the most recent survey by Deskmag (Foertsch, 2016) suggests that even though many coworking facilities provide a wide variety of spaces such as private offices, team rooms and break-out areas, the vast majority of members still mainly work in open-plan offices. Even though the physical appearance, layout and design are important attractors and facilitators of the life of the community, practitioners argue that what matters is “the people who populate it and their interactions. This is what makes or breaks a coworking space” (Suarez, 2014, p. 26).

Figure 4-5 summarises the key factors supporting creative and entrepreneurial activities in coworking organisations as identified by the key studies on the topic of coworking.
Member support in coworking spaces might also come in the form of virtual spaces (Olma, 2012). Coworking members are asked to register on the real-time dashboard provided by their coworking space, and have the opportunity to upload a photo and specify the particular skills and expertise they could offer the community. These dashboards give users the opportunity to see who is present at the site (Olma, 2011). On these platforms users can share their events, workshops, job adverts and even personal stories with the community.

Even though the explicit emphasis on social and collaborative activity makes coworking spaces different from serviced offices, recent years have seen converging movements within the workspace industry as large serviced office enterprises such as Regus and Servcorp have adopted the term ‘coworking’ to describe part of their offering, and some large coworking providers such as WeWork have adopted standardised design features (Waters-Lynch et al., 2016). “Despite its synonymy with coworking, WeWork’s provision of space varies to include the provision of private desk space, which appeals to growing SMEs and corporate occupiers alike. WeWork has responded quickly to the
varied demands of occupiers, many of which fall outside the traditional coworking model of shared space but which retain the desire for flexible, collaborative places to work.” (Instant Group, 2016, p. 10). Results presented by Instant Office (2016) clearly indicate that more coworking operators are adapting to market needs and changes worldwide, and turning to hybrid models that provide serviced offices, and conversely, accelerator and tailored incubator-like programmes are providing coworking spaces.

Van den Broek (2011) creates a co-working pyramid of needs, displaying all the requirements founders and operators face when creating coworking spaces. Following Maslow’s original idea, basic needs (in blue) have to be met first before coworking spaces and coworkers can begin to aspire to the higher level needs (green contains security needs; orange contains needs of belonging; yellow contains needs of esteem; and red indicates the needs of realization) (Figure 4-6).

![Figure 4-6: The coworking pyramid of needs, based on Van den Broek (2011)](image-url)
4.5.4 Role of the Host in the Space

While physical and cognitive proximity combined with intense face-to-face interaction facilitate and increase the probability of certain types of relationship and learning (Bathelt et al., 2004; Boschma, 2005), existing research carried out in coworking spaces demonstrates that providing only the physical environment is not sufficient for supporting social practices (Capdevila, 2013; Parrino, 2013). What is needed is social animation, engagement and ‘enrolment’ (Callon and Law, 1982) to connect individuals with each other, and encourage people to interact, socialise and collaborate (Capdevila, 2014; Parrino, 2013). Suarez (2014, p. 24) points out that “it is not enough to put a bunch of people together in a room, you must work hard to create the right interactions that form a sense of community”. Although most activities tend to happen naturally, community facilitators may play an important role in creating modes of engagement that stimulate interaction, networking and collaboration among members (Fabbri and Charue-Duboc, 2014; Parrino, 2013). Facilitation may make collaboration more effective amongst a diverse group of people (Himmelman, 1996). Hosts (facilitators, animators, community managers, etc.) not only make connections between internal users, but also connect them to external players outside the coworking space, acting as boundary spanners (Daft, 2006). This therefore suggests that hosts have a key role in creating nodes between members, and are responsible for fostering interaction, serendipitous encounters and collaborations, and nurturing the formation of social capital (Amin and Roberts, 2008; Olma, 2012). Even though coworking hosts are seen as the heart of the community, some owners believe that processes are self-generative in the space, and simply due to the ‘law of attraction’ social interaction emerges naturally within the space.

Nevertheless, Capevilla (2014) observes differing levels of top-down encouragement within collaborative activities. In cost-related collaborations where the aim is to reduce transactional and operational costs, hosts do not engage in community building or dynamization at all. In resource-based collaborations, aiming to learn and complement resources by integrating external knowledge into the coworking community, hosts have a key role in facilitation and nurturing activities. The third type of collaboration, relational collaboration is the kind of collaboration where hosts are only needed to provide support,
but encourage members to self-organise activities with the aim of generating synergies and facilitating community building dynamics.

Two types of host can be differentiated: the ‘service provider’ (Merkel, 2015) and the ‘tummler’ (Hillman, 2014). While the service provider is responsible for providing services and facilitating good working situations, tummlers can be seen as ‘social gardeners’ (Walter and Olma, 2011) who stimulate interactions and collaborations using many techniques (e.g. social and professional events).

As mentioned, hosts can take a wide variety of names, such as community managers, facilitators, animators, enablers, and so on, making the term misleading in many ways. Hillman (2014) argues that the word ‘manager’ suggests a hierarchy and control which is unnatural in coworking communities. To solve this issue, he introduces the word ‘tummler’ in order to replace the term ‘community manager’. A tummler is “a person who makes things happen, in particular a professional entertainer or comedian whose function is to encourage an audience, guests at a resort, etc., to participate in the entertainments or activities” (Hillman, 2014). Tummlers listen, observe, ask, stir, blend and connect the people they encounter with each other. “They cruise the party. They listen, and they observe. They ask questions, and they earn trust. They meet people at the edges of the crowd, connect with them, and then slowly help those people discover their own way into the mix.” (Hillman, 2014). They create a system that helps a particular coworking culture grow. The caring nature of the tummler can be described as a form of curation (Merkel, 2015). “It is part of their job to help connect people, to build trust, and to reduce friction (to make it easier to connect), so that more exchanges can happen more easily. They are the ones that will value the needs and personality of the coworkers to suggest the best matches” (Suarez, 2014, p. 25.).

According to Lind (Lind et al., 2010, p. 53), curating can be seen “as a way of thinking in terms of interconnections: linking objects, images, processes, people, location, histories, and discourses in physical space like an active catalyst, generating twists, turns, and tensions”. In this view, the role of coworking hosts and members fit the main idea of curatorial practices: they welcome new members, create nodes between members, facilitate interactions, offer hands-on support, care, encourage collaboration and organise events.
Figure 4-7 illustrates the difference between a group connected by a community manager versus a group connected by a tummler (Hillman, 2014). The tummler type of community host is responsible for showing community members that everyone shares the responsibility of creating value for each other. This is particularly important because the majority of the values members can get from being part of a community comes from each other’s participation. But for members to recognise these values, they have to have the potential to lead something, e.g. an event or workshop.

Hillman further explains that every community has groups of people with different behaviours. Members can be categorised by the quality and quantity of their participation within the life of the community (Hillman, 2013). Figure 4-8 illustrates the various types of participative behaviour along a ‘fully-in’ to ‘fully-out’ spectrum.

‘Observers’ are people who only watch activities happening in the space; they do care about the activities, but are not actively involved in any of them. They are the backers of the community. The second group, the ‘attendees’, show up at events. They are visible and important but do not share the mission of the space. ‘Participants’ step out and do the mission the coworking community stands for, actively participating in events, helping overcome challenges others face, etc. Without the participants, attendees would not have
anything to share or discuss, and observers would not have the option to watch the community. ‘Champions’ help participants participate. They are the people who organise group challenges, workshops and events. They are the enablers within the community.

![Diagram showing types of participative behaviour]

**Figure 4-8: Types of participative behaviour**  
Source: The Researcher

Even though facilitative tools have been found to positively affect knowledge flows and collaboration, too much control could restrict the organic development of the community (Capdevila, 2014). Interaction, collaboration and networking cannot be forced, only enabled, thus, coworking space hosts need to support these practices rather than attempting to control them (Von Krogh et al., 2000).

### 4.5.5 Coworking in a Corporate Environment

In recent years, coworking has become a huge global industry providing essential services to communities of start-ups, entrepreneurs and freelancers in cities around the world. Many studies suggest that these spaces are becoming so popular that they could be the predominant way in which we work in the future (e.g. Termaat et al., 2014). However,
these collaborative workspaces need to constantly change and grow in new and interesting ways in order to be relevant (Lee Butz, 2016). The expanse of the co-living concept (a new way of living mainly attracting young entrepreneurs and freelancers, cultivating collaboration and serendipity amongst residents), the coworkation (coworking vacations located mainly in exotic places where people can work, interact, network and participate in many events), and the coworking model adaptation into corporate structures, are the three most significant trends that will shape the future how people live and do business (Lee Butz, 2016).

As section 3.2 has detailed, large corporations have already started to adopt some of the principles which underpin coworking, in order to better support creative and collaborative work through:

- Access to the necessary tools and resources
- Interaction with people from a range of backgrounds and disciplines
- Space for encouraging serendipity
- Virtual platforms providing opportunities to find out who is currently in the co-working space that you would like to meet
- Space for quiet self-reflection
- Space for collaboration projects
- Space for immersion in concentrated activity as opposed to classical open offices that can be very distracting.

Developing these ideas further, three distinct coworking scenarios for future R&D activities could be proposed (Fuzi et al., 2014):

1) *Internal coworking space for employees only*: the in-house space could offer an alternative workspace where employees from different departments and divisions have the opportunity to get together, collaborate, interact and share ideas. However, such a workspace that is limited to employees might cause a lock-in effect and restrict the inflow of new knowledge into the organisation.

2) *Internal coworking space open to non-employees as well*: this workspace might be suitable for companies who frequently require end-users, freelance contractors and start-up companies in the development process. This would allow the
company to exchange ideas, strengthen partnerships and benefit from fresh knowledge. Issues related to intellectual property would need to be addressed.

3) *Joining outside coworking spaces*: this can be offered as an alternative to the home office, or might be attractive for employees who prefer to work outside home in remote places near to their homes. Allowing employees to work in diverse and vibrant co-working environments could have a positive effect on their productivity, creativity and motivation while giving them freedom and independence at work. As above, intellectual property could be an issue.

Table 4-6 summarises the key characteristics of the various coworking options available for larger corporations.

<table>
<thead>
<tr>
<th>Model</th>
<th>Characteristics</th>
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<tbody>
<tr>
<td>1. Internal coworking space (for employees only)</td>
<td>• More effective internal networking and know-how transfer</td>
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<tr>
<td></td>
<td>• Interaction limited to people from the organisation</td>
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<tr>
<td></td>
<td>• Cost of creating and maintaining a new co-working space might be prohibitive</td>
</tr>
<tr>
<td>2. Internal coworking space (open to non-employees as well)</td>
<td>• Interaction with people from a more diverse range of backgrounds and disciplines from both inside and outside the organisation</td>
</tr>
<tr>
<td></td>
<td>• Collaborative projects could provide spaces for other companies, stakeholders and end users to participate directly</td>
</tr>
<tr>
<td>3. Joining outside coworking spaces</td>
<td>• Interaction with people from a diverse range of backgrounds and disciplines outside the organisation</td>
</tr>
<tr>
<td></td>
<td>• Allows employees to spend time in different environments meeting other people</td>
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<td></td>
<td>• Allows employees to avoid commuting to work on some days</td>
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<tr>
<td></td>
<td>• Issues related to privacy and intellectual property need to be addressed</td>
</tr>
</tbody>
</table>

Table 4-6: Coworking space options for corporations

Source: Fuzi et al., 2014

Each of these has its own potential advantages and drawbacks; for example, around the specifics of IT security and the handling of sensitive information – areas which would need clarification at the inception of such a project. To this end, managers who are
embedded in the practices of traditional organisational structures would require training in relation to the coworking model to ensure their activities are compatible. Issues such as perceived lack of control would have to be dealt with. However, the fundamental point is one of providing permission for creativity, interaction and thus, ultimately, for serendipitous collaborations to emerge.

In recent years, companies have started to use coworking spaces not on a permanent basis but for special projects that are meant to happen outside of usual structures. Berlin’s Betahaus for instance cooperates with companies on a regular basis. The companies are especially interested in finding out how the new work model functions and how they can use its innovative power for profit. Large companies are already increasingly using freelancers and are therefore interested in finding out how they can incorporate the use of coworking structures into their own company. Daimler-Chrysler worked on their car sharing project ‘car2go’ in cooperation with Betahaus Berlin, making use of special areas inside the coworking space. TUI with its Modul 57 or ING, in collaboration with the Network Orange Co-working Space, hope to tap new sources of specialised knowledge (Schurmann, 2014). General Electric moved 20 workers into a WeWork site in Boston. Another recent tenant, KPMG, rents about 75 desks at a WeWork in Manhattan, for workers who provide business services to start-ups, and another team that advises corporate clients on technological innovation (Clark, 2016).

### 4.6 Summary

This chapter has outlined the central findings from the subject literature, and has described the crucial features coworking spaces provide to enable opportunities for creative and entrepreneurial activities to emerge.

The chapter first has introduced various kinds of the collaborative community workspace model that help differentiate coworking spaces from other types. It was challenging to identify distinguishing characteristics, because the differences between these types of workspace are not always obvious, and often overleap (Brooke et al., 2014; Kojo et al., 2016; Schmidt et al., 2014; Suarez, 2014; Silicon Santier, 2009). This explains why the umbrella term ‘collaborative community workspace’ was used to bring together various
forms of shared workspace where freelancers, self-employed entrepreneurs and small businesses operate ‘alone together’. Moreover, the way spaces operate and support their members or tenants is shifting to one that offers various services and support such as networking, facilitated interaction, access to investors, and accelerator programmes. Waters-Lynch et al. (2016, p. 11) made the point, when attempting to differentiate coworking spaces from serviced offices, that serviced offices have “become blurred in recent years by hybridising movements from on the one hand, traditional serviced office providers such as Regus and Servcop claiming to offer coworking; and on the other hand, coworking spaces such as WeWork and NextSpace offering standardised private offices”.

Moreover, other forms such as incubators and accelerators also adapt one of the key principles of coworking, the formation of a like-minded community. These spaces often consider themselves as ‘incubators within a coworking space’, or a ‘coworking spaces within an incubator’. These further foresee the popularity of ‘blurred’ types, led by the needs of the members or tenants.

For the sake of this study, coworking spaces are not defined by the physical setting or appearance, but rather by the activities and task undertaken in shared, flexible workspaces occupied by various people with different backgrounds, occupations and employment statuses. The relevant academic and practitioner-oriented literature described coworking spaces in various ways. Coworking can be described in different parts of speech: as “a proper noun… [with] a verb… [with] an adjective” (Sundsted et al., 2009, p. 15). Coworking is a ‘social movement’ (Jones et al., 2009), that “combines the best elements of a coffee shop (social, energetic, creative) and the best elements of a workplace (productive, functional)” (Botsman and Rogers, 2011), where one can be “a soloist but still play with the orchestra” (Dunstan, 2015).

At an organisational level, physical, social, and facilitative components that provide optimal environments for creative and entrepreneurial activities were found. These features are in line with Williams’ ‘interaction model of creative behaviour’ discussed in section 2.5, where a workplace functions as a human ecosystem supporting creative behaviour and creative activities in such a way that the physical environment reinforces the social environment (culture), and together with cultural (social) components reinforce people’s behaviour. In the new framework, which is more relevant to study coworking
environments, facilitative conditions refer to the curator role of hosts or community managers, creating a pleasant and supportive culture by the use of various tools. Social conditions refer to the characteristics of the community in terms of skill-sets, attitudes, backgrounds, etc.

Table 4-7 shows the relevant theoretical concepts that have emerged from the broader and coworking-related literature. The concepts are presented according to three key elements, physical, social, and facilitative, previously found crucial in sustaining creative and entrepreneurial activities in coworking communities.

Economic geography literature argues that proximity and co-location are important to firm performance (Boschma, 2005; Maskell et al., 2006; Porter, 1990; Suire, 2013). Similarly, relevant literature on coworking spaces seems to confirm that the co-location of actors in coworking spaces has a benefit for enterprise development (Capdevila, 2013; Deijl, 2011; Stumpf, 2013). Furthermore, many studies add that the design and use of space for different activities are important elements that help foster informal meetings and wider interaction between different groups of people (e.g. Becker and Steele, 1995; Turner and Myerson, 1998). Coworking spaces utilise the benefits of a mix of spaces for private work, collaborative work, and common areas that facilitate serendipitous encounters (e.g. Fabbri and Charue-Duboc, 2014).

In terms of social conditions, the presence of a community built on trust is the soul of the coworking space. People get together and form communities with the main intention of sharing knowledge, co-creating and collaborating with like-minded peers (Capdevila, 2013). When members want to collaborate, they need geographical proximity (Suire and Vincente, 2009). However, co-location by itself does not guarantee success, instead, other types of proximities, such as cognitive proximity, have a substantial role in allowing efficient communication between actors, while social proximity helps to develop trust-based close relationships (Boshma, 2005).

Coworking communities are usually formed by a diverse group of people, enabling learning from various perspectives and the inflow of new knowledge (e.g. Nooteboom, 1999, Cohendet et al., 2014; Muhrbeck, 2011; Parrino, 2013). Nevertheless, several studies suggest that facilitators have a crucial role (Parrino, 2013; Capdevila, 2014; Merkel, 2015), and are particularly important in coworking spaces, to stimulate
interactions and mechanisms to co-create and share. Social or professional events and networking opportunities foster interaction, create awareness of other members’ expertise and skill-sets, enable business performance, and contribute to cross-fertilization (e.g. Brüderl and Preisendörfer, 1998; Cohendet et al., 2014). Dourish and Belotti (1992) discuss how being aware of other members’ skill-sets and expertise supports synergistic group behaviour, and facilitates collaborative working. Interaction, collaboration and networking might happen virtually and physically. Both are important to visibility and awareness within and outside the community, to connect to local networks and to maintain relationships.

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<th>Element</th>
<th>Factor</th>
<th>Key references</th>
<th>Relevant coworking references</th>
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<td>Turner and Myerson, 1998</td>
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<td>Becker, 2005</td>
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<td></td>
<td>Office setting</td>
<td>Fayard and Weeks, 2007</td>
<td>Fabbri &amp; Charue-Duboc, 2014 Deijl, 2011</td>
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<td>Duffy, 1997</td>
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<td>Thackera, 1997</td>
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<td>Becker and Steele, 1995</td>
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<td>Allen and Henn, 2006</td>
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<td>Groves, 2010</td>
<td></td>
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<td></td>
<td>Openness and accessibility</td>
<td>Chesbrough, 2006</td>
<td>Kwiatowsky and Buczynski, 2011a Capdevila, 2014</td>
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<td></td>
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<td>Nooteboom, 1999</td>
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<td>Suire and Vicente, 2009</td>
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<tr>
<td>Community culture</td>
<td>Hofstede, 1980</td>
<td>Fabbri and Charue-Duboc, 2014</td>
<td></td>
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<tr>
<td>Collaboration and interaction</td>
<td>Himmelman, 1996 Cohendet et al., 2014</td>
<td>Gardenitsch et al., 2016 Capdevila, 2013</td>
<td></td>
</tr>
<tr>
<td>Events (temporary and more-structured)</td>
<td>Granovetter, 1973 Cohendet et al., 2014</td>
<td>Fabbri and Charue-Duboc, 2014</td>
<td></td>
</tr>
<tr>
<td>Virtual proximity</td>
<td>Groves and Marlow, 2016</td>
<td>Olma, 2011, Bilandzik et al., 2013</td>
<td></td>
</tr>
</tbody>
</table>

Table 4-7: Key concepts explaining the drivers for creative and entrepreneurial activities

Source: The Researcher
Chapter Five: Setting the Scene: South Wales and the Cardiff City Region

5.1 Introduction 5-2
5.2 Policy Context of Economic Development and Entrepreneurship in Wales 5-4
5.3 Cardiff Capital Region as the Emerging Scale of Policy Intervention 5-9
5.4 Labour Market Characteristics 5-12
5.5 Community, Entrepreneurial and Business Culture 5-18
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5.1 Introduction

Even though the idea of implementing policies focusing on key sectors has become the mainstream policy approach in devolved governments in the UK, it transpired that the “one-size-fits-all” regional policy models were limited due to their underlying approach ignoring the spatial context (Cooke, 2004; Huggins and Clifton, 2011; Tödtling and Trippl, 2005). Instead, regions need to promote what makes them ‘unique’ and ‘superior’ (Foray et al., 2011, p. 4). Smart Specialisation can be distinguished from earlier regional innovation approaches in the way it calls for a process of ‘entrepreneurial discovery’ to identify the unique characteristics and assets of the region, attempting to avoid replication of ‘trendy’ sectors from other regions (Pugh, 2014).

In Wales, the sectoral approach to regional development has been implemented through the Economic Renewal Programme (ERP) (Welsh Assembly Government, 2010). The economic development document offers a reorientation of regional industrial policy to promote high growth firms within the priority sectors of Food, ICT, Energy and the Environment, Advanced Materials and Manufacturing, Creative Industries, Life Sciences, Financial and Professional Services, Tourism, and Construction. With regards to innovation policy, Innovation Wales (Welsh Government, 2014) focuses on four sector groupings Life sciences and health; Low carbon, energy and the environment; Advanced engineering and materials; and ICT and the digital economy, which are related to the ERP sectors but do not completely match them.

Even though the macro level remains important in terms of implementing strategies aiming to re-energise the Welsh economy, city regions have emerged as the new spatial scope of policy planning. City regions are considered the engines of economic growth, and catalysts for creativity and innovation. Recent research argues that the majority of future growth will be produced by medium-sized towns and cities rather than by megacities (Dobbs et al., 2011; OECD, 2012). As a response, the Haywood Report (Welsh Government, 2012) highlights that city regions in Wales can be seen as important economic drivers for the coming decades.

In November 2013 the Cardiff Capital Region Board was established, comprising senior representation from multiple sectors - academia, public and private - with the main aim
of providing leadership, vision and strategic direction for the city region, and setting priorities in the context of an “innovative region of distinction, connected communities and places planning their future together to maximise the opportunities of their people” (Welsh Government, 2015, p. 4). The strategy document highlights the importance of an integrated transport system that will provide connectivity; connecting more people to more places. It will also help the economy by stimulating private sector investment in places that “perhaps wouldn’t secure it now, so unlocking opportunities for developers, public sector organisations, to align their investments around the increased connectivity” (Mark Berry, City Deal Policy Forum, 2016).

Innovation, a thriving business community, and an entrepreneurial culture, are just a few of the themes at the centre of the Cardiff Capital Region Board’s aspirations for economic development. As noted in Powering the Welsh Economy (Welsh Government, 2015), “growing the number of start-up businesses and SMEs will create employment and drive economic competitiveness. We need to ensure that start-ups and SMEs have access to financing and mentoring initiatives consistently across the region, to support survival rates and help these businesses to grow” (p. 30). This vision clearly shows a strategic intent to support entrepreneurial activities with a series of specific interventions aiming to create a set of action areas to support enterprise creation and development in the Cardiff Capital Region.

Similar to the Economic Renewal Programme (Welsh Assembly Government, 2010), the new Cardiff Capital Region City Deal Report (Welsh Government, 2016) also highlights the importance of competitive business clusters across sectors such as financial services, creative and digital industries, advanced manufacturing, life sciences, energy and energy supply. There are three enterprise zones within Cardiff Capital Region, zones where the Welsh Government is prioritising investment in business infrastructure. Central Cardiff Enterprise Zone supports financial and professional services companies and is located at the heart of the city centre, incorporating Cardiff’s main railway station. There are also zones at St Athan - Cardiff Airport, supporting aerospace and defence, and Ebbw Vale, supporting manufacturing. 14 Nevertheless, as stated by Powering the Welsh Economy (Welsh Government, 2015) and the Cardiff Capital Region City Deal (Welsh
Government, 2016), next to the key role of entrepreneurs themselves is the interaction between key actors (with high network density, many connecting events, and large companies collaborating with local start-ups). In addition, all kinds of relevant resources (talent, services, capital) need to co-exist in order to create a stimulating environment for entrepreneurship to flourish.

This chapter details the background context to Wales and specifically to the Cardiff City Region. Firstly, the chapter provides the policy context regarding economic development and entrepreneurship in Wales, followed by an overview of the Cardiff City Region. The chapter then proceeds with an outline of Wales’ economic, labour market and business characteristics, and its community, entrepreneurial and business culture. Moreover, the chapter overviews the key organisations supporting collaborative working practices in South Wales.

There are two reasons why an understanding of the wider context is important. Firstly, the current situation of Wales and specifically the Cardiff City Region can only be examined with an appreciation of its political, economic and cultural context. Secondly, in order to understand the Cardiff City Region case study presented in the subsequent chapters, some basic information about Wales and the Cardiff City Region’s situation is necessary.

### 5.2 Policy Context of Economic Development and Entrepreneurship in Wales

Although Wales as a whole is usually characterised as being peripheral and economically lagging (Henley, 2005), its economy displays considerable diversity, and a degree of economic success. In 2014, the GVA per head for Wales was £17,573, 71.4% of the average of all UK regions, up from 72.5% in 2013, but still the lowest amongst the devolved countries and English regions (ONS, 2016b). The Cardiff City Region is economically significant for Wales, generating more than half the total GVA in Wales in 2012. However, on a per-head basis, the city region lags behind the UK average, generating only 80% of the UK average GVA per head, meaning that the city region is less productive on average than the rest of the UK (Welsh Government, 2015).
Until the late 1990s, the UK was a relatively centralised state that did not have elected parliaments in its constituent nations. Throughout the post-war era, the dominant theme in the UK’s approach to regional economic policy was one of “handouts to the periphery” (Cooke and Clifton, 2005). The symptoms of regional decline were treated mainly through employment creation, rather than addressing the complex causes (Ball, 2008).

Prior to the instalment of an elected parliament, the National Assembly for Wales, in 1999, the Welsh Office and the (UK) Secretary of State for Wales (established in 1964) were responsible for a number of areas including housing, local government and planning. In 1976, the Welsh Development Agency became responsible for economic development and the regeneration of industrial areas (Rhisiart and Jones-Evans, 2015).

Wales’ main industries previously related to coal and steel, but their decline saw Wales begin economic diversification based on services from the 1960s onwards (Pickernell, 2011). Employment in the service sector grew with the establishment of public sector institutions, so that by 1984, 345,000 people were employed in service occupations (Morgan and Rees, 2001). From the 1980s, unable to fully develop its indigenous base, the Welsh Development Agency (WDA) developed a strategy of intensifying the level of domestic and overseas investment in automotive and electronic engineering. This strategy peaked in the 1980s, in the period when the most intense job-losses occurred in the coal, steel and related industries (Cooke, 2004). During the 1980s, manufacturing became increasingly important with significant government support attracting industry to Wales (Jones et al., 2003). Between 1981 and 1993 GVA per employee in manufacturing in Wales grew from 94% of the UK average to 107%, making Wales second in the regional league table (Henderson and Thomas, 1999). Moreover, in the 1980s Wales regularly gained over 3 times the share of inward investment than its population would suggest (Pickernell, 2011).

From the mid-1990s, foreign direct investment was becoming more difficult to obtain. More companies moved to Asia and Central and Eastern Europe to take advantage of lower labour costs, increasing education and skills levels, and growing markets, causing 44,000 job losses between November 1998 and November 2002 (Cooke, 2004). In the late-1990s, the WDA’s strategy, that aimed to promote only ‘hard’ infrastructure, became less sustainable. As a response, it needed to revise its traditional three pillar strategy of
land reclamation, advance factory building and inward investment, and shifted to more efficiently supporting the ‘soft’ infrastructure of business support services, technology transfer, skills development and innovation, and most crucially, began to pay far more attention to the needs of the existing local and foreign owned ventures (Morgan, 1997).

The 1993 Wales 2010 Report (Institute of Welsh Affairs, 1993) set out a vision and programme for developing an enterprising culture, and made the first calls for the development of a ‘regional enterprise strategy’. A year later, Pathway to Prosperity was published by the Welsh Office, stating “it will be important to ensure that existing initiatives to support new businesses and related action to promote entrepreneurship are brought together under a clear, integrated programme of activity. We will therefore establish a new Entrepreneurship Action Plan for Wales” (Welsh Office, 1998). As a result, the Entrepreneurship Action Plan (EAP) was published in 1999, the first of its kind in Europe (Welsh Assembly Government, 1999). It was built around three challenges: identifying opportunity, creating enterprises and going for growth. A wide range of actions were introduced, including embedding entrepreneurial education in schools, colleges and universities, creating funds for SMEs and start-ups, and encouraging and creating entrepreneurship clubs. Its impact is highlighted by the fact that the number of new firms created between 2002-2005 increased by 21% compared to 13% in the UK (StatsWales, 2005).

A loss of focus on entrepreneurship in the years 2005-2011, due to institutional factors caused a decline and a 30% fall in the number of new businesses in Wales (Rhisiart and Jones-Evans, 2015). The period was dominated by broader economic strategies aiming to support the main drivers of business growth such as innovation, entrepreneurship, skills, investment and trade (e.g. Wales: A Vibrant Economy, Welsh Assembly Government, 2005; A Winning Wales, 2002), and higher education policy (e.g. Knowledge Economy Nexus, Welsh Assembly Government, 2002).

Even though the Technium Programme aimed to provide office space and help high technology firms commercialise university research from 2001, with ten centres across Wales, it failed to increase enterprise creation. In 2010, six were closed due to high costs and low occupancy rates. The project was strongly criticised by academics (Cooke, 2003; Cooke and Clifton, 2005; Jones-Evans, 2013), and was often called “overambitious”
(Cooke and Clifton, 2005) and “property leasing” (Cooke, 2003). Instead of attracting the best scientists, encouraging a greater entrepreneurial spirit amongst students and graduates, and providing support to start-ups, a huge amount of money was spent on infrastructural investment (Jones-Evans, 2013). However, Abbey et al. (2008) argue that the Techniums provided a potentially replicable innovation model for relatively disadvantaged regions. Nevertheless, Cooke and Clifton (2005) found that the Technium concept did not deliver the expected results because it replicated old incubator processes that failed to prioritise management assistance, including allocation of part-time space to such services as venture capital, legal advice and management accountancy. The programme assumed that over 400 incubator spaces could be filled, but there were not enough academic spin-outs or high-grow firms to fully exploit the resources offered (Cooke and Clifton, 2005; Jones-Evans, 2002).

The most recent policies are predominantly cluster-based in line with smart specialisation in economic development (The Economic Renewal Programme, Welsh Assembly Government, 2010). Enterprise zones and city regions emerged as important developments (Cardiff Capital Region - Powering the Welsh Economy, Welsh Government, 2015; City Regions Final Report, Welsh Government, 2012). Since 2011, entrepreneurship seems to have reappeared in distinct programmes emphasising the importance of access to finance, high potential start-ups, business support and entrepreneurship amongst young people (Rhisiart and Jones-Evans, 2015).

Funding support for starting and developing a business from governments and local councils may be achieved through grants, loans and voucher schemes. The largest investment body in the city region is Finance Wales. A large proportion of its funds comes from the Welsh Government and the European Regional Development Fund. Finance Wales manages funds of nearly £400 million (ENTIQ, 2016). Another relevant funding body is Xenox, a Welsh Government supported Angel Investor group. In terms of soft landing support, Business Wales provides the most comprehensive free tools at the Welsh national level, from information about the basics of starting a business including legal advice to how to find office space. Most local authorities within the region also offer free support for new businesses ranging from funding opportunities to local planning advice. Separate organisations promote free services on websites, including Business in Focus,
or membership based initiatives such as the Federation of Small Businesses (CITIE, 2016).

Table 5-1 summarises the key funding and business support available for businesses to start and develop in the Cardiff City Region, some being relevant for businesses located in any part of Wales as well.

<table>
<thead>
<tr>
<th>Type of support</th>
<th>Organisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loan, grant, investment, fund</td>
<td>UK Start-up Loan</td>
</tr>
<tr>
<td></td>
<td>UK Steel Enterprise</td>
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<td></td>
<td>Un Ltd</td>
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<td></td>
<td>Big Lottery</td>
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<td></td>
<td>Art Council Wales</td>
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<tr>
<td></td>
<td>Welsh Government (e.g. Accelerated Growth Programme, Technology Seed Fund, Media Investment Budget, etc.)</td>
</tr>
<tr>
<td></td>
<td>Cardiff Business Council</td>
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<tr>
<td></td>
<td>Visit Wales</td>
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<td></td>
<td>Finance Wales</td>
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<tr>
<td></td>
<td>Business Wales</td>
</tr>
<tr>
<td></td>
<td>City Deal</td>
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<tr>
<td></td>
<td>RSA^15</td>
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<tr>
<td></td>
<td>Innovation Point</td>
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<td></td>
<td>Enterprise Europe Network</td>
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<td></td>
<td>Robert Owen Trust</td>
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<td></td>
<td>Prince’s Trust</td>
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<tr>
<td></td>
<td>Accelerators</td>
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<td>Banks</td>
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<td></td>
<td>Xenox</td>
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<td></td>
<td>IndyCube Venture</td>
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<td></td>
<td>ICE Accelerator</td>
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<td></td>
<td>Wales Cooperative Centre</td>
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<td></td>
<td>Business in Focus</td>
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<td></td>
<td>Centre for Business</td>
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<td></td>
<td>Menter</td>
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<td>Antur Teifi</td>
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<td></td>
<td>Venture Wales</td>
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<td></td>
<td>Peninsula Enterprise</td>
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<td></td>
<td>Cazbah</td>
</tr>
<tr>
<td>Business support</td>
<td>Big Ideas Wales (under 25)</td>
</tr>
<tr>
<td>Soft support (mentoring, networking, workshops)</td>
<td>Business Wales</td>
</tr>
</tbody>
</table>

Royal Society for the encouragement of Arts, Manufactures and Commerce^15
### Table 5-1: Types of support available to start and develop businesses

<table>
<thead>
<tr>
<th>Support on jobs</th>
<th>Cardiff Start</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Centre</td>
<td>Cardiff Business Club</td>
</tr>
<tr>
<td></td>
<td>ITI Cymru (Institute of Translation and Interpreting)</td>
</tr>
<tr>
<td>Support on jobs</td>
<td>BNI (Business Networking Referral Organisation)</td>
</tr>
<tr>
<td>Job Centre</td>
<td>4N (Business Networking)</td>
</tr>
<tr>
<td>Support on jobs</td>
<td>Zookit</td>
</tr>
<tr>
<td>Support on jobs</td>
<td>IntroBiz</td>
</tr>
<tr>
<td>Career Wales</td>
<td>Women in Business</td>
</tr>
<tr>
<td>Support on jobs</td>
<td>WIRE (Women in Rural Enterprise)</td>
</tr>
<tr>
<td>Support on jobs</td>
<td>Business Forums (e.g. Caerphilly Business Forum)</td>
</tr>
</tbody>
</table>

**Source:** The Researcher

### 5.3 Cardiff Capital Region as the Emerging Scale of Policy Intervention

Not only in Europe but across the world, cities and their hinterlands have become the engines of the economy, and are considered catalysts for creativity and innovation. City regions represent the ‘geography of everyday life’ (UK Government, 2006) and their administrative authorities need to consider traffic flows for work and leisure purposes, and social and economic linkages (Welsh Government, 2012). Although the growth of mega-cities has gained significant attention, studies suggest that in the future, the majority of new growth will occur in smaller towns and cities (McKinsey, 2011; OECD, 2012).
Acknowledging this, policy-makers in the UK have been putting an ever greater emphasis on increasing the economic growth potential of middle-sized cities (Cox, 2012).

The first policy document that identified development in city regions in South East Wales, Swansea Bay, and North East Wales, as an approach to guarantee investment in all regions, was the Wales Spatial Plan in 2004 (Welsh Assembly Government, 2004) and its updated version in 2008 (Welsh Assembly Government, 2004; Welsh Assembly Government 2008; Welsh Government, 2012). However, as Morgan (2006, p. 22) notes, these documents had “little or no capacity to put their designs into practice”. A later policy document, One Wales: One Planet, also reflects the importance of city regions in the Wales context (Welsh Assembly Government, 2009). Not only policy documents but other published reports and literature support the development of a city region in South East Wales. Roger Tym and Partners (2011) called for better strategic planning; Barry (2011) highlighted the importance of the metro system around Cardiff and the South Wales Valleys; Chapman (2012) emphasised that enhanced economic development can arise within a functional economic area as a result of good governance; and a booklet published by the Institute for Welsh Affairs (Thomas, 2012) sets out the potential for a functioning city region in this area.

The Haywood Report (Welsh Government, 2012) outlined the real (functional) economic geography of the Cardiff Capital Region as well as the Swansea Bay City Region, and called for strong engagement between partners in order to agree long-term regional vision and objectives. The report served as a foundation for the establishment of the Cardiff Capital City Board in November 2013, comprising senior representatives from academia, and the public and private sectors. Following meetings, the board presented its vision for economic development: energising “a globally connected, great place to live and work” by delivering connectivity, recognising skills, enabling innovation and growth, and building a vibrant and internationally recognised identity (Welsh Government, 2015).

Geographically, Cardiff, the capital city of Wales, located in the Southeast of the country, is the largest urban area with a population of 1.5 million across the wider city-region and is promoted as the nation’s economic ‘dynamo’ and ‘powerhouse’ (Welsh Government, 2015). The business start-up environment in the Capital Region is perceived as “growing in dynamism and confidence” and “very fertile and increasingly innovative” (CM
The city-region comprises Cardiff itself and nine proximate authorities: Vale of Glamorgan, Bridgend, Newport, Caerphilly, Rhondda Cynon Taff, Merthyr Tydfil, Torfaen, Blaenau Gwent, and Monmouthshire. Newport is the next major settlement in the city-region with a population of 145,000. The city region also has good transport links to England; Bristol can be reached in less than an hour from Cardiff on the M4, and getting to London by train takes around 2 hours. Figure 5-1 below shows the geographical map of the Cardiff City Region.

The most recent policy document, the Cardiff Capital Region City Deal (2016) secured a £1.2 billion deal to provide resources to unlock significant economic growth across the city region by tackling the area’s barriers to economic growth, including the improvement of transport connectivity; increasing skill levels still further; supporting people into work; and giving businesses the support they need to innovate and grow.
5.4 Labour Market Characteristics

In the year ending 31 December 2015, the population of the United Kingdom aged 16-64 was 40,720,800, of which 29,916,700 were in employment and a further 4,115,800 worked in self-employment. With regards to Wales, there were 1,344,200 people in employment and 181,100 in self-employment over the period January-December 2015. Figure 5-2 shows the significant changes in employment characteristics since the turn of the millennium. After the financial crisis in 2008, the percentage of people in employment decreased, while the self-employed population increased significantly (Figure 5-2).16

![Figure 5-2: Changes in employment status](source: APS)

Table 5-2 displays labour market characteristics in the year ending December 2015. 42% of the workforce in Cardiff hold NVQ level 4 qualification or above (higher education first degree or equivalent) which is higher than the average for the United Kingdom (36.9%). The Cardiff City Region as a whole however scores lower than the average for the United Kingdom regarding the percentage of the population with higher educational degrees. Employment rates lag behind the UK average both in Cardiff and its wider city region.
Table 5-2: Human capital characteristics, 2015\(^\text{17}\)

Source: APS

Regarding the composition of the employed population, Table 5-3 shows that the Cardiff City Region lags slightly in terms of the percentage of the population in managerial and senior official occupations (9.1% compared to a UK average of 10.3%). In Cardiff however, there is a greater percentage of those employed as professionals (19.7% in the UK; 17.3% in CCR; 23.6% in Cardiff) and associate professionals (14.0% in the UK; 12.6% in CCR; 14.8% in Cardiff) compared to the UK average. The proportions of the workforce employed in knowledge services and the creative industries are also relatively higher in Cardiff than in South East Wales, but still lag behind the UK average (Table 5-4).
### Table 5-3: Distribution of employment by occupation, 2015, %

**Source:** APS

<table>
<thead>
<tr>
<th></th>
<th>Managers and Senior Officials</th>
<th>Professionals</th>
<th>Associate Professional and Technical</th>
<th>Administrative and Secretarial</th>
<th>Skilled Trades</th>
<th>Caring, Leisure Services</th>
<th>Sales and Customer Services</th>
<th>Process, Plant and Machine Operatives</th>
<th>Elementary</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK</td>
<td>10.3</td>
<td>19.7</td>
<td>14.0</td>
<td>10.7</td>
<td>10.7</td>
<td>9.2</td>
<td>7.7</td>
<td>6.4</td>
<td>10.8</td>
</tr>
<tr>
<td>Wales</td>
<td>9.5</td>
<td>17.4</td>
<td>12.4</td>
<td>10.1</td>
<td>12.6</td>
<td>10.6</td>
<td>8.1</td>
<td>7.0</td>
<td>11.4</td>
</tr>
<tr>
<td>CCR(^{18})</td>
<td>9.1</td>
<td>17.3</td>
<td>12.6</td>
<td>10.3</td>
<td>11.3</td>
<td>10.4</td>
<td>8.3</td>
<td>8.6</td>
<td>11.1</td>
</tr>
<tr>
<td>Cardiff(^{19})</td>
<td>9.3</td>
<td>23.6</td>
<td>14.8</td>
<td>10.1</td>
<td>9.1</td>
<td>8.5</td>
<td>10.0</td>
<td>3.4</td>
<td>10.2</td>
</tr>
</tbody>
</table>

### Table 5-4: Percentage of employment within key sectors

**Source:** Clifton et al., 2015

<table>
<thead>
<tr>
<th></th>
<th>Labour Intensive Manufacturing</th>
<th>Capital Intensive Manufacturing</th>
<th>Knowledge Intensive Manufacturing</th>
<th>Knowledge Services</th>
<th>Creative Industries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Great Britain</td>
<td>2.1</td>
<td>2.3</td>
<td>3.3</td>
<td>13.1</td>
<td>8.0</td>
</tr>
<tr>
<td>South East Wales</td>
<td>1.5</td>
<td>1.6</td>
<td>2.8</td>
<td>12.1</td>
<td>6.8</td>
</tr>
<tr>
<td>Cardiff</td>
<td>0.9</td>
<td>1.0</td>
<td>1.5</td>
<td>13.8</td>
<td>7.6</td>
</tr>
</tbody>
</table>

Ten local authorities: Cardiff, Vale of Glamorgan, Bridgend, Newport, Caerphilly, Rhondda Cynon Taff, Merthyr Tydfil, Torfaen, Blaenau Gwent, Monmouthshire\(^{18}\) City\(^{19}\)
According to the Annual Population Survey 2015, the priority sector accounted for 45% of employment in Wales. 12% of priority sector employment in Wales was in the Energy and Environment sector, followed by Financial and professional services (11%) and Tourism (9%). The creative industries (4%), ICT (2%) and life sciences (1%) had the lowest proportion of employment in the priority sector. Compared to Wales and the UK, Cardiff had the highest proportion of people working in the financial and professional sectors. Figure 5-3 shows that in Cardiff there was significantly higher employment in the creative industries compared to CCR and Wales as a whole.

![Figure 5-3: Employment in priority sectors, 2015](image-url)

Source: GovWales

Self-employment was more common among people working in priority sectors than those who were not in priority sectors (22% in priority; 9% in non-priority). For instance, 36% of self-employed people worked in Creative industries.
Figure 5-4: Self-employed population in priority sectors, 2015
Source: GovWales

In terms of home workers (age 16 and over), 2,778,019 people described themselves as home workers in 2011 in England and Wales as a whole, 146,089 in Wales, 52,989 in the Cardiff City Region and 12,190 in Cardiff (Table 5-5).

<table>
<thead>
<tr>
<th></th>
<th>In Employment (all)</th>
<th>Employee</th>
<th>Self-employed</th>
</tr>
</thead>
<tbody>
<tr>
<td>England and Wales</td>
<td>2 778 019</td>
<td>1 218 606</td>
<td>1 559 413</td>
</tr>
<tr>
<td>Wales</td>
<td>146 089</td>
<td>57 423</td>
<td>88 666</td>
</tr>
<tr>
<td>CCR</td>
<td>52 989</td>
<td>24 379</td>
<td>28 610</td>
</tr>
<tr>
<td>Cardiff^20</td>
<td>12 190</td>
<td>5 743</td>
<td>6 447</td>
</tr>
</tbody>
</table>

Table 5-5: Home workers by economic activity, 2011
Source: Nomis

In Wales in 2011, 17.2% of home workers pursued financial, real estate, professional and administrative activities (e.g. legal, accounting and financial services, architectural and engineering activities), 17.1% worked in public administration, education and health and 8.3% in publishing, information services and programming. 61% of home workers described themselves as self-employed (ONS, 2011). Figure 5-5 shows that the highest proportion of home-based businesses in Cardiff were in associate professional and
Chapter Five: Setting the Scene: South Wales and the Cardiff City Region

technical occupations (21%), professional occupations (19%), and managers, directors and senior officials (16%).

Figure 5-5: Distribution of home workers by occupation, 2011
Source: Nomis

5.5 Community, Entrepreneurial and Business Culture

As noted in section 2.7, the entrepreneur is characterised by a combination of personality traits (Schumpeter, 1934), high levels of extraversion, conscientiousness, and openness, and a lower score of agreeableness and neuroticism (Obschonka et al., 2013; Zhao and Seibert, 2006). Rentfrow et al. (2015), based on their investigation of regional variations in personality in Great Britain, found that significantly low levels of extraversion and conscientiousness are seen in Wales, suggesting that large proportions of residents are quiet, reserved and introverted, as well as rebellious and indifferent. Significantly high levels of neuroticism appeared throughout most of Wales, suggesting anxious, depressed and temperamental behavioural attributes. These personality traits are not favourable attributes for entrepreneurial activity. The only personality trait in which Wales
demonstrates significantly high levels is openness, suggesting creative, unconventional and curious attributes, but only in some parts of Wales (Carmarthenshire, Cardigan and Gwynedd).

With regards to entrepreneurial attitudes, Brooksbank et al. (2008) argue that there are considerable differences between the urban and rural areas of Wales. Deriving data from the GEM (Global Entrepreneurship Monitor) they found that rural Wales has a strong tradition of entrepreneurial activity than urban areas, with the number of individuals engaging with entrepreneurship being more than twice that in urban areas, due to the lack of alternatives. Investigating attitudes to entrepreneurship in rural and urban Wales, Brooksbank et al. (2008) note that people in rural areas have a higher degree of confidence in their ability to start a business than those living in the urban areas of Wales. A greater proportion of those living in rural areas said that they personally knew someone who had started a business in the last two years (28.8%, versus 24.2% in urban Wales), and showed confidence in having the skills essential to successfully start a business (55.7%, versus 45.9% in urban Wales). People in rural areas had a lower ‘fear of failure’ and a greater ‘get up and go’ attitude to start a business. Moreover, those people were more likely to have a role model and/or a network in which they could get advice and acquire support from peers, which suggests a strong community culture with high levels of social cohesion (Table 5-6). These results are in line with the findings of Huggins and Thompson (2011) who argue that their analysis of Welsh localities shows that localities with more socially cohesive communities appear to generate high trust societies which then creates a greater perception of entrepreneurial feasibility and entrepreneurial activity, and are thus better positioned to create stronger business cultures. This suggests that social cohesion represents a potential strength, rather than a weakness. Further examining entrepreneurial attitudes, Brooksbank et al. (2008) found that necessity-driven entrepreneurship had higher rates in rural Wales than urban Wales, and that people who live in urban areas are more likely to perceive entrepreneurship as a good career choice, leading to a high status for the those involved (Table 5-6). Huggins and Thompson (2015b) found evidence that in the most deprived urban communities people were less likely to be involved in early-stage entrepreneurship, mostly due to personal characteristics rather than their living environment. Nevertheless, the lack of an existing business community may make it difficult to identify new opportunities.
### Table 5-6: Attitudes towards entrepreneurship in Wales, %

Source: Brooksbank et al., 2008

<table>
<thead>
<tr>
<th>Attitude</th>
<th>Rural</th>
<th>Urban</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personally knows an entrepreneur</td>
<td>29.8</td>
<td>24.2</td>
<td>25.7</td>
</tr>
<tr>
<td>Good start-up opportunities</td>
<td>34.9</td>
<td>34.5</td>
<td>34.6</td>
</tr>
<tr>
<td>Has skills to complete a start-up</td>
<td>55.7</td>
<td>45.9</td>
<td>49.1</td>
</tr>
<tr>
<td>Fear of failure would prevent start-up</td>
<td>32.1</td>
<td>34.0</td>
<td>33.4</td>
</tr>
<tr>
<td>Entrepreneurship is a good career choice</td>
<td>52.8</td>
<td>58.5</td>
<td>56.7</td>
</tr>
<tr>
<td>Starting a new business carries high status</td>
<td>71.6</td>
<td>73.9</td>
<td>73.2</td>
</tr>
<tr>
<td>Good media coverage of entrepreneurship</td>
<td>58.1</td>
<td>53.7</td>
<td>55.1</td>
</tr>
</tbody>
</table>

#### 5.6 Business Characteristics

The business culture of Wales, in particular due to its relatively sparse existing business community, the nature of the businesses, and the lack of resources available, is far below the leading regions of the United Kingdom. Even though new businesses are appearing, they show low levels of innovation and growth orientation, and are thus, not able to create strong entrepreneurial business communities (Huggins and Thompson, 2011).

There is little difference in the distribution of businesses by size. The proportion of businesses categorised as SMEs in Cardiff and South East Wales is the same as the British average. There is not much difference between Britain and South East Wales regarding the ages of firms, although Cardiff does have a slightly higher proportion, of firms aged between 4-9 (30.5%) compared to Great Britain as a whole (27.9%), but a similar proportion of younger businesses to both South East Wales and the whole of Britain (Table 5-7).

<table>
<thead>
<tr>
<th>Firms by Size of Business (Employees)</th>
<th>Age of Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Less than 2 Years</td>
</tr>
<tr>
<td>Micro (0-9)</td>
<td>85.6</td>
</tr>
<tr>
<td>Small (10-49)</td>
<td>87.8</td>
</tr>
<tr>
<td>Medium (50-249)</td>
<td>88.7</td>
</tr>
<tr>
<td>SME (0-249)</td>
<td>13.6</td>
</tr>
<tr>
<td>Less than 2 Years</td>
<td>13.1</td>
</tr>
<tr>
<td>2 - 3 Years</td>
<td>1.6</td>
</tr>
<tr>
<td>4 - 9 Years</td>
<td>30.5</td>
</tr>
<tr>
<td>10 or more Years</td>
<td></td>
</tr>
</tbody>
</table>

Table 5-7: Distribution of businesses by age and size, %

Source: Clifton et al., 2015
Scaled as a percentage of active business stock in the previous period, new businesses produce a value of 9.9% for Cardiff, compared to 10.1% for Britain as a whole. However, the true scale of the difference in entrepreneurial activity is partly hidden by a relatively low existing business stock in Wales. When business start-ups are scaled to the number per 10,000 of population, this difference is much larger. In terms of growth potential, the majority of high impact firms located in South East Wales are likely to be relatively older, thus less dynamic (Ács et al., 2008), and their social capital might be more informal than business oriented, compared to more competitive regions of the UK (Cooke et al., 2005) (Table 5-8).

<table>
<thead>
<tr>
<th></th>
<th>Scaled by Stock of Firms</th>
<th>By 10,000 Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiff</td>
<td>9.9</td>
<td>29.9</td>
</tr>
<tr>
<td>South East Wales</td>
<td>9.5</td>
<td>29.8</td>
</tr>
<tr>
<td>Great Britain</td>
<td>10.1</td>
<td>38.1</td>
</tr>
</tbody>
</table>

Table 5-8: Entrepreneurial activity (new venture creation), %  
Source: Clifton et al., 2015

According to the Welsh Government, just over two thirds (68%) of VAT or PAYE registered enterprises in Wales were in a priority sector in 2015. Figure 5-6 shows that the largest sector in terms of registered enterprises was financial and professional services (19,325), while life sciences was the smallest (315). The ENTIQ Report (2016) found that start-up businesses belonging to financial and professional services tend to appear mostly in sectors such as social networks, cybersecurity, telecommunications and networking, app and software development, healthtech, data management and analytics, e-commerce, fintech, sporttech, traveltech, games development companies, robotics and artificial intelligence.
The creative industries sector had the largest proportion of employees in registered enterprises in the zero-employee size-band, 11.1% in 2015 (Figure 5-7)
5.7 Key Organisations in Priority Sectors

According to the Tech Nation 2015 report (Tech City, 2015), South Wales (including Cardiff and Swansea) is emerging as a digital technology hub. The media sector in the Cardiff City Region benefits from proximity to major broadcasters such as the BBC and S4C.

The digital and media hub is a growing sector supported by organisations such as Cardiff Start, a technology start-up network; industry groups such as Unified Diff, Cardiff and Swansea Start, Games Dev South Wales and Digital 2015; and coworking spaces like IndyCube, GloWorks, TechHub Swansea, and the Welsh Innovation Centre for Enterprise. Tech Nation produce an annual report in which 85% of companies highlight the importance of such networks of entrepreneurs, and these organisations are discussed in detail in the next section.

In the Cardiff City Region, BioMet (Bridgend), GE Healthcare (Cardiff), Ortho Clinical Diagnostics (Pencoed), and Norgine (Hengoed) operate in the life sciences sector, undertaking activities including the manufacture of orthopaedic, biopharmaceutical, pharmaceutical and immunohematology products.

The Welsh Wound Innovation Centre, founded in 2014 in Llantrisant, brings university expertise to bear on wound care in order to provide cost savings in the provision of health care for the NHS. The centre provides “new and existing businesses access to resources and like-minded businesses, which will help them to grow and develop and form useful collaborations”21.

The Medicentre Incubator operates with close proximity the University Hospital of Wales and Cardiff University’s School of Medicine. The incubator supports small start-ups in bio and medical technologies. The Life Sciences Hub opened in 2014 by the Welsh Government provides a meeting point and facilities for its occupants. The aim of the Hub is to be “the nerve centre of a vibrant and prosperous Welsh life sciences ecosystem and bring together academic, business, clinical and professional services and funding organisations to provide a commercially driven melting pot of talent”22.

http://www.cardiff.ac.uk/innovation/our-partnerships/welsh-wound-innovation-centre21
https://www.lifescienceshubwales.com22
The Cardiff Business and Technology Centre (CBTC) is part of the UK Science Park Association (UKSPA) and “provides flexible serviced accommodation and easy access to business support services, tailored to the needs of new technology and science-based businesses”\textsuperscript{23}. Member firms operating there include software, digital design, and eco-design. CBTC is a joint venture between the city authority and Cardiff University, but is being run as a separate business, an arm’s length company of the Cardiff City Council. CBTC is accommodated by around 160 people (June 2015), all belonging to technology occupations. Cardiff University subsidises 6 places in a shared area for its current students and graduates. After the free year, businesses have the option to move to small units. The centre supports personal and professional development in many ways, they organise breakfast seminars, social gatherings such as Friday coffee mornings, provide management services, business advice, and assist with grants and loan schemes.

There are other incubator centres, such as Venture Wales (Newport and Abercynon) and the Sony Centre in Bridgend.

5.8 University-related Incubation Spaces

Providing spaces for entrepreneurship and innovation is done by universities. Cardiff Metropolitan University’s FabLab accredited by MIT offers a makers’ space where people can design tangible objects, are able to learn new skills, meet people and share experience. The Inc Space at the School of Art and Design is a graduate incubator, accessible to undergraduates, postgraduates or researchers who have a significant idea that they think can be turned into a business. The length of the incubation programme is a year from when they start, and its purpose is to launch their business by the end of the programme - incubatees have 12 months to set up their business. Currently there are ceramicists, makers, artist-designer-makers, fine artists, a textile student, and an illustrator. There is an application procedure that requires the completion of an application form (business plan). Shortlisted graduates present their business plan in front of a panel that scores it against criteria and decides whether the business is good enough to get into the programme. The panel looks for students who have spark and are very enthusiastic.
The fee is £1,000 for a year (from September to September), and includes a studio space, an academic mentor for the year (an internal member of staff from the academic team), and an external mentor (someone in the field of practice). The external mentor is paid, which accounts for part of the fee. The incubatees meet their external mentor about eight times over the 12 months, once every six or seven weeks, and they meet their internal mentor every six weeks throughout the period. The purpose of the mentors is to keep the incubatees on track, in line with their business model trajectory, and in tune with what is happening in their locale in the city. The programme is structured. Incubatees learn legal aspects (trademarks, licensing, registration), branding, marketing, and basic financial aspects that help them build a sustainable business model.

Another initiative at Cardiff Metropolitan University is the Incubation Space run by the Centre for Student Entrepreneurship. Unlike the CSAD Inc Space, the Incubation Space is open to graduates of each school. The incubator is located next to the entrepreneurship centre which provides instant advice and feedback, and has 10 desks available for graduates to start their businesses. It provides a 6-month accelerator programme, and has an option to stay for a 6-month post acceleration period. During the 6-month period, graduates receive ongoing support, training and tasks which help them learn the skills needed to become successful entrepreneurs. The programme offers weekly events delivered by Big Ideas Wales, and focuses on every aspect of business development. Graduate businesses benefit from experienced academic and professional staff. The programme focuses on building confidence by providing opportunities to practice pitching and presenting in a safe environment.

5.9 Spaces for Collaborative Community Work

There are a number of coworking space providers in South Wales. When this research began in 2013 there were only two, IndyCube with 25 sites across South Wales, and the Welsh Innovation Centre for Enterprise located in Caerphilly.

Welsh ICE is home to 120 member companies (100 regular users and 20 virtual members as of July 2016) with over 300 people at its Caerphilly centre. 55% of its members are
funded by the Welsh Government, and the staff assist members in accessing other kinds of financing, such as from the Fairwood Trust (8%) (CM International, 2015).

Welsh ICE was created to foster connections and synergies among member businesses in a creative environment. It includes an organisational platform composed of events designed to create connections among members; a newsletter with information and news about the coworkers and the activities organised in the space; and staff who manage and operate the space, select members and facilitate interactions and relationships.

In addition to the coworking spaces (Co-Lab and Green Room), Welsh ICE offers a total of 35 self-contained office units (more are to become available in September 2016 due to a move to a new building in Caerphilly Business Park), that are mainly occupied by established businesses with multiple employees. Co-Lab provides dedicated desk spaces for member businesses, whereas the Green Room offers hot-desking, as well as dedicated options for member businesses. Three types of coworking memberships are available: basic (virtual-freelancer), medium (founder), and large (company). Private offices are let for teams and small businesses looking for privacy but still having a connection to the wider community. ICE members who occupy private offices also have access to the general ICE facilities and perks, including business support. ICE offers meeting rooms for hire, a restaurant (called Calon), childcare, event management and reception services.

In terms of the sectors that member businesses belong to, ICE is suited to supporting the emergence of businesses working in less high tech sectors. Member businesses include marketing and design agencies, app developers, illustrators and digital media producers. Most of the small companies are located in smaller private offices, while solo-preneurs and freelancers tend to settle in the shared coworking environment (Co-Lab and Green Room).

A CM International UK report (2016) estimated that Welsh ICE has achieved 186.92 FTE net additional jobs which corresponded to a current net GVA benefit to the Welsh economy of some £13.8 million. It assumed that the net GVA benefit would persist for a further three years, and Welsh ICE would achieve a cumulative net GVA benefit of £36.3 million. The report highlighted the subsidised places, the community, the facilities available, the opportunity to tap into other support networks, and the sources of advice, all of which are important areas of added value at ICE. At present, ICE supports member
businesses and new businesses to get off the ground through five support programmes. Even though Welsh ICE may be regarded as an anchor of the emerging ecosystem of Wales, many challenges can be identified for ICE going forward. One of the challenges is the sustainability of its business model. ICE is located in the Convergence Area identified by EU Regional Commission that makes public subsidy available for prosperous businesses.

IndyCube was established as a community interest company in 2010, providing coworking sites across South Wales. In January 2015 there were 150 people - including regular and occasional users – that were part of the IndyCube ‘family’. There are now (as of June 2016) 25 sites with about 350 desks. IndyCube identifies itself as “a place for people to draw energy from the people around them, bounce ideas back and forth and work alongside one another”24. IndyCube expanded to open its first space across the English border in Wakefield, Yorkshire in May 2016. IndyCube provides spaces for established enterprises to work alongside each other. Members are encouraged to make the offices their own. Each location’s ‘character’ is created by the people who work there. The founders do not believe that the members need to be ‘managed’ by community hosts or moderators, instead they allow the majority of collaboration to happen within the office in a bottom-up way. Members have the opportunity to work in any co-working sites across South Wales. This allows them to integrate with other local communities, share knowledge, socialise and build networks.

Each space in IndyCube has an ‘anchor tenant’ who is also an entrepreneur and a full-time member of IndyCube. Anchor tenants get desks for a reduced rate, and in return their responsibilities include showing newcomers around the space, introducing what IndyCube offers – the internet, tea, a kitchen, use of meeting rooms, etc. - and looking after people.

In Cardiff, IndyCube has five locations: Cardiff Bay, Trade Street, St Mary Street (together with Xibo Hub), the Dock, and the FabLab located at Cardiff Metropolitan University. The Trade Street office offers about 30 desks and currently accommodates 20 people per day on average. St Mary Street has rapidly become the flagship location in Cardiff, offering 46 desks for its members. The average number of users is about 10 a

http://indycube.cymru/blog2/item/build-it-and-they-will-come24
day. Most of the members are regular users and are provided desks through two brand channels. Xibo Hub holds the lease and IndyCube supplies people to Xibo Hub to fill desks. The Cardiff Bay site provides desks on two floors and accommodates about 20 coworkers on average. The Dock is a small office space with few desks, and belongs to a social housing association. The association contacted IndyCube to utilise the space, which is great for small project group meet-ups.

Morgan Studios, which opened in 2012, provides an affordable working environment for individuals and businesses belonging to creative industries. The space currently has 22 members across seven rooms, each shared between 2 to 5 people. Individual rooms bring together people with similar work styles. The community consists of illustrators, graphic designers, web designers, journalists, fine artists, film makers, photographers and others.

Tec Marina is one of the most recent coworking spaces, opened in April 2016 by OpenGenius ltd. Tec Marina focuses on people working in the fields of technology and creative industries. The former warehouse building has been redesigned in such a way as to encourage innovation, creativity, productivity, and accelerate entrepreneurial growth. Tec Marina offers private offices to companies with up to 14 employees (23 offices of various sizes) and 2 open coworking spaces where entrepreneurs can work alongside other like-minded people. It also has a ‘thinking space’, a gaming area, meeting spaces, bigger event/conférence rooms, free parking, free hot drinks and a gym facility. Regular events are planned for member businesses to encourage the sharing of knowledge and ideas.

Tramshed Tech opened in August 2016 as a Technology and Creative Hub for freelancers, entrepreneurs and small businesses. Tramshed Tech contains three meeting rooms, a board room, 20 private units for single companies and an open shared environment (café, lounge, reception and workspace). The shared workspace is divided into hot-desking and dedicated areas for entrepreneurs and freelancers. Those who intend to book dedicated workstations are allowed to design their own desk and bring their own furniture into the workspace. The hub facility is part of a bigger complex (however belonging to separate owners), that has an events venue and co-living apartments. Further plans are to create a collaborative facility, a yoga room, a restaurant and supermarket, as well as utilising the rear garden.
Chwarae Teg is a Cardiff based charity working across Wales to support the economic development of women as well as working with businesses and organisations to develop and improve working practices. The organisation provides various working areas for their employees, such as meeting rooms, open offices, a ‘zen area’, collaborative space, an events room and a kitchen lounge area. It also provides a small hot-desking environment with 6 workstations for individual businesses to operate. Individual businesses are free to use various areas for work activities, enabling the flow of information and knowledge between employees and individual businesses.

The Bone Yard is one of the latest creative studio space developments in Cardiff, providing ten individual studio spaces in separate reconditioned shipping containers. Residents represent professions such as artists, designers, cake makers and psychotherapists25.

The Firework Clay Studios support creative artists and recent university graduates with studio space, equipment and community26.

GloWorks is a creative industries centre offering a coworking facility with the main aim of bringing together independent creative and media businesses, and providing opportunities for growth through networking, collaboration and broadcaster commissioning, creating a focal point for inward investment in the Welsh creative sector27.

Rabble Studio and the Sustainable Studio are both located in Cardiff Bay and both opened in July 2016 with the aim of providing creative studio spaces for individuals, entrepreneurs and small businesses looking to learn, share, co-create, exchange ideas and knowledge, network and collaborate on projects. The Sustainable Studio provides makers’ spaces such as an environment for ‘messy’ artists, but also for desk-based entrepreneurs, and freelancers belonging to new digital media and creative industries, on two floors, and an event space on the rooftop. The Rabble Studio attracts mostly desk-based freelancers with diverse backgrounds (e.g. web designers, developers, creative strategists, PR and marketing consultant, iOS developers). Rabble Studio consists of an

http://www.theboneyardcardiff.com25
http://www.fireworksclaystudios.org26
http://www.commercialnewsmedia.com/archives/2699927
open shared space with the capacity for 16 individuals, a kitchen area and a space for various activities with comfortable couches, desks for part-time members, a library area, and a meeting room that can be used by another company located in the same building.

Meanwhile is another recent coworking space offering offices of various sizes for creative ‘self-starters’ and ambitious young entrepreneurs.\(^{28}\)

Entrepreneurial Spark (E-Spark) is the world’s largest free business accelerator for early stage and growing ventures. Its mission is to inspire and enable positive social change through the action of ‘Entrepreneuring’. E-Spark currently has 9 accelerator spaces in the UK. The Cardiff office opened in the summer of 2016, with 60 businesses in the first intake. The businesses belong to various sectors from environmental to new digital media and professional service providers (their approach is discussed in more detail in section 7.3).

Hwyl Hub opened in early 2016 as a coworking and community based workspace for freelancers, entrepreneurs and micro businesses located in Merthyr Tydfil. Hwyl Hub was started by a group of creative businesses and freelancers who saw the need for not only office space, but to grow a creative community and start-up culture within the area. The founders believe a co-working community can revitalise innovation, develop key skills and inspire a much-needed culture of creativity and start-ups for social and commercial good. Currently there are about 6 full-time and 8 part-time freelancers. There is a design agency, a digital agency, a digital production agency, a web designer, two architects, a virtual assistant company and a games animator (as of April 2016). Hwyl Hub provides an open shared environment, a lounge/kitchen area, a meeting room and a social area for its members and visitors.

It is worth mentioning Cardiff Start, which is a crucial part of the life of the broader creative and technology start-up community in Cardiff. Cardiff Start developed a ‘connect with entrepreneurs in Cardiff’ tool that lists individuals by their roles and interests, creating visibility and awareness amongst the broader community. The site provides a start-up directory, jobs, useful links and other self-built community functions (CITIE,

\(^{28}\)http://www.meanwhilecreative.co.uk/latest-projects/creative-affordable-studio-office-space-cardiff/
2016). Cardiff Start organises monthly events that sustain networking, connection and knowledge sharing among the creative and technology start-up community.

In Swansea there is IndyCube Swansea and TechHub Swansea, available for entrepreneurs, small businesses and freelancers looking to become part of a like-minded coworking community. IndyCube Swansea offers a device lab and a studio space for its members. ThechHub Swansea opened in 2014 as a community interest company with the ultimate aim of providing a coworking facility for tech entrepreneurs, freelancers and start-ups, as well as building a tech community in Swansea. It includes a hackspace, an event space (events, workshops, talks, hackathons, seminars), an open space, café/lounge, social area, two private offices and two meeting rooms. At the moment, besides the founder company employing about 35 people, there are 9-10 resident members and about 150 people in the TechHub network. TechHub also runs Hackerspace Swansea that accommodates mostly hobby customers from the TechHub network.
Figure 5-8: Geographical location of coworking spaces in South Wales

Source: https://www.google.com/maps/d/viewer?mid=1n7eubovYoWh2PZMoyLkgScQx8wE
5.10 Conclusions

This chapter has introduced the contextual background to Wales and in particular the Cardiff City Region. It has provided background information on its economic position, the policy context of economic and entrepreneurship development, its community, entrepreneurial and business culture, labour market and business characteristics, allowing the reader to understand and contextualise the findings of the present research study.

As this chapter has outlined, in many economic, business productivity and entrepreneurship indicators, Wales lags behind much of the rest of the UK. However, there is a disparity in population and economic performance between its localities, and even within the city region. The causes are mainly rooted in its historical background.

Cardiff, the capital city, is the fastest growing city in the UK (ENITIQ, 2016), and is ranked the third best UK hub for high growth small businesses, behind London and Manchester (The Startups Team, 2015). There are many tangible positives supporting business development such as lower cost of starting and running companies, compared to other parts of the UK, and the availability of government-related initiatives and support regarding business launch and development. Nevertheless, many obstacles to businesses starting and developing can be noted. These include the relatively high transportation costs between London and Cardiff; the oversupply of government funding and supply services which are in most cases general and not customised; the lack of investors both in terms of availability and specialised knowledge of what a particular type of start-up might require; limited role models (entrepreneurs who could inspire others); and the lack of a strong digital infrastructure in many areas of the city region (ENITIQ, 2016). The city region hosts a number of emerging start-ups, with 51.8 business start-ups per 10,000 of the population (Centre for Cities, 2016), and is already home to many coworking spaces that provide a wide variety of peer support (social, professional, financial, emotional), accelerator programmes and mentorships.

Huggins and Thompson (2011) found that community culture in Wales is grounded in social cohesion, caring, femininity, collective action and a general desire for fairness and equality. Although these sociospatial characteristics are often negatively associated with a business culture favourable to accelerated regional economic development,
competitiveness, entrepreneurship and innovation, Huggins and Thompson (2011) found that, in the case of Wales, more socially cohesive communities are better placed to create stronger business cultures because they produce a high trust society, which then produces a more positive perception of entrepreneurial feasibility and actual entrepreneurial activity.

Due to their strong social and community focus, coworking spaces are particularly appropriate environments for supporting business creation and development in the context of Wales. Coworking spaces sustain communities and increase community cohesion, but also provide role models, inspiration and motivation for those who are part of them. In rural areas the model could be particularly relevant in providing a central place for accelerating entrepreneurial activities and connecting entrepreneurial individuals, serving as a source of motivation, inspiration and positive perception of entrepreneurship, and therefore supporting economic regeneration. The key challenge is delivering the concept in an understandable way, promoting people, and showing what and how coworking spaces could support those looking to set up and run businesses, even in less urbanised areas of Wales.

5.11 Introduction to the Research Questions

To set the scene, the debate so far has discussed the theoretical and subject literature to coworking, the wider trends that shape work in the 21st century, and the geographical scope of the study.

Even though in recent years there has been a dramatic increase in the number of coworking spaces in cities of all sizes, academic research has still not paid adequate attention to coworking spaces. While practitioner-oriented studies have overwhelmingly dealt with investigating the practical issues of how to set up a coworking space, how to sustain the community and the business model behind the space, academics have mainly focused on defining the term, and understanding the effects of coworking activities on the everyday life of businesses – mainly in highly urbanised areas. Nevertheless, the way coworking spaces work in less developed areas is underexplored. With this in mind, the present research attempts to close the gap in knowledge by providing an in-depth investigation of how coworking spaces work, and are used in smaller cities and
economically challenged areas in a way that support the creative and entrepreneurial activities of their tenants (freelancers, entrepreneurs, start-ups and small businesses).

Therefore, the two research questions addressed in the thesis are:

1. Is coworking an effective model for increasing creative and entrepreneurial activities in an economically challenged region?

2. How should coworking spaces be designed to maximise creative and entrepreneurial activities in an economically challenged region?

The researcher returns to these questions in the remaining chapters to provide a ‘uniting thread’ to the discussions and evolution of the subject.
Chapter Six: Research Methodology

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6.1 Introduction

The previous chapters have outlined the theoretical background forming a framework for the study (Chapter 2), the global trends that shape new ways of work in the 21st century (Chapter 3), an overview of the related collaborative community workspace literature (Chapter 4), and a background context to Wales and the Cardiff City Region (Chapter 5).

This chapter gives an overview of the philosophy of research, research approach and methodology adopted in the thesis. It begins by identifying the thesis’ theoretical and practical approach. It looks at the research methodology, the specific sampling techniques and the methods chosen to collect data, and data analysis procedures. The chapter ends with a discussion of issues related to the validity and reliability, ethical consideration, and generalisation of the results.

Two main research questions were set for this research study: one theoretical and one practical. Firstly, the thesis seeks to advance theoretical understanding of whether coworking is an effective model for increasing creative and entrepreneurial activities in an economically challenged region. The second research question is more practical in nature, and seeks to explore how coworking spaces should be designed to maximise creative and entrepreneurial activities in an economically challenged region.

In order to answer the two research questions, a three-phase research process with a quasi-inductive approach was designed. The primary research started with thematic interviews and site visits in order to get a better understanding of the preconditions and practices in selected coworking spaces in the USA, Europe and UK (named as ‘State of the art’ phase). Information gathered in the “State of the art” phase helped identify what works in different cultures, and what can be adopted in the SW and CCR context.

The ‘State of the art’ review was paralleled with an in-depth investigation of the coworking scene in the Cardiff City Region and South Wales, using a mixed methods approach (CCR coworking phase and CCR non-user phase). As Richards (2005, p. 34) highlights, “qualitative and quantitative data do not belong in different worlds. They are different ways of recording observations about the same world”. In this regard, for the purpose of this study, qualitative and quantitative methods were used to ensure the phenomenon being studied is considered from multiple perspectives i.e. coworking space
providers (founders/managers), members, and potential members (referred to as non-users), such as location-independent professionals and home-based entrepreneurs.

The findings of each phase informed a set of recommendations of how coworking spaces should be designed to maximise creative and entrepreneurial activities, not only in the Cardiff City Region and South Wales but also in cities and regions having similar contextual characteristics (e.g. community, business and entrepreneurial culture). The rationale behind this research process was that it was the best way to study the role of collaborative workspaces in an entrepreneurial ecosystem, and to gather data and information from various perspectives. For triangulation purposes, it was important to bring together various sources and forms of evidence around the objectives in question. Thus, data was gathered from a range of actors to access a variety of perspectives by combining methods.

There is no one correct structure that a research design should take. Crotty (2003), Denzin and Lincoln (2005), Grix (2010) and Saunders et al. (2012) illustrate the steps that research design involves. Crotty (2003) identifies four elements representing two theoretical perspectives (epistemological and theoretical) and two practical elements (methodology and methods). Denzin and Lincoln (2005) suggest a research design that involves five sequential steps: the field of enquiry, the research paradigm, methodology, data collection methods, and data analysis methods. Grix’ (2010) research design involves five building blocks that have an interrelationship between them: ontology, epistemology, methodology, methods and sources. Saunders et al. (2012) presents another research design, the research ‘onion’, which involves six layers of consideration: philosophy, approach, strategy or methodology, type of methods, time horizon, and methods and techniques.

In this methodology chapter, Grix’ (2010) research design was selected as the most suitable for this research, due to its clear and logical structure (Figure 6-1).
What is out there to know?

What, and how, can we know about it?

How can we go about acquiring the knowledge?

Which precise procedures can we use to acquire it?

Which data can we collect?

Figure 6-1: The interrelationship between the building blocks of research

Source: Grix, 2010

6.2 Theoretical and Practical Approach

Crotty (2003) suggests that there is an interrelationship between the theoretical stance adopted by the researcher, the methodology and methods used, and the researcher’s view of epistemology.

*Ontological Perspective*

Ontological claims are “claims and assumptions that are made about the nature of social reality, claims about what exists, what it looks like, what units make it up and how these units interact with each other. In short, ontological assumptions are concerned with what we believe constitutes social reality” (Blaikie, 2009, p. 8). The way people see the world
is different; examples of ontological perspectives come under umbrella terms such as ‘objectivism’, ‘constructivism’, and ‘subjectivism’.

Objectivism is founded on the view that social entities exist in a reality external to, and independent of, social actors (Saunders et al., 2012).

Constructivism, by rejecting and opposing the objectivist view, declares that social phenomena and their meanings are continuously developed by social actors (Bryman, 2012). According to constructivism, reality does not exist beyond the views of the individual, rather, knowledge comes into existence in and out of the persons’ engagement with the world (Crotty, 2003). According to the constructivist view, truth and meaning are created by the interplay between the subject and the outside world (Gray, 2013). The constructivist paradigm is “a perspective that emphasises how different stakeholders in social settings construct their beliefs” (Schutt, 2006, p. 44). Constructivism is concerned with the ways in which people construct their world, and seek understanding of the world in which they live and work (Creswell, 2013). Constructions exist in the mind of individuals, and the role of the researcher is to understand, reconstruct, analyse and criticise participants’ views in a way that leads to constructing meaningful findings or outcomes (Guba and Lincoln, 1994). Social realities can be viewed as being constructed (Botterill and Platenkamp, 2012), and are based on a constant process of interpretation and reinterpretation of the intentional, meaningful behaviour of people – including the researcher and the outside world (Smith, 1989).

In contrast to constructivism, in subjectivism, meaning is imposed on the object by the subject. Subjects do construct meaning, but from the perceptions and consequent actions of social actors (Saunders et al., 2012). Subjectivism is often associated with the term constructionism, or social constructionism. Social constructionism views reality as being socially constructed, and is determined by people rather than objective or external factors (Gray, 2013). In social constructivism research, the focus is on what people, individually and collectively, are thinking and feeling, thus, researchers taking a social constructivist perspective try to understand the experiences that people have, rather than search for external causes and fundamental laws to explain behaviours (Easterby-Smith et al., 2012).
Epistemological Stance

Epistemology concerns what constitutes acceptable knowledge in a field of study, by trying to understand what it means to know (Saunders et al., 2012). Figure 6-2 shows the three most common paradigms in social theory that a researcher may consider in conducting research: positivist, interpretivist and realist (Grix, 2010). Of these three, the two most common are the positivist and the interpretivist paradigms. The actual choice of the research approach of a study depends on the nature of the research problem as well as the objectives of the study.

Figure 6-2: Key research paradigms
Source: Grix, 2010

Positivist researchers seek ‘objectivity’ (Marsh and Furlong, 2010). Data is usually collected about an observable phenomenon or reality with the aim of searching for regularities and causal relationships in order to create law-like generalisations (Gill and Johnson, 2010). A researcher taking a positivist stance believes that it is possible to establish regular relationships by using theory to generate hypotheses, which can be tested by direct observation, referred to as a deductive research approach. Alternative terms used for ‘positivism’ (Bryman, 2012; Corbetta, 2003; Crotty, 2003; Saunders et al., 2012) include ‘post-positivism’ (Creswell, 2013) and ‘objectivism’ (Morgan and Smircich, 1980).

The opposite to positivism, interpretivism claims that social phenomena are created from the perceptions and consequent actions of social actors. Interpretive research attempts to study a phenomenon in its natural setting and interpret it through the meanings that people give to it (Neuman, 2000). An interpretivist researcher develops an understanding of the way in which humans interpret their social world through real life observation, taking an inductive research approach. Synonyms for interpretivism (Crotty, 2003; Corbetta, 2003; Saunders et al., 2012; Bryman, 2012) used in the literature are ‘subjectivism’ (Morgan and Smircich, 1980), and ‘phenomenology’ (Titchen and Hobson, 2005).
Realism overlaps both the positivist and interpretivist perspectives and uses the causal ‘explanation’ (positivist approach) but adopts an interpretive ‘understanding’. Realists generally seek to explain the social world, not only understand it. In realist research, subjective perspective is used to construct a meaning out of the object. Instead of moving from theory to data (as in deduction) or data to theory (as in induction), due to “a neat pattern but a messy interaction between the conceptual and empirical world” (Bechhofer, 1974, p. 73), abductive reasoning is used in realist research, moving back and forth at the same time (Suddaby, 2006).

Approach and Reasoning taken for this Particular Study

In this research an ‘interpretive constructionist’ perspective was adopted (Rubin and Rubin, 2005, p. 21), allowing the researcher to engage with the social world of coworking spaces with the aim of understanding and constructing reality from the perspective of providers and those who have directly experienced the phenomenon such as regular users (insider perspective), and those who currently do not use, or occasionally use coworking spaces (outsider perspective).

This research appreciates that there are multiple realities, as people perceive things differently. Truth differs from person to person according to what individuals see and experience, and how they interpret feelings, activities and situations; therefore, they come to different conclusions. Nevertheless, it is likely that some shared meanings emerge (as members of coworking spaces usually go through the same process of developing the personal and professional skills important to creative and entrepreneurial activities). For this reason, both individual meanings (Kelly, 1955) and shared meanings (Berger and Luckmann, 1967) regarding the influence of coworking spaces on creative and entrepreneurial activities were of interest. Nevertheless, meaning emerges from the interactions people have with others and with society. Thus, interaction influences the way people act towards others, and through an interpretive process these meanings are continually modified. In coworking organisations, individual’s creative and entrepreneurial activities are affected by the triad of the physical environment, the facilitated social environment, and the peers they are co-located with. Therefore, the

Such a philosophical position is within a realism epistemology and towards the interpretativist end of the spectrum. Thus, the positioning is suitable for theory building and mixed methods research designs.
influence that the cultural and organisational context has on these activities needs to be considered.

Given the novelty and lack of existing theories on coworking spaces, the overall analytical approach to the research was closer to an abductive position or quasi-inductive approach than inductive, with its promise of moving iteratively between observed reality and existing theories (Alvesson and Skjoelberg, 1995 cited by Perry and Jensen, 2001). This modified version of a grounded theory approach helps the researcher to initially be aware of a number of dimensions of the phenomenon being studied, giving the researcher a ‘flying start’, and allows to have some background information when entering research situations (Straus and Corbin, 1990). Another advantage of this modified version of grounded theory is that the researcher is allowed to read literature after the data sampling and data collection have started. This allows data comparison with other theories after the data analysis is complete, helping to increase the robustness of the study by external confrontation. This is particularly important for this research as the process of the primary fieldwork paralleled theoretical conceptualization, due to the evolving nature of the topic of coworking.

For this purpose, at the start of the fieldwork, related research in the field of creativity and innovation management, social psychology, architecture and organisational research, was studied, with the aim of providing a framework for organising and analysing the primary data. As introduced in Chapter 2, the framework used was Williams’ ‘interaction model for creative behaviour’, stressing the importance of balanced perception of the physical space, the social/cultural environment, and the people within a given organisation affecting creative and entrepreneurial outcomes. Setting the key categories for data analysis based on Williams’ framework, and following the principles of the modified grounded theory approach, dimensions that do not ‘fit’ were excluded from the analysis, while newly discovered dimensions were added. This helped fine-tune Williams’ model by modifying it to one more suitable to investigate coworking organisations.
6.3 Methodological Choice

The researcher has the opportunity to choose between qualitative research, quantitative research or mixed methods. According to Bryman (2012) the decision to choose a specific methodology should be based on its suitability to answer the research question(s). Denzin and Lincoln (2005) stress that qualitative research emphasises the process of discovering how the social meaning is constructed. Qualitative research is designed to better understand humans, and the social and cultural contexts in which they live (Miles and Huberman, 1994). In contrast, quantitative research is based on the measurement and analysis of casual relationships between variables. Quantitative research may not pay attention to cultural and social effects because it normally depends on statistical data (Silverman, 2005).

When the researcher assumes that each type of data collection has limitations, she/he can consider using both with the aim of combining their strengths to develop a stronger understanding of the research problem or question (Creswell, 2013). Greene (2007) defines mixed methods as a way of looking at the social world “that actively invites us to participate in dialogue about multiple ways of seeing and hearing, multiple ways of making sense of the social world, and multiple standpoints on what is important and to be valued and cherished” (p. 20). Mixed methods can be used to explore how individuals describe a topic by starting with interviews, analysing the information, and using the findings to develop a survey instrument. This instrument, in turn, is administered to a sample from a population to see if the qualitative findings can be generalised to a population (Clark and Creswell, 2007).

Saunders et al. (2012) summarise reasons for, and advantages of, using a mixed method design (Table 6-1).
Chapter Six: Research Methodology

<table>
<thead>
<tr>
<th>Reason</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initiation</td>
<td>To provide contextual background to a research problem</td>
</tr>
<tr>
<td></td>
<td>To understand the research problem</td>
</tr>
<tr>
<td></td>
<td>To formulate and redraft new techniques</td>
</tr>
<tr>
<td>Facilitation</td>
<td>One method may lead to the discovery of new insights which inform and are</td>
</tr>
<tr>
<td></td>
<td>followed up through the use of the other method</td>
</tr>
<tr>
<td>Complementarity</td>
<td>To allow meanings and findings to be elaborated, enhanced,</td>
</tr>
<tr>
<td></td>
<td>clarified, confirmed, illustrated or linked</td>
</tr>
<tr>
<td>Interpretation</td>
<td>One method may help to explain relationships between</td>
</tr>
<tr>
<td></td>
<td>variables emerging from the other</td>
</tr>
<tr>
<td>Generalizability</td>
<td>To help to establish the generalizability and credibility of a</td>
</tr>
<tr>
<td></td>
<td>study or to produce more complete knowledge</td>
</tr>
<tr>
<td>Diversity</td>
<td>To allow for a greater diversity of views to inform and be</td>
</tr>
<tr>
<td></td>
<td>reflected in the study</td>
</tr>
<tr>
<td>Problem solving</td>
<td>Alternative method might help when the initial method reveals unexplainable</td>
</tr>
<tr>
<td></td>
<td>results or insufficient data</td>
</tr>
<tr>
<td>Focus</td>
<td>One method may be used to focus on one attribute while the other one on</td>
</tr>
<tr>
<td></td>
<td>another attribute</td>
</tr>
<tr>
<td>Triangulation</td>
<td>May be used to combine data and ascertain if the findings from one</td>
</tr>
<tr>
<td></td>
<td>method mutually confirm the findings from the other</td>
</tr>
<tr>
<td>Confidence</td>
<td>The reliability of findings is greater</td>
</tr>
</tbody>
</table>

Table 6-1: Reasons for using a mixed method design

Source: Saunders et al., 2012

In this research, mixed method design with an exploratory purpose was adopted in order to explore “what is happening; to seek new insight; to ask questions and to assess phenomena in a new light” (Robson, 2002, p. 52). The mixed method approach was chosen because it has the potential to produce richer data than a single approach. Moreover, this decision was influenced by the fact that the existing literature on the topic utilises mainly a single approach. Most academic work employed a qualitative design (Spinuzzi, 2012; Muhrbeck, 2011; Hurry, 2011; Bates, 2011; Doulamis 2012; Parrino, 2013; Capdevila, 2014; Pearce-Neudorf, 2014; Merkel, 2015; Liimatainen, 2015; Cabral and van Winden, 2016), while only a few used quantitative research methods (Stumpf, 2013; Gerdenitsch et al., 2016). Nevertheless, mixed methods were considered in a limited number of cases where researchers were attempting to understand the studied phenomena from various perspectives (Taylor, 2015; Fabbri and Charue-Duboc, 2014), or to justify one outcome by another (Deijl, 2013).
Sakaran and Bougie (2010) highlight that exploratory research is suitable when there is not much known about a situation due to few empirical studies undertaken in that area. This seems to be the case with this research study due to the lack of academic cases examining the coworking phenomenon in the context of medium-sized or small cities, and in economically challenged regions.

### 6.4 Methodology: Case Study Strategy

Huberman and Miles (2002) note that a case study approach is suitable when there is “little known about a phenomenon”, and when “current perspectives seem inadequate because they have little empirical substantiation” (p. 31). They say that theory-development is a crucial aspect, but highlight that “in these cases, theory-building from case studies does not rely on previous literature or prior empirical evidence” (p. 31). Rather, theory-building develops from the generation of assumptions, frameworks, and perceived problems.

In this research, the theoretical framework displayed in Table 4-7 was developed with the purpose of organising and presenting the literature that set a prior view of the general categories and their relationships, as they emerged from key theoretical concepts. The framework provided security and focus, and made the analysis “comparatively straightforward” (Simons, 2009, p. 33). It helped analyse the results by focusing on what is important.

Benbaset et al. (1987) identify three outstanding strengths of case research.

1) The phenomenon is studied in its natural setting, and meaningful, relevant theory generated from the understanding gained through observing actual practice.

2) The case method allows questions of why, what and how, to be answered with a relatively full understanding of the nature and complexity of the complete phenomenon.

3) The case method lends itself to early, exploratory investigations where the variables are still unknown and the phenomenon not at all understood.
Considering its strengths, case study as a research strategy was selected as the best fit for this research study, because 1) there is a lack of academic research being done on how coworking spaces work and support their members in medium-sized cities and less entrepreneurial areas; and 2) utilising this approach enabled an understanding of the theory and practice of coworking from various perspectives and in various contexts. In addition, it increased the understanding of the particular South Wales and Cardiff City Region case, exploring which model or variation is most appropriate within its particular entrepreneurial ecosystem, to support creative and entrepreneurial activities of its member businesses.

In Levy’s (2008) typology of case studies, this research study fits into the ‘inductive case study’ approach, because inductive case studies often take the form of ‘total history’, assuming that everything is connected to everything else, thus, aim to explain all aspects of a case and their interconnections (Hobsbawm, 1997). The research also falls within the ‘multiple/collective case study’ approach because it offers the opportunity to study in-depth cases within their contexts, considering their complexity, which leads to greater confidence in, and validity of, emergent relationships shared between cases (Eisenhardt and Graebner, 2007; Yin, 2013).

Yin (2013, p. 119) stresses that “a major strength of case study data collection is the opportunity to use many different sources of evidence”, such as documents, archival records, interviews (open-ended, structured or focused), surveys, and observation (direct or participant), as part of a mixed method approach, and leads to richer and stronger evidence. The qualitative data are useful for understanding the rationale or theory underlying relationships revealed in the quantitative data, or directly suggesting theory, which can be strengthened by quantitative support (Eisenhardt and Graebner, 2007). To this end, a case study methodology was considered the appropriate strategy because it provides an overarching structure within which a mixed methods approach can be conducted. Collecting data from various sources supported triangulation, which is an essential part of the case study methodology (Yin, 2013).
6.5 The Research Process

6.5.1 Research Phases in Overview

The research process started by identifying the research problem: the lack of academic research undertaken on coworking spaces in a medium-sized/smaller city context. The next step involved developing the research questions: to explore whether coworking is an effective model for increasing creative and entrepreneurial activities in an economically challenged region; and to address how coworking spaces should be designed to maximise creative and entrepreneurial activities in an economically challenged region. The next step was to set out the objectives for the research (see section 1.3). The research then progressed through three consecutive phases using multiple methods (Table 6-2).

The ‘State of the art’ phase explored and identified how selected coworking spaces in three geographical areas (USA, Europe and UK) support the creative and entrepreneurial activities of member businesses (Objective 2). The methods used included thematic interviews and site-visits. Firstly, interviews with coworking space providers in Europe and the UK were carried out during the second half of 2014. Later, in summer 2015, an opportunity presented itself to run interview data collection in the USA. Even though US interviews were carried out in parallel with the SW and CCR interviews, those were analysed after the ‘State of the art’ data collection had ended.

The CCR coworking phase included both qualitative (a) and quantitative (b) research. The qualitative data collection (a) started early in the research process and ran in parallel with the ‘State of the art’ phase. It employed site visits, thematic interviews with founders/managers, observation, participant observation, informal interviews, and event participation, with the aim of gaining a deep understanding of the coworking model in the context of the Cardiff City Region, and identifying challenges and further opportunities for developing future member businesses (Objective 3). Observation started early in the process in late 2013, while the collection of founder/manager interviews started in the second half of 2014 in the five original spaces (SW1, SW2 Cardiff1,2,3 and Newport) located in the CCR, and were followed by six others in 2016 that were new additions to the coworking landscape in the CCR. The information gained from this qualitative data was used to build the second-round data collection (b) that was carried out in the CCR and other key areas of South Wales. It employed a member questionnaire
survey exploring how member businesses perceive and use coworking organisations, considering their role in supporting creative and entrepreneurial activities (Objective 4).

The initial findings of the qualitative fieldwork of the CCR coworking phase suggested that many different kinds of environments can be found in the Cardiff City Region that support informal coworking activities amongst entrepreneurs, small businesses, freelancers and home-based businesses. Moreover, the results of the member questionnaire survey found that freelancers are underrepresented in the sample, even though official global questionnaire surveys conducted by Deskmag (2011, 2012a, 2012b) report that more than half of the regular coworking space user population are freelancers. Due to complications of access, and the appropriateness of databases of professional associations (FSB, Enterprise Nation, IPSE, BIN, 4N), it was necessary to rely on existing local networks to identify a sufficient number of location independent freelancers and entrepreneurs, mainly operating from home and other ‘third place’ locations (e.g. cafés, art centres, and libraries), referred to as ‘non-users’. In order to identify the non-user population’s workplace preferences, as well as their opinions and experience of coworking, a questionnaire survey was designed and conducted online and in several physical locations, aiming to contrast perceptions of the coworking phenomenon in the context of the Cardiff City Region (CCR non-user phase).

Each phase of data collection contributed to a set of recommendations on how coworking spaces should be designed in an economically challenged region, through an understanding of how they act at present, as appropriate creative and entrepreneurial environments in the context of South Wales.

Table 6-2 presents the phases of the primary research, each with its aim, methods, and subsequent outcomes. The Gantt chart on Figure 6-3 presents the data collection periods.
Table 6-2: Three-phase research process
Source: The Researcher
## Figure 6-3: Research process on Gantt chart

Source: The Researcher
6.5.2 Sampling and Methods

Yin (2013, p. 103) highlights several possible sources of case study evidence such as documents, archival records, interviews, direct observation, participant observation and physical artefacts. Simons (2009) argues that the three qualitative methods most often used in case study research to facilitate in-depth analysis and understanding are interview, observation and document analysis. This study used two of these three core methods, observation and interview. Moreover, informal interviews, and two distinct questionnaire surveys were also applied in order to provide a profound understanding of the Cardiff City Region and South Wales case context. Archive documents were limited in relation to coworking spaces, therefore those records were not of in-depth interest, and only supported the formulation of findings.

In order to collect the primary data, a sampling strategy and sampling technique needs to be determined (Saunders et al., 2012). There are two major sampling techniques, probability and purposive sampling (Dawson, 2009). Probability sampling means that each individual in the population has an equal chance of being involved in the sample, while purposive sampling implies that the chances of each person being chosen in the sample is unknown (Creswell, 2013; Saunders et al., 2012).

Each phase of data collection employed a different sampling and data collection technique based on the nature of the objective(s) that the phase aimed to achieve, and the accessibility of information. The following sections outline the sampling and data collection techniques.

6.5.2.1 ‘State of the art’ phase

The rationale for the sample selection was to ensure the diversity and variety of coworking organisations, rather than to select a statistically representative sample, making them more likely to provide rich cases for the empirical investigation of coworking theory and practice. The other reason for not selecting a big sample was that, according to recent coworking statistics, there are 7,800 coworking spaces worldwide (Amador, 2015). This is too large a number to undertake in qualitative research, therefore, the coworking spaces selected had to follow some kind of pattern within this huge sample.
Therefore, purposive heterogeneous (maximum variation) sampling was used, to capture a wide range of perspectives relating to the phenomenon, from conditions that were seen as typical through to those that were more extreme in nature. By the use of the purposive maximum variation (heterogeneous) technique, the following categories were covered: 1) coworking spaces in big cities versus middle-sized cities; 2) highly versus less entrepreneurial outcome oriented coworking spaces; 3) newly emerged coworking spaces versus more established coworking spaces. It is reasonable to assume that practices and experiences gained from the interviewees in each of the cases would be evident in other coworking spaces representing similar contexts.

Previous practitioner-oriented and academic research has mainly studied coworking spaces in big cities such as Barcelona (Capdevila, 2014), Amsterdam (Deijl, 2013; Olma, 2011), Brussels (Wagner, 2011), Paris (Silicon Sentier, 2009; Fabbri and Charue-Duboc, 2014), London (Merkel, 2015; URS, 2014), Berlin (Schmidt et al., 2014; Wagner, 2011), Austin (Spinuzzi, 2011), San Francisco (Bates, 2011), and New York (Bates, 2011; Merkel, 2015), and more importantly, typically dealt with one national context only. These studies, carried out overwhelmingly in big cities, have mainly focused on describing the characteristics and benefits of coworking spaces, the reason people use coworking spaces, and the activities that happen in coworking spaces. However, the way coworking spaces work in smaller cities has not been given much attention. With this in mind, the case selection ensured that coworking spaces in under-explored, smaller cities (e.g. Lisbon, Vienna, Budapest, Edinburgh, Sheffield) were also represented in the sample alongside those big ones that are considered more popular among practitioners and researchers (e.g. New York, London, Amsterdam). Selecting cases in various size of cities ensured a richer and more robust picture about how coworking spaces work in different contexts.

Additionally, part of the consideration was looking at coworking spaces in countries that represent liberal but also coordinated market economies. Liberal market economies (USA and UK) have their competitive advantage in radical innovative activities, whereas coordinated markets (such as many European countries) are most competitive in industries characterised by diversified quality production (Hall and Soskice, 2001).
Undertaking a comparative study of different market regimes might explain why and how the coworking model varies across different socio-political cultures.

The selected cases fulfilled the wider definition, based on the existing literature, of coworking spaces: ‘likeminded but lonesome’ (Merkel, 2015) types of work relations that take place in a shared and flexible space where members are mainly entrepreneurs, start-ups and location-independent professionals in knowledge intensive, high-technology, new media and creative industries, and share the values of “collaboration, community, openness, sustainability and accessibility” (Kwiatkowski and Buczynski, 2011a).

Selected cases were uniquely coded based on geographical area. The codes were made up of the acronym of each geographical area, followed by a sequential numerical value. In each case quotes were used to illustrate the importance of key themes that emerged from the analysis, followed by the unique code of the coworking organisation, and the position of the interviewee. The codes chosen for coworking organisations were as follows (Table 6-3).
Thematic interviews were chosen as the method for data collection for two reasons: 1) to ensure that all key themes were covered; and, 2) to encourage free discussion based on topics emerging during the interviews.

Rubin and Rubin (2005) state that “qualitative interviews are especially good at describing social processes that is how and why things change” (p. 3). Interviews enable the researcher to “get to core issues in the case more quickly and in greater depth”, probe motivations, ask follow up questions, and facilitate individuals telling their stories (Simons, 2009, p. 43). Interviews also give the opportunity to ask a range of in-depth questions, allowing the participants to describe their experiences in their own narrative (Patton, 1990). Interviews have three basic forms: structured, semi-structured, and

<table>
<thead>
<tr>
<th>Nr</th>
<th>Coworking organisation</th>
<th>Interviewee (N=20)</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>USA1 CM</td>
<td>Boston</td>
<td>USA</td>
</tr>
<tr>
<td>2</td>
<td>USA2 CM and Host</td>
<td>Boston and Cambridge</td>
<td>USA</td>
</tr>
<tr>
<td>3</td>
<td>USA3 CM</td>
<td>Boston</td>
<td>USA</td>
</tr>
<tr>
<td>4</td>
<td>USA4 Marketing and Operations Associate</td>
<td>Somerville, Greater Boston</td>
<td>USA</td>
</tr>
<tr>
<td>5</td>
<td>USA5 Host</td>
<td>Boston</td>
<td>USA</td>
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<tr>
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<td>USA6 CM</td>
<td>Boston and Cambridge</td>
<td>USA</td>
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<td>USA8 Founder</td>
<td>Philadelphia</td>
<td>USA</td>
</tr>
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<td>9</td>
<td>EU1 Founder</td>
<td>Vienna, Austria</td>
<td>EU</td>
</tr>
<tr>
<td>10</td>
<td>EU2 Founder</td>
<td>Vienna, Austria</td>
<td>EU</td>
</tr>
<tr>
<td>11</td>
<td>EU3 Founder</td>
<td>Vienna, Austria</td>
<td>EU</td>
</tr>
<tr>
<td>12</td>
<td>EU4 Founder</td>
<td>Budapest, Hungary</td>
<td>EU</td>
</tr>
<tr>
<td>13</td>
<td>EU5 Founders</td>
<td>Budapest, Hungary</td>
<td>EU</td>
</tr>
<tr>
<td>14</td>
<td>EU6 Founder</td>
<td>Lisbon, Portugal</td>
<td>EU</td>
</tr>
<tr>
<td>15</td>
<td>EU7 CM</td>
<td>Amsterdam, Netherlands</td>
<td>UK</td>
</tr>
<tr>
<td>16</td>
<td>UK1 CM</td>
<td>London</td>
<td>UK</td>
</tr>
<tr>
<td>17</td>
<td>UK2 Host</td>
<td>London</td>
<td>UK</td>
</tr>
<tr>
<td>18</td>
<td>UK3 CM</td>
<td>Edinburgh</td>
<td>UK</td>
</tr>
<tr>
<td>19</td>
<td>UK4 Operations manager</td>
<td>Sheffield</td>
<td>UK</td>
</tr>
<tr>
<td>20</td>
<td>UK5 Entrepreneur Development Manager</td>
<td>Bristol</td>
<td>UK</td>
</tr>
</tbody>
</table>

Table 6-3: Selected interviews for the ‘State of the art’ data collection

Source: The Researcher
Chapter Six: Research Methodology

unstructured, depending upon the degree of formalization and focusing required to produce meaningful and generalizable results (Easterby-Smith et al., 2012). During the research, it was not possible to engage in a fully structured interview process with coworking space providers, due to the emerging nature of the coworking topic.

Thus, thematic interviews with a semi-structured guide were used to gain insight and understanding of what coworking is, what the key components of a successful coworking space are, who (in terms of sector and occupation) uses the space, why, what the benefits of using it are, and how the physical space affects individual’s creative and entrepreneurial activities. This phase provided a profound understanding of the coworking concepts and business models in the countries, a detailed description of the operation and the members’ everyday lives from the perspective of founders and managers, and helped to identify preconditions for supporting the creative and entrepreneurial activities of member businesses. The list of questions is given in Appendix 1.

In each case founders/managers were approached by email/phone to set a suitable date and time for the visit. In total, 20 thematic interviews were conducted in selected spaces between June 2014 and August 2015. They lasted 45 minutes on average, with the duration ranging from 30 to 90 minutes. They were recorded (with explicit permission) to allow more attention to be given during the interview sessions (Easterby-Smith et al., 2012), and transcribed verbatim in the following days. In some cases, interviews were carried out on coworking space tours, in which case note-taking was used to record information. Additionally, photos from space tours were taken for further analysis.

6.5.2.2 CCR coworking phase

The second phase focused on the Cardiff City Region and other key urbanised areas of Wales, and included qualitative (a) and quantitative (b) fieldwork. In order to study coworking practices in detail and to understand the underlying factors that support creative and entrepreneurial activities in the context of the CCR, the researcher needed to physically engage with the coworking community and network, and the activities and everyday life of its members. Creating and maintaining strong relationships with the community therefore was essential for the reliability of this particular study. This strategy
Furthermore ensured rich and powerful empirical investigation of the coworking phenomenon in the context of the CCR.

In exploratory mixed method research, data collection first starts with the qualitative data collection (Creswell, 2013). Data is then analysed and the information used to build the second round of data collection which is quantitative to be able to investigate statistical relationships on a broader population (Clark and Creswell, 2007).

The qualitative data are particularly useful for understanding ‘why?’ and/or ‘why not?’ emergent relationships hold true. When a relationship is supported, the qualitative data often provide a good understanding of the dynamics underlying the relationship, that is, the why of what is happening. With this regard, the qualitative fieldwork employed founder/manager interviews, regular observations, participant observation, and informal coworker interviews.

Firstly, interviews were carried out involving representatives from 6 coworking spaces, resulting in 11 interviews (Table 6-4). The main aim of this phase was to gain a deep understanding of the coworking model in the context of the Cardiff City Region and South Wales, and to identify the motivations and drivers behind setting up the spaces, and how they currently support the creative and entrepreneurial activities of member businesses. The same set of questions were used as in the ‘State of the art’ review for comparability (Appendix 1). Initially, interviews with coworking space founders/managers were planned to be carried out at the five original coworking spaces located in the Cardiff City Region (SW1, SW2 Cardiff 1, SW2 Cardiff 2, SW2 Cardiff 3, and SW2 Newport). The five initial interviews were collected during the second half of 2014. However, more spaces opened up in the Cardiff City Region, and in Swansea, after the initial interview data collection had ended. Therefore, to be able to present a more comprehensive picture of the newly emerging coworking spaces, six other spaces were included in the CCR coworking phase. Those interviews were carried out shortly after the spaces opened, mainly during 2016. Given that coworking is still an emerging area, with more coworking spaces being established, and the main principles being adapted to various institutional structures in the Cardiff City Region, after the extended data collection ended it was not possible to include each newly emerged initiative. Those excluded from the research were Tramshed Tech, Meanwhile Creative, Creative Cardiff ‘pop-up hub’, planned PathFinder,
and planned Cardiff University SPARK. The information that emerged from informal conversations with some of these initiatives are discussed in section 11.3.

As in the case of the ‘State of the art’ phase, the codes of the organisations were developed based on geographical area, followed by a sequential numerical value, and for sites that were part of the same organisation, a geographical marker. The codes for the coworking organisations in South Wales are listed in Table 6-4.

<table>
<thead>
<tr>
<th>Nr</th>
<th>Coworking organisation</th>
<th>Interviewee (N=11)</th>
<th>Location</th>
<th>Date of opening</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SW1</td>
<td>Founder and CM</td>
<td>Caerphilly</td>
<td>2012</td>
</tr>
<tr>
<td>2</td>
<td>SW2 Cardiff 1</td>
<td>Founder and Anchor</td>
<td>Cardiff</td>
<td>2010 onwards</td>
</tr>
<tr>
<td>3</td>
<td>SW2 Cardiff 2</td>
<td>Tenants</td>
<td>Cardiff</td>
<td>2010 onwards</td>
</tr>
<tr>
<td>4</td>
<td>SW2 Cardiff 3</td>
<td></td>
<td>Cardiff</td>
<td>2010 onwards</td>
</tr>
<tr>
<td>5</td>
<td>SW2 Cardiff 4</td>
<td></td>
<td>Cardiff</td>
<td>2010 onwards</td>
</tr>
<tr>
<td>6</td>
<td>SW2 Newport</td>
<td>CM</td>
<td>Newport</td>
<td>2011</td>
</tr>
<tr>
<td>7</td>
<td>SW2 Swansea</td>
<td>Director</td>
<td>Swansea</td>
<td>2011</td>
</tr>
<tr>
<td>8</td>
<td>SW3</td>
<td>Public Relations Manager</td>
<td>Penarth</td>
<td>2016</td>
</tr>
<tr>
<td>9</td>
<td>SW4</td>
<td>Founders</td>
<td>Merthyr Tydfil</td>
<td>2016</td>
</tr>
<tr>
<td>10</td>
<td>SW5</td>
<td>Founder and CM</td>
<td>Swansea</td>
<td>2014</td>
</tr>
<tr>
<td>11</td>
<td>SW6</td>
<td>Founder</td>
<td>Cardiff</td>
<td>2016</td>
</tr>
</tbody>
</table>

Table 6-4: Selected coworking spaces in South Wales

Source: The Researcher

Regular observations could only be carried out at SW1 and various sites of SW2. At the start of the observational data collection, SW2 had three coworking sites in Cardiff. In early 2014, one of the sites closed down and was replaced by two others, also in Cardiff. The closed site is not included in the sample, leaving four SW2 Cardiff sites.

Coworking providers granted permission for data collection and observation at the sites. Various workstations were used in SW1 and SW2 sites in Cardiff and Newport over three distinct periods of 3 weeks: late 2013, mid 2014, and early 2015, resulting in 72-hours observation in total. Longer periods could not be achieved due to time and accessibility constraints. In some cases, the researcher was considered by members purely as a researcher, in some cases as a fellow coworker, and later as a friend. This helped to reduce the “guinea pig effect” (Lincoln and Guba, 1985) in which people change their behaviour because they are aware that they are being observed. Members often engaged in informal
conversations and were usually keen to give more structured interviews over coffee. The list of questions in the informal interviews is given in Appendix 2.

Each coworker engaged in informal conversation during observations was given a unique code that contained the abbreviated form of coworker (CW), followed by a sequential numerical value. Table 6-5 gives the codes of each coworker and their demographic attributes.

<table>
<thead>
<tr>
<th>Code</th>
<th>Gender</th>
<th>Age</th>
<th>Occupation</th>
</tr>
</thead>
<tbody>
<tr>
<td>CW1</td>
<td>Female</td>
<td>Under 33</td>
<td>Software developer</td>
</tr>
<tr>
<td>CW2</td>
<td>Male</td>
<td>Under 33</td>
<td>Software developer</td>
</tr>
<tr>
<td>CW3</td>
<td>Female</td>
<td>Under 33</td>
<td>Business consultant</td>
</tr>
<tr>
<td>CW4</td>
<td>Male</td>
<td>Under 33</td>
<td>Marketing consultant</td>
</tr>
<tr>
<td>CW5</td>
<td>Male</td>
<td>Under 33</td>
<td>PR adviser</td>
</tr>
<tr>
<td>CW6</td>
<td>Male</td>
<td>Above 33</td>
<td>Banker, regulator</td>
</tr>
<tr>
<td>CW7</td>
<td>Male</td>
<td>Above 33</td>
<td>Photographer</td>
</tr>
<tr>
<td>CW8</td>
<td>Male</td>
<td>Under 33</td>
<td>Software developer</td>
</tr>
<tr>
<td>CW9</td>
<td>Female</td>
<td>Under 33</td>
<td>Journalist</td>
</tr>
<tr>
<td>CW10</td>
<td>Female</td>
<td>Under 33</td>
<td>Journalist</td>
</tr>
<tr>
<td>CW11</td>
<td>Female</td>
<td>Above 33</td>
<td>Consultant</td>
</tr>
<tr>
<td>CW12</td>
<td>Female</td>
<td>Under 33</td>
<td>Illustrator</td>
</tr>
<tr>
<td>CW13</td>
<td>Female</td>
<td>Above 33</td>
<td>Property agent</td>
</tr>
<tr>
<td>CW14</td>
<td>Male</td>
<td>Above 33</td>
<td>Software developer</td>
</tr>
<tr>
<td>CW15</td>
<td>Male</td>
<td>Under 33</td>
<td>Media/digital media producer, consultant</td>
</tr>
<tr>
<td>CW16</td>
<td>Male</td>
<td>Above 33</td>
<td>Finance adviser</td>
</tr>
<tr>
<td>CW17</td>
<td>Male</td>
<td>Under 33</td>
<td>Web developer</td>
</tr>
<tr>
<td>CW18</td>
<td>Female</td>
<td>Under 33</td>
<td>Graphic designer</td>
</tr>
<tr>
<td>CW19</td>
<td>Female</td>
<td>Under 33</td>
<td>Administrator</td>
</tr>
</tbody>
</table>

**Table 6-5: List of coded coworkers informally interviewed during observations**

*Source: The Researcher*

Participant observation entailed observing what people actually did, and contrasting it with what they think, or say, they do, or would like others to think they do. During the observations, notes were structured around guidelines, including spatial aspects, behavioural aspects, feelings, and activities. These field notes contributed to a comprehensive understanding of the environment, the atmosphere, the dynamics, the
processes, the interactions between members, the differences between ‘top-down’ and ‘bottom-up’ way of operating, and how a shared organisational workspace supports the creative and entrepreneurial activities of its members. Besides observation, the researcher attended 10 events organised by managers and members of SW1 and SW2 within the spaces and in external locations. These situations allowed observation of how members engage with each other, how they interact, and how they behave in a situation beyond their daily routine in their home coworking space.

The initial findings that arose from the thematic interviews with founders/managers led to the development of a questionnaire survey for coworking space members in the Cardiff City Region and South Wales. In the quantitative phase (b), a 34-question survey was developed for coworking members of SW1, SW2 and SW5 to learn about the respondents’ demographic attributes; what kind of membership the respondent had; how often she/he used the space; their alternative workspaces; their motivations for joining the space; their perceptions of the space (physical, social, facilitative conditions); the perceived benefits of being a member; and the areas that could be further developed. In terms of question types, open, closed and Likert scale questions were used.

The questionnaire was developed partly from previous studies presented in the literature (both academic and practitioner-oriented); questions that had worked well and shown significant correlations for authors such as Stumpf (2013) and Deskmag (2011, 2012a, 2012b, 2013). It should be noted that there are few studies that have used a questionnaire with significant populations and no such study existed in the UK/Wales context. The questions were supplemented with ones used to close known gaps in the body of knowledge, such as questions concerning experienced performance and business outcomes. The questionnaire is presented in Appendix 3.

The sampling technique used was a purposive quota technique, in order to make sure that all coworking spaces in South Wales were represented proportionally. The estimated coworking space user population in the Cardiff City Region is about 220 people on a regular basis (120 in SW1 and 100 in SW2). SW5 accommodates about 40 members on a regular basis (a total of about 150 in its network), which increases the estimated coworking population in the two core cities of South Wales to 260. However, coworking space providers, besides fixed membership options, usually offer flexible, temporary
access to their members. Therefore, the exact number, including both regular and occasional users, is hard to estimate, but might be as many as 500 people in South Wales.

Before distributing the questionnaire, pilot testing was done with five selected members from SW1 and SW2. The pilot testing provided feedback on how easy the questionnaire was to complete and which questions were unclear or out of the respondent’s range of knowledge. Pilot testing was invaluable in order to develop the questionnaire to its highest reliability (Saunders et al., 2012). The survey was initially online-based (using Qualtrics), to make the distribution easier across locations (Cardiff, Caerphilly, Newport and Cwmbran). Social media (LinkedIn and Facebook) was also used to reach member businesses. After viewing the statistics generated by the online tool, which 32 individuals completed, the quantitative data collection was augmented by personal site visits, in order to increase the response rate.

In total, there were 89 completed questionnaires, which is 34% of the total population of regular coworking space users located in the urbanised areas of South Wales (Table 6-6).

<table>
<thead>
<tr>
<th>Coworking organisation</th>
<th>Number of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>SW1</td>
<td>26</td>
</tr>
<tr>
<td>SW2</td>
<td>50</td>
</tr>
<tr>
<td>SW5</td>
<td>13</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>89</strong></td>
</tr>
</tbody>
</table>

Table 6-6: Number of coworking participants in the sample

Source: The Researcher

6.5.2.3 CCR non-user phase

The initial findings of the qualitative fieldwork of the CCR coworking phase suggested that many different kinds of ‘third spaces’ can be found in Cardiff that support informal coworking. Places such as home, coffee shops, etc. support the creative and entrepreneurial activities of those entrepreneurs and freelancers who do not currently use coworking spaces on a regular basis. For this reason, the researcher aimed to explore places where informal coworking activities take place, and, through informal discussions and a questionnaire survey, find out whether attendees of those activities have any experience of coworking spaces, and their opinions about the current offers available in Cardiff. Moreover, it was assumed that responses gained from people currently based in
coworking spaces represent a sample of ‘satisfied customers’ only. Thus, finding differing opinions and perspectives was only possible by integrating non-users into the research.

The researcher was aware of professional associations (IPSE, Enterprise Nation, FSB, BNI, 4N) with which independent professionals, entrepreneurs, small businesses and home workers register as members to gain access to various forms of support. Due to the complications of access and the appropriateness of these databases, a snowball sampling approach was deemed the most effective. It was necessary to rely on existing local networks to identify places where location-independent professionals and home-based workers would be likely to show up, in order to interact and socialise. This brought a sufficient number of freelancers and entrepreneurs - mainly operating from home and ‘third locations’ - into the research. With this respect, those initiatives and local networks were of particular interest where collaborative work practices occur 1) predominantly on site (e.g. Laptop Fridays in Little Man Coffee Shop or Animation Grill at KIN+ILK); 2) predominantly online (e.g. Cardiff Start); and 3) both on site and online (e.g. specific professional groups that interact virtually but meet in person regularly such as Cardiff Translators or Cardiff Media Freelancers).

The questionnaire was designed and conducted online (using Qualtrics), and the link to the questionnaire was posted to specific social media groups such as the official Facebook pages of Cardiff Start and Cardiff Media Freelancers. In order to increase the response rate, several physical locations were targeted where self-employed freelancers and home-based business owners, belonging to creative, technology and digital media sectors, are commonly based, with the aim of networking and collaborating in Cardiff, such as Chapter Art Centre and the Little Man Coffee House.

As with the coworker questionnaire, the non-user questionnaire was developed partly from previous studies, using questions that worked well and showed significant correlation for other authors, such as the authors of the Brighton Fuse 2 Study (Sapsed et al., 2015), and the home worker report published by Enterprise Nation (Enterprise Nation, 2014). These questions were supplemented with others to close the known gaps in the knowledge, such as previous experience of coworking spaces. The questionnaires covered several themes with closed questions, and included both job-related questions, such as
activities and place of work, more personal ones such as motivation and reasons for becoming a freelancer, and future plans. Open ended questions asked whether respondents had any experience of coworking, and if so, their opinion about it, or if not, their concerns, or why they left (Question 22), and for what reason they would consider or not consider joining a coworking space (Question 23). A copy of the non-user questionnaire can be found in Appendix 4.

In order to illustrate the various opinions of the respondents belonging to occupational groups (i.e. location-independent freelancer (LIF), location-independent entrepreneur (LIE), home-based freelancer (HBF), home-based entrepreneur (HBE)), responses to the open ended questions were reported in coded form. The codes were developed from the abbreviated form of ‘non-user’ (NU), followed by a sequential numerical value. Table 6-7 lists selected respondents with their demographical attributes acquired from the questionnaire responses.

<table>
<thead>
<tr>
<th>Code</th>
<th>Gender</th>
<th>Age</th>
<th>Occupation</th>
<th>Professional activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>NU1</td>
<td>Male</td>
<td>Under 33</td>
<td>PR adviser</td>
<td>LIF</td>
</tr>
<tr>
<td>NU2</td>
<td>Female</td>
<td>Above 33</td>
<td>Illustrator</td>
<td>LIE</td>
</tr>
<tr>
<td>NU3</td>
<td>Female</td>
<td>Under 33</td>
<td>Translator</td>
<td>HBF</td>
</tr>
<tr>
<td>NU4</td>
<td>Male</td>
<td>Above 33</td>
<td>Software developer</td>
<td>LIE</td>
</tr>
<tr>
<td>NU5</td>
<td>Male</td>
<td>Under 33</td>
<td>Market researcher</td>
<td>HBE</td>
</tr>
<tr>
<td>NU6</td>
<td>Male</td>
<td>Under 33</td>
<td>Software developer</td>
<td>HBE</td>
</tr>
<tr>
<td>NU7</td>
<td>Female</td>
<td>Above 33</td>
<td>Illustrator</td>
<td>LIE</td>
</tr>
<tr>
<td>NU8</td>
<td>Male</td>
<td>Above 33</td>
<td>Creative consultant</td>
<td>HBF</td>
</tr>
<tr>
<td>NU9</td>
<td>Male</td>
<td>Above 33</td>
<td>Software developer</td>
<td>HBF</td>
</tr>
<tr>
<td>NU10</td>
<td>Female</td>
<td>Under 33</td>
<td>Publicist/writer</td>
<td>HBE</td>
</tr>
<tr>
<td>NU11</td>
<td>Male</td>
<td>Above 33</td>
<td>Quality assurance</td>
<td>HBF</td>
</tr>
<tr>
<td>NU12</td>
<td>Female</td>
<td>Under 33</td>
<td>Translator</td>
<td>HBF</td>
</tr>
<tr>
<td>NU13</td>
<td>Male</td>
<td>Above 33</td>
<td>Photographer</td>
<td>LIF</td>
</tr>
<tr>
<td>NU14</td>
<td>Female</td>
<td>Under 33</td>
<td>Software developer</td>
<td>LIE</td>
</tr>
</tbody>
</table>

Table 6-7: Selected non-user responses in coded form

Source: The Researcher

The underlying intent was to enable comparison between the members of coworking spaces previously surveyed in the CCR coworking phase and potential members of
coworking spaces who currently work elsewhere in the Cardiff City Region. Thus, it was important to discover why these non-users of coworking spaces did not find the present offer of coworking spaces in the Cardiff City Region appropriate for their needs. The analysis had the potential to determine their workspace preferences and opinion about the coworking phenomenon.

In total 53 responses were collected from non-users of coworking spaces, showing their workspaces preferences and perceptions of coworking.

6.6 Data Analysis

The analysis of the qualitative and quantitative data focused on how the physical, social and facilitative conditions identified in the framework, that support creative and entrepreneurial activities in coworking spaces, were perceived and discussed by the coworking space providers, members and non-users.

6.6.1 Qualitative Data Analysis

To organise and analyse the data that emerged from the ‘State of the art’ phase with the aim of reviewing ‘state of the art’ coworking practices in selected spaces worldwide, Williams’ ‘interaction model for creative behaviour’ was adopted. Her model emphasises how the balance between the social/cultural environment, the physical environment and the individuals based in a given organisation, affect one’s behaviour, leading to creative and entrepreneurial outcomes (products or services). However, a small modification was made to the model to make it more suitable for the context of coworking. In Williams’ model (2013), people in a given organisation are assumed to be equally affected by the physical space itself (right environments and suitable affordances), the skills of the individual people, and the social/cultural environment (whether it inspires, nurtures or creates trust). In the context of coworking spaces, however, the social environment is labelled as facilitative social environment, which is in line with the key principle of the social/cultural environment outlined by Williams: a trust-based environment created by a facilitator, who is seen as crucial in the life of the community, where he/she nurtures,
supports and enables situations within the space. The new framework for data analysis is shown in Figure 6-4.

![Figure 6-4: Framework for data analysis](#)

Source: The Researcher

The analysis of the primary data followed this new structure, being more relevant to coworking spaces, and examines whether these conditions are considered equally important by coworking space providers\textsuperscript{30}. This framework was particularly important in the case of coworking spaces in the Cardiff City Region, because it helped analyse whether providers, members, and non-users considered all conditions equally or differently important, and helped explain why one condition might be perceived as more important than another by a particular population, and whether the least important or missing condition affected personal choices, acting as an inhibitor condition to coworking.

After transcribing the interviews, the data analysis of the thematic interviews with providers collected in the ‘State of the art’ and CCR coworking phases (see previous section for a list of spaces), followed these phases:

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Several qualitative software packages were reviewed – such as NVIVO – but the researcher decided these did not add any greater clarity than processing the information manually. The manual approach offered greater flexibility of analysis and coding during this stage of the research (Miles and Huberman, 1992).
1) Analysing the data in transcribed form.

2) Colour-coding information according to key themes emerging from the background theory (Chapter 2) and the subject literature (Chapter 4) as summarised in section 4.7 (physical, social, facilitative conditions).

3) Further analysing key themes and making sure each sub-theme identified previously was covered (see Table 4-6).

4) Grouping together similar points from different interviews from certain geographical locations.

5) Bringing together similar points from different interviews from certain geographical locations into a single document (from separate documents used for USA, EU, UK and SW spaces).

6) Interpreting key themes belonging to certain geographical locations, contrasting them with each other, and comparing them all to the framework identified in section 4.7 (Table 4-6).

Note-taking was used to record the observations made at SW1 and SW2 (Cardiff and Newport sites), to record how coworking space members used the space, the benefits of being in the space, their feelings and perceptions about the space itself and other members being in the space, and the facilitative conditions provided. Besides observation, informal interviews were also held, giving a richer and more robust picture of the everyday life of coworking space users. In most cases notes were taken during the conversations and organised on sticky notes, based on key themes arising from the theoretical framework. Similarly, for analysis of the observational data, sticky-notes were used and grouped into key themes (based on the key themes used in the analysis of the interview data). Finally, the groups were prioritised in terms of what conditions the members saw as important for their creative and entrepreneurial activities. This information was then contrasted with the information gathered from the interview data analysis.

The ‘engage/disengage’ model, adapted from Williams (2013), was used to analyse and demonstrate how coworkers use coworking spaces in the Cardiff City Region. Williams’ model stresses that people move between spaces in a given organisation according to the activity they want to carry out. Consequently, the ‘engage/disengage’ model helped
examine how and why coworking space members move between different spaces when looking for the appropriate environment for a particular activity, and whether their moving pattern was influenced by the perception of the three key physical, community, and facilitative elements of the coworking organisation. This information helped identify who (personality, business type) coworking spaces are appropriate for, and how can they be designed to support creative and entrepreneurial activities more effectively.

6.6.2 Quantitative Data Analysis

The third step of the analysis included analysis of the coworking member questionnaire responses obtained from SW1, SW2 and SW5, in order to explore whether the information given by the members involved in the observation and informal conversations held true for the broader coworker population of South Wales.

Demographic and space usage results were produced in Microsoft Office Excel with the use of pivot tables. For data analysis, One-Way ANOVA and Chi-Square tests were performed using SPSS, in order to examine whether there was statistical significance between selected variables with regard to a range of independent variables, to supplement information gathered from the CCR coworking phase.

In most of the analysis, the responses from the members of SW5 were excluded for two reasons: 1) coworking spaces located in Swansea were not studied in-depth, i.e. there were no observations or informal interviews carried out there to compare with information from responses; and 2) only 13 responses could be obtained which is too small a sample for any meaningful analysis. Nevertheless, to develop a set of recommendations for how the coworking space model might be able to support entrepreneurship more effectively in middle-sized cities, coworking spaces located in the Swansea Bay City Region were also of interest, and included in the questionnaire survey to report demographic and descriptive results.

Because of the small sample, when comparing one space against another, and in the case of demographic attributes especially, one age group against another and one sector against another, merged variables were used. These are: 1) SW2 versus the ‘rest’ (SW1 and SW5); 2) aged under 33 versus aged above 33; 3) ICT sector versus the ‘rest’ (art and
recreation, financial services, professional services, and others (administration, property, housing)). Similarly, to report business performance outcomes, a merged variable labelled ‘innovative output’ was used, to mean introducing either a new product or service, or both.

Responses to the non-users’ questionnaire survey were analysed with the use of Microsoft Excel pivot tables. In addition, significance tests (Chi-Square tests) were performed in the case of the demographic attributes, to confirm the assumptions that emerged during the data collection and analysis.

6.7 Validity and Reliability

Whatever the methodological approach taken, validity and reliability are key underpinning principles.

Validity refers to the accuracy of the research methods and the data collected and how accurately it reflects the true picture (Ritchie and Lewis, 2003). Validity can be achieved by taking multiple sources of evidence and selecting the proper sample (Yin, 2013). Collis and Hussey (2003, p. 78) argue that “the use of different research approaches, methods and techniques in the same study is known as triangulation and can overcome the potential bias and sterility of a single method approach”.

Data triangulation is an important part of the verification process, it involves cross-checking the relevance and significance of issues, testing arguments and perspectives, strengthening evidence in support of key claims, enhancing validity, robustness, and reliability of multiple case study investigations (Eisenhardt and Graebner, 2007; Yin, 2013; Simons, 2009).

In this study, two levels of triangulation took place. Firstly, using mixed methods gave methodological triangulation allowing more confidence in results, as it leads to an enriched explanation of the research problem. Secondly, data triangulation came from interviewing actors from different groups (coworking space, location-independent and home-based-business populations referred to as non-users) and contrasting their responses.
The second area of concern is the reliability and dependability of the research. To ensure the reliability of the interviews, audio recording was used in all cases (Gray, 2004). Two interviews were conducted in Hungarian, and translated into English for the purposes of reporting the results. Translation is always associated with a certain uncertainty, and misinterpretation can negatively affect outcomes. To overcome this risk, the translation of selected quotes was done after the analysis process (Marshall and Rossman, 2006).

6.8 Ethical Considerations

Social research is about building mutually respectful relationships between the people involved in the research and the researcher (Sieber and Tolich, 2012). This trustful and respectful relationship then leads to honest responses, from which valid data can be obtained. Thus, ethical issues were carefully considered in the primary data collection procedure. Each phase of data collection was approved by the University’s Ethics Committee.

For the qualitative interviews (‘State of the art’ and CCR coworking phases), interviewees were contacted by email or phone to set up meetings suitable for their schedule in a location where respondents felt comfortable (most commonly their place of work, thus minimising risks to their safety).

At the start of the interview, each respondent was provided with a participant information sheet outlining the aim of the research project, and a consent form to sign. Participants were asked whether they would be willing to confirm that interpretations of their data were accurate, and how they would prefer to learn about the findings of the study.

Each interview was given a unique ID, to ensure identification within the sample, but it contained neither the participants’ names nor initials. In this thesis, the results are reported as descriptive summaries of the sample, not at an individual level. Respondents are allocated pseudonyms in any discussion of interview data. Furthermore, any information which may reveal the identity of the participant (for example, a particular address or place of work mentioned by the respondent) is excluded from public discussion. A unique ID is also given to each participant in the informal discussions that are part of the observational data.
With regards to the questionnaire, the front page of the questionnaire, in both the online and paper version, included information about the project and the survey, the researcher’s contact details and the rights of the participants. Confidentiality and anonymity are guaranteed for the participants. Results are reported as descriptive summaries of the sample and not at an individual level.

The data, both qualitative and quantitative, were stored on a computer protected by password. Paper-based reports were stored in a lockable filing cabinet inside the University’s School of Management.

6.9 Generalisation of Results

Generalisability refers to the extent to which a research study can be applied to other settings. Amongst scholars, the generalisability of research findings is an ongoing debate. According to Bryman (2011), findings obtained from quantitative research are generalisable to an entire population, while qualitative research is not, because it attempts to understand the behaviour, beliefs and feelings of people involved in the context in which the research study is undertaken. Similarly, Yin (2013) asserts that findings of qualitative studies can be generalised in respect of theory only, or in respect of theory and population (Williams, 2002). Guba and Lincoln (1994) and Saunders et al. (2012) argue that generalisation of qualitative research results is possible when the context is similar to the context studied, but not to wider contexts or populations.

The results of this research can be partly generalised to similar contexts, e.g. cities, regions or countries where there is similar culture in terms of perception of entrepreneurship and self-employment, and where people building future coworking communities have similar perceptions of their business operation needs (demographical attributes, sector/occupation/professional activity relevance, and personal preferences also need to be considered). However, in-depth analysis of a given spatial area needs to be carried out, and demographic attributes, sector/occupation/professional activity relevance, and personal preferences also need to be considered. There is great potential however that this South Wales case study could deliver a set of recommendations to
locations where coworking is an emerging phenomenon that may be of interest when supporting future entrepreneurship development practices.

### 6.10 Summary

In this chapter the research approach and methodology have been discussed in detail. Following Grix’ (2010) view of research design, the chapter has presented the thesis’ epistemological and ontological stance (interpretive constructionist with quasi inductive reasoning), the methodological choice (exploratory mixed method design and case study strategy), moving forward to sampling and sources of data (thematic interviews, informal interviews, observation, participant observation, questionnaire surveys). The processes of analysing the data has been provided, making the reader fully aware of how the insights and findings presented in the following chapters were gathered and formed. Validity and reliability issues have been given consideration, in which triangulation played a key role. Finally, the generalisability of the results has been justified.

The following chapters present the empirical findings, organised by; ‘State of the art’ review (Chapter 7); SW and CCR coworking review – qualitative fieldwork (Chapter 8); and the observation, participant observation and questionnaire survey related to coworkers and non-users (Chapter 9); each reporting the results that answer the research questions more broadly discussed in Chapter 10.
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7.1 Introduction

To illustrate how coworking spaces work in practice, providing the physical and mental framework that enables social practices necessary to creative and entrepreneurial activities, this chapter presents key findings emerging from the analysed interviews with coworking space providers (founders/managers) in selected coworking spaces in the USA, Europe and UK.

A total of 20 coworking sites were studied between June 2014 and August 2015, resulting in 20 thematic interviews with founders/managers. The objectives were to understand the coworking phenomenon by exploring how operators (founders/managers) describe the object of coworking, the business model, their intention/motivation for setting up the space, the services they offer to their members, and their future plans and predictions in relation to coworking. All this information helped understand how the physical and mental framework was provided and designed to support the creative and entrepreneurial activities of member businesses, and what factors coworking space providers considered important to support creative and entrepreneurial activities (Objective 2).

Before reporting the key findings of the analysed interview data, each section begins by summarising (Table 7-1, Table 7-2, Table 7-3) the key features of each coworking space visited, ordered according to geographical location (USA, Europe and UK). The factual characteristics of each selected space displayed by these tables emerged from a combination of the literature review, site visits and interviews. The management of a space was either categorised as active when the coworking space provides tailored/accelerator programmes, venture capital and investments; moderate when it makes connections with investors, sponsors and supporting services; and passive when it was only a coworking facility. The operation of a space was either categorised as facilitated when the community manager played a strong role; or organic when there was no dedicated community manager, instead, founder(s) act as host(s) and coach(es) and/or the community co-runs the space with the founders.

After the overview of key characteristics of the selected spaces, the sections proceed to give the findings from the interview data, and are presented according to the three types
of condition (physical, social and facilitative) necessary for creative and entrepreneurial activities, derived from the background (Chapter 2) and the subject literature (Chapter 4).

The key themes, in line with the key elements of the theoretical framework, are as follows:

- Physical space: different areas for different activities, and open vs. private offices.
- Importance of community: selective (monoculture and club) vs. open (diverse) by sector, occupation.
- Facilitative vs. organic operational mode.
7.2 Coworking Practices in the United States of America

<table>
<thead>
<tr>
<th>Sample</th>
<th>Location</th>
<th>Physical space</th>
<th>Management</th>
<th>Operation</th>
<th>Members based on sector</th>
<th>Members based on professional activity</th>
<th>Membership types and prices/m</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA1</td>
<td>Boston</td>
<td>Loc 1). Open coworking Loc 2) dedicated desks and private offices Meeting rooms Kitchen/Lounge Social areas</td>
<td>Passive</td>
<td>Facilitative</td>
<td>Diverse e.g. Design, Technology, Marketing, Law, Real Estate</td>
<td>Freelancers and entrepreneurs ~ 500</td>
<td>From $30 to $599</td>
</tr>
<tr>
<td>USA2</td>
<td>Boston Cambridge, Greater Boston</td>
<td>Open office (80%) and some private offices (20%) Meeting rooms Lounge/Kitchen</td>
<td>Moderate</td>
<td>Facilitative</td>
<td>Diverse e.g. Professional Services, Tech, Health</td>
<td>200 full-time members + flexi members in Boston</td>
<td>Part time ($30 or $125) Full time (Open - $350 or open and private - $600) Dedicated ($400-$3000)</td>
</tr>
<tr>
<td>USA3</td>
<td>Boston</td>
<td>90% private offices in 9 floors Lobby Meeting rooms Lounge Open spaces Break out areas</td>
<td>Moderate/Active</td>
<td>Facilitative</td>
<td>Diverse</td>
<td>Diverse ~ 1700 members</td>
<td>Private office from $550 Desk from $400 Flexi from $45</td>
</tr>
<tr>
<td>USA4</td>
<td>Somerville, Greater Boston</td>
<td>Open space Phone box Lab Machine Shop</td>
<td>Active</td>
<td>Facilitative</td>
<td>Clean-tech and Energy Transportation Water Technology</td>
<td>Early stage companies ~ 40 (3-5 people/company)</td>
<td>Dedicated desks N/A</td>
</tr>
<tr>
<td>USA5</td>
<td>Boston</td>
<td>Storage Lounge</td>
<td>Operates together with CIC IH – hot-desking only CIC provides dedicated desks, smaller offices and maker spaces Conference room Meeting room Even space Lounge</td>
<td>Moderate</td>
<td>Facilitative</td>
<td>Health, Wellness, Food Makers</td>
<td>Social enterprises</td>
</tr>
<tr>
<td>USA6</td>
<td>Cambridge, Greater Boston</td>
<td>Private and open offices Lounge Meeting rooms Breakout and social areas</td>
<td>Moderate</td>
<td>Facilitative</td>
<td>Technology, Life Sciences, Professional Services</td>
<td>~850 companies (2-3 employees on average) Of 500 start-up companies in 7 floors</td>
<td>From $450 to £$1500</td>
</tr>
<tr>
<td>USA7</td>
<td>New York</td>
<td>Open and private offices Lounge Meeting rooms Shared rooms Break out areas</td>
<td>Moderate/Active</td>
<td>Facilitative</td>
<td>Diverse</td>
<td>1400 members in 3 floors</td>
<td>Private offices (1-45 companies starting from $425</td>
</tr>
<tr>
<td>USA8</td>
<td>Philadelphia</td>
<td>Open space in 2 floors, Lounge Kitchen area</td>
<td>Passive</td>
<td>Organic</td>
<td>Law, Health Care, Entertainment</td>
<td>Self-employed entrepreneurs, freelancers, company employees</td>
<td>From $30 to $300</td>
</tr>
<tr>
<td>Table 7-1: Key characteristics of selected coworking spaces in the USA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Source: The Researcher</td>
<td>~300</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 7-1: Key characteristics of selected coworking spaces in the USA

Source: The Researcher
7.2.1 The Physical Space

The coworking spaces visited in the United States have a variety of spaces in terms of layout and design serving different kinds of activities. However, a commonality across all cases is that the organisations designed their spaces in a way that tries to make people feel happy and comfortable (see the picture below as an example). One respondent stated “our [management] goal is to let our members focus on their innovations while we focus on making the office space work for them, a space that stimulates, encourages and feels comfortable to be at” (CM, USA6). A stimulating space is “as comfortable as a home office, social like a coffee shop, and professional as an office” (CM, USA1). The spaces “support and empower the success of members, thus, connected people are bound to be more successful” (CM, USA3).

Homely atmosphere at USA8

The buildings in which the coworking spaces are located had different constructions and architectural styles - some are located in historical buildings, others in a corporate skyscraper, or a former warehouse. The identity of each space reflects the neighbourhood and the composition of its members (e.g. bohemian or techy type of personality and business). However, in every case, the location of the space was found to be critically important, with every space situated close to public transport and/or easily accessible by car/bike, and in attractive neighbourhoods with cafés, bars, and art centres.
Coworking spaces visited offer a wide variety of spatial layouts, dedicated to different activities. Besides shared open plan spaces and/or private offices, there are meeting room(s), event space(s), phone booth(s), social and break out area(s), and a cafeteriakitchen/lounge area (see pictures below).

Phone booths at USA4

Lounge at USA3
Chapter Seven: Findings I - ‘State of the art’ Coworking Practices

Meeting room at USA5

Break-out area at USA6
In some spaces, shared open plan offices dominate the layout, while others offer more private offices. At USA3 for instance, 90% of the offices are private, whereas for members of USA2 the ‘80% open space and 20% private space’ model is used. “Members generally prefer the use of open workspaces, it enables more productive work and the flow of knowledge. Each open area has its own purpose, if you wish to work focused and quietly ‘study’ [a quiet shared space] is great, whereas for collaborative work we recommend the ‘commons’ [where people are allowed to chat to each other]” (CM, USA2).

USA2’s ‘commons’ in Boston

Private offices at USA7
Respondents mentioned that those members who are located in the same shared environment interact more regularly and easily than those who rent separate private offices. One respondent noted, “when you see others working hard that makes you motivated to do your stuff” (CM, USA3). In many spaces visited, transparent walls are used to increase awareness. For instance, at USA3 and USA7 interior walls, especially of meeting rooms and of private offices (USA3 and USA7) are made of glass.

Another respondent noted that even though many coworking spaces offer private offices for single companies, those “serve a place but not in coworking spaces”. He furthermore added, “if you come to the coworking space, it’s because you want to be around people” (Founder, USA8). Nevertheless, mixing private and open environments in coworking spaces serves an important function. It provided members who outgrow their dedicated desk a more appropriate office while staying connected to their home community. For instance, USA3 provides an upgrade path for members to make a transition from a shared environment to a private office. “We have this so called ‘flexible internal policy’ which means if a company grows and needs more desks, it can move to a more appropriate office environment” (CM, USA3).

The opportunity to interact, meet serendipitously, and collaborate are provided in the breakout areas, as well as in the lounge/caféteria located at the heart of the building/space. The cafeterias/lounge functions as a central venue for social activities, enhancing people’s motivation and providing opportunities to exchange knowledge and ideas. It facilitates meetings and provides a space for common meals and events.
Café-lounge area at USA6

A commonality in all spaces is the presence of an information board where members’ activities, and event opportunities are displayed. These are, for instance, ‘news’, ‘events’ and ‘members in house’ information boards, aiming to support transparency and awareness of the member community (see pictures below).

Business location map at USA4
Findings from the research suggest that one of the greatest benefits of coworking is the presence of a likeminded community. “People come to coworking because they want to be around other interesting smart, helpful people” (CM, USA3). Other respondents revealed that people are more productive when surrounded by like-minded and creative people having a mutual social interest but also an aspiration to business success. “I was motivated to find like-minded people to hang out with, share ideas with and collaborate with…. The goal was to have meaningful connections. We’ve always been about creating experience that people want to do together and be together, and when you do things that bring people together, and other people see other people together and having a good time, or being productive, or being successful, they want to be part of that” (Founder, USA8). A common theme from the various workspaces visited in the USA was that the social context of coworking spaces seems to support knowledge exchange in many ways. For example, community manager at USA1 said, “you can work alongside other businesses… you can collaborate and share in an environment that inspires you… you have the people that could help you out immediately” (CM, USA1). Another respondent claimed, that “we [management] only see innovation as a communal activity. Visibility is important. You work on your own
project but you also work alongside other innovative individuals who are able to open doors for you, doors that you couldn’t see open before… the nice thing in here [USA6] is that everyone knows something that you don’t know…. There are a lot of opportunities to collaborate.” (CM, USA6).

Except for USA4, there are no specialisation policies regarding professional background at any coworking space. What was emphasised as important was intrinsic qualities such as open attitude and shared interest when taking new members on board. Having a variety of expertise and skill-set seems to be more appreciated, and complementarity is more valued because it provides good soil for interesting serendipitous interaction and learning opportunities from different perspectives. Those coworking spaces that use any kind of selection, according to a respondent, “create a monoculture… a group of people that are clones of each other, and there’s no diversity of thought or opinion, and those same places call themselves some variation of innovative, and innovation doesn’t happen in that kind of environment…. Those environments are toxic” (Founder, USA8). This is indeed a strong statement but experiences seem to justify the presence of limitless opportunities that diverse communities can provide.

On the contrary, specialised coworking spaces attract other individuals and businesses with similar interests. A respondent from an industry specific space claimed that having similar specific interests might facilitate more frequent interaction that could be beneficial for learning purposes and a more effective way of problem solving. USA4 specialised in clean technology and energy, and carefully selected companies and entrepreneurs who belong to those sectors but also demonstrate a decent fit in terms of attitude, culture and mind-set. The space has strong connections to industry specific experts, investors and venture capitalists who visit member businesses occasionally. This further stimulates learning processes and successful entrepreneurial outcomes. To illustrate the popularity of being part of a sector-specific community, USA4 is approached by approximately 400 applicants per year. To avoid a ‘lock-in’ effect, temporary events that are open to the public are organised with the aim of bringing together people from various backgrounds. Access to an expert base, investors and venture capitalists are provided in many coworking spaces. In some
cases, experts are based in the space (e.g. USA7) or occasionally support the community (e.g. USA4).

Additionally, the findings suggest that coworking spaces play an important role in local entrepreneurial life. USA6 for instance organises weekly social gatherings where the wider entrepreneurial community of Boston can join to exchange knowledge and network. These kinds of events allow members to interact with external people, thus, external knowledge is integrated into the community and helps to avoid a lock-in effect.

Each space offers flexible membership options, from a day pass to a monthly lease, ensuring individuals and businesses find their most suitable option. However, free trial options were not offered by any of the coworking spaces visited in the USA.

### 7.2.3 Organic vs. Facilitated Mode of Operation

Coworking spaces usually hire facilitators, hosts or community managers for several reasons. They nurture the community, organise events, and connect people. For instance, one respondent claimed that “Community is really the future of work. Our [community management team] role is curating the community. We make sure people are interacting in the fun collaborative environments…. We connect companies with each other” (CM, USA3).

Communities are encouraged to meet and collaborate through informal and formal networking events, happy hours, after-work hours, collectively organised meals, drinks, classes and sessions. Introducing special members and inviting guest speakers, such as accountants, for instance, talking about the basics of running a business is also beneficial for the community. One respondent, for instance, said, “besides providing inspirational spaces, we nurture our community in many ways such as providing access to our global member network, great services and events, and of course the basics [such as WiFi, office infrastructure, a receptionist, and a mobile app]. Events are a great part of helping our community be connected; we offer four types of events: networking, educational [e.g. new member orientation], member appreciation, and social gatherings” (CM, USA7). Member businesses are usually encouraged to host
their events in their coworking spaces, however, not every kind of event is allowed at USA3. “We host a lot of events but also allow members to host their events, panel discussions for example, but we filter event requests” (CM, USA3).

Other spaces such as USA4, not only encourage members to interact in social or networking events, but also assist with grants and sponsorships, and organised specific events (e.g. educational events such as ‘launch and learn’ where mentors give advice on practical issues; or networking where the wider community, investors, venture capital firms and strategic partners share experiences and advice), and accelerator programmes. Similarly, USA2 offers industry-specific mentorship such as financial services, advertising technology and health innovation. USA2 has created a network that links its coworking spaces with independently run facilities into a larger community, and lets its people have access to all sites. This enables cross-fertilization and serendipitous interaction.

On the opposite side, the founder of USA8 strongly believes in the organic way of nurturing a community. “We [the founders] coach other people on how to be involved in the operation. The goal is always to help people themselves and help people help each other – make people self-sufficient and make people interdependent” (Founder, USA8). When it comes to events, founders also approach things in a bottom-up way, and welcome any suggestion members have in terms of what kind of events they need. “When people come to those things [social gatherings, professional meet-ups], it’s because they want something from them [other people], versus something that people can come to and contribute to and be part of it…. Our job is to make sure people know what they need for themselves to succeed, and if we are doing a good job, we are invisible…. So people get to know their success, whatever that success may be” (Founder, USA8). Although founders have a separate desk close to the entrance, to become fully integrated and aware of the community, they sit in the same shared environment as their members.

The same situation was experienced at USA1, USA2, USA4 and USA5; community managers use the desks by the reception located in the same, or one of the many, shared environments. At USA3, USA6 and USA7 however, the management team sit in a separate office. These respondents mentioned that they do walk around the
building and talk to people regularly, and hold their meetings in the common social areas.
### 7.3 Coworking Practices in Europe

<table>
<thead>
<tr>
<th>Sample</th>
<th>Location</th>
<th>Physical space</th>
<th>Management</th>
<th>Operation</th>
<th>Members based on sector</th>
<th>Members based on professional activity</th>
<th>Membership types and prices/m</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU1</td>
<td>Vienna, Austria</td>
<td>Shared open offices Lounge/Kitchen</td>
<td>Passive</td>
<td>Facilitative</td>
<td>Creative industries</td>
<td>50 members</td>
<td>Only long-term full-time 300€</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Meeting rooms Restaurant</td>
<td></td>
<td></td>
<td></td>
<td>80% entrepreneurs 20% employees of companies</td>
<td></td>
</tr>
<tr>
<td>EU2</td>
<td>Vienna, Austria</td>
<td>Shared open offices Lounge/Kitchen</td>
<td>Passive</td>
<td>Facilitative</td>
<td>Creative industries</td>
<td>50 members</td>
<td>Only long-term full-time 300€</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Small offices Meeting rooms</td>
<td></td>
<td></td>
<td></td>
<td>80% entrepreneurs 20% employees of companies</td>
<td></td>
</tr>
<tr>
<td>EU3</td>
<td>Vienna, Austria</td>
<td>Shared open office Lounge/Kitchen</td>
<td>Passive</td>
<td>Facilitative</td>
<td>Tech sector Movie makers, developers, designers, advertising agencies</td>
<td>60 members</td>
<td>Varied from 1 day (15€) to monthly (170€) ticket</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Meeting/Conference room Zen area</td>
<td></td>
<td></td>
<td></td>
<td>Mostly freelancers</td>
<td></td>
</tr>
<tr>
<td>EU4</td>
<td>Budapest, Hungary</td>
<td>Shared open offices Kitchen</td>
<td>Passive</td>
<td>Facilitative</td>
<td>Diverse</td>
<td>~1000 in the network Entrepreneurs, freelancers, start-ups, employees of big companies</td>
<td>Varied from 5 days</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Meeting rooms Event space</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EU5</td>
<td>Budapest, Hungary</td>
<td>Shared open office Lounge/Kitchen</td>
<td>Passive</td>
<td>Facilitative</td>
<td>Diverse</td>
<td>~ 10 fixed members Much more in the network Entrepreneurs, freelancers</td>
<td>Varied from daily ticket</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Coach room Meeting room</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EU6</td>
<td>Amsterdam</td>
<td>Shared offices</td>
<td>Passive</td>
<td>Facilitative</td>
<td>Creative industries</td>
<td></td>
<td>Varied</td>
</tr>
</tbody>
</table>
### Table 7-2: Key characteristics of selected coworking spaces in Europe

**Source: The Researcher**

<table>
<thead>
<tr>
<th>Region</th>
<th>City, Country</th>
<th>Features</th>
<th>Member Type</th>
<th>Member Count</th>
<th>Cost per Month</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Netherlands</td>
<td>Studios, Hot-desking space, Labs, Event space, Meeting rooms, Lounge/Cafeteria</td>
<td>Film makers, designers, techy people, art, fashion designer</td>
<td>250 members Entrepreneurs, freelancers, small companies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EU7</td>
<td>Lisbon, Portugal</td>
<td>Shared office, Meeting room, Reception/Café area</td>
<td>Active, Facilitative, Diverse</td>
<td>25 members Strat-ups</td>
<td>260€</td>
</tr>
</tbody>
</table>
7.3.1 The Physical Space

Similar to spaces in the United States, the founders of coworking spaces visited in Europe, created and designed their spaces around the needs of their members, and offer a variety of spaces catering to various activities.

For instance, EU2’s ‘great hall’ is a large, high ceilinged, open plan warehouse style room decorated with many plants. There is a smaller shared office in a U shaped building and three meeting rooms that can be booked.

The lounge at EU2 is equipped with comfortable couches, a table tennis table, a coffee machine, a kitchen and a small library. Similarities appeared in each coworking space, for instance the lounge at EU3 serves as a café area and kitchen for members. The space is bright and has a lot of greenery and colour that provides a warm welcoming living room atmosphere for relaxing, interacting or just meeting fellow coworkers or clients (see picture below).
Viennese coworking spaces represent “a mixture between a working room and a living room, yet well balanced. If the space is too cozy and comfortable, people don’t want to work in there. People need to feel comfortable enough to work but the space should not be as serious as a corporate office” (Founder, EU3). While at EU3 the design is somehow straight and follows the style of the space, members of EU1 and EU2 are free to design their own workstations and allowed to bring their own furniture into the space. This helps members feel more comfortable. Similarly, the community manager of EU6 also explained that separate offices can be rented empty and members have complete freedom to design their spaces.
The design aspect was critically important in the Hungarian context as well. For example, the founder of EU4 claimed, “every detail was designed carefully with respect to unique needs, integrating contemporary art into the professional work environment”. (Founder, EU4). Similarly, founders of EU5 experienced how powerful visibility was and the importance of creating an eye catching look for members and people passing the space while walking on the street. “People have to see each other in the space – this leads to curiosity, and curiosity is fundamental for taking the first step, for example to connect with others” (Founders, EU5).

Meeting room at EU4
Various areas and workstation at EU5

7.3.2 The Community

Diversity of background and occupation can be seen in each of the spaces visited in Europe. Members belong to creative industries, the technology sector, professional services and many more. There are entrepreneurs, freelancers and small businesses, even employees of bigger companies. University students and external communities are also part of their greater network.

“Coworking space is a place where those people meet who are looking for a work place and want to work on their own. But all the people who join a coworking space have to feel an intrinsic need for working alongside other like-minded people” (Founder, EU1). The professional workspace infrastructure “is combined with the need for social life and community” (Founder, EU2). People in coworking spaces are looking not only for business opportunities but social connections. “People who are using our space have one thing in common: they like freedom at work but enjoy being part of a vibrant community at the same time…. Our space creates the possibility to
work together, to create useful connections while embracing the free and independent style of work” (Founder, EU3). Having an opportunity to share knowledge, information and experience was found to be a great benefit for the tenant community. As a one respondent said, “people in coworking spaces besides having a workstation are also able to exchange contact details within the network…. Coworking is a creative, intellectual atmosphere where workers can share their experiences, information, and knowledge with one another” (Founder, EU4).

Within the spaces managed by EU4, members are free to move, even between countries if they wish to. This helps members strengthen their national and international presence. Similarly, members of EU1 and EU2 can hold meetings in both spaces. This further facilitates opportunities to interact and meet serendipitously with the wider member community.

Strict selection policies e.g. filling out a business plan form, were not found in any of the spaces. However, EU1, EU2 and EU6 apply a selection process that is a “combination of tangible and intangible” techniques (CM, EU6). In other words, the “newcomer has to fit to the concept both professionally and personally” (Founders, EU1 and EU2). Anyone with a related interest can join the community and participate at its events, however, community members and founders refuse accepting a newcomer if they believe or experience that his/her interests and intentions does not match with the goal of the community e.g. not having willingness to share. “We know how these people work here and we know their character, and when somebody comes in, we kind of feel if the person suits or doesn’t to the community. Also if they are doing jobs that don’t meet our vision and don’t fit in any way to our space” they were not taken on board (CM, EU6). Similarly, EU3 also considers personality traits as important when taking new members into the space. Community managers, founders and operators function as “gatekeepers” (Founder, EU2). In EU1 and EU2, founders try to keep diversity in the space but also a balance between people belonging to a certain industry. Based on their experience, only three members can belong to the same industry/sector. “More than three people consist already an entity and therefore will never be purely part of the community.” (Founder, EU1). This technique helps reduce competitiveness in the community.
Another reason for selecting members might be mission-driven regulations coming from the city, such as in the case of EU6. “When the building was occupied by us, the city financed the construction and the design and they gave us a loan. One of the criteria for the loan is that we have to have 40% of members who are CAWA. These are the artists or creative professionals who have art education, fair portfolio and they need to earn less than xxx €\textsuperscript{31} a year. If they meet those requirements, we need to support them and give a certain discount for workstations” (Community Manager, EU6).

In terms of how to sustain communities, providing the right membership option can be key. EU1 and EU2 offer only long-term memberships; “people need at least six months to feel trust and comfort in the community” (Founders, EU1 and EU2). The founders believe that this so called long-term membership policy helps members to build long-term relationships that can lead to successful entrepreneurial outcomes and continuous learning processes. Moreover, the importance of the mind-set of the newcomers was highlighted by EU1, EU2 and EU3; this particular mental characteristic determines and influences the formation and development of the communities. It also functions as a “hidden self-selection process” (Funder, EU6). EU4 and EU5 were open to anyone, there was no selection, specialised criteria or restrictions in any way.

Similar to the coworking spaces in the United States, the European coworking spaces are also well connected to various actors and communities. EU6, for instance, has good links to the municipality, other coworking spaces, the surrounding businesses and neighbour universities. Similarly, EU4 also supports local communities (e.g. Business Women Association, HR Association) to provide them with the opportunity to hold their meetings and events in the space. University students from the Technical University can also join and work on projects. EU4 hosts regular exhibitions and artist events in their spaces; this increases awareness of other local communities and opens up new opportunities to network.
7.3.3 Facilitative vs. Organic Mode of Operation

The research findings suggest that the founders or managers organise a large number of social and professional events, and nurture the community. They put cooperation in place, and provide assistance for business development. Instead of forcing collaboration, hosts create trust-based environments that enable interaction and serendipitous encounters, leading to the opening up of new opportunities. One of the respondents for instance said, “we are here to facilitate and provide everything what our members need” (Community Manager, EU6). The founder of EU6 highlighted that a well-functioning hosting-system seems to be an effective way to create a comfortable environment where members need to focus only on their daily business operation without any distraction. “Our role is to take over duties that are not directly related to the business operation. We provide an all-inclusive membership package containing handling mail, maintaining the facility, fixing technical issues and many more” (Founder, EU4).

The founders of EU1, EU2 and EU3 are located in the shared spaces together with their members, and usually mingle and take care of the community. Proximity to other members helps them be actively involved in the everyday lives of their members. Founders become fully aware of the needs of their members, and their expertise and skill-sets help facilitate knowledge and learning processes by connecting members to each other. Founders of EU4 and EU5 do not have a permanent desk, and often change their spots in the spaces. This results in positive outcomes such as providing immediate assistance relating to any issue. The operation team of EU6 sits in a separate office, but, due to the open-door policy, members are free to approach the team with any questions or concerns during office hours. Moreover, the community manager also mingles within the facility and regularly talks to members.

Founders and managers often invite external parties and communities into the space to further facilitate knowledge exchange and learning processes, and open up further opportunities to get in touch with the external environment. EU5, for example, brings into the space external communities such as the Business Woman Association, HR Association, and hosts various art exhibitions. In EU1, EU2, and EU3 events are held
occasionally and are often self-organised by the community. The founder of EU3 often organises professional events and workshops addressing specific needs and issues. A popular event series is the ‘innovation management’ event where Austrian companies have a chance to connect to and utilise the knowledge of the coworking community, for instance addressing questions about how to develop a specific mobile application. EU4 introduced ‘cross-border’ programmes and events, aiming to provide professional support to those companies who intend to enter or expand their presence in new markets (thematic topics dedicated to cross-border business support).

At the time of the data collection there were no spaces providing any tailored programmes (e.g. accelerator) or access to networks of investors or venture capitalists. The incubator type of approach was seen only in the case of EU7, which had specific services and tools necessary for building new businesses and accelerating ideas through shared value creation. In early 2016, EU3 launched its ‘start-up incubator’ in which selected start-ups had the opportunity to participate in a 5-month tailor-made programme to select applicants to focus on advancing product ideas. The programme includes workshops, training and hackathons, and offers access to the community’s alumni-network and investor eco-system. Similarly, EU4 has recently introduced a start-up competition in partnership with an accelerator.
### 7.4 Coworking Practices in the United Kingdom

<table>
<thead>
<tr>
<th>Sample</th>
<th>Code</th>
<th>Location</th>
<th>Physical space</th>
<th>Management</th>
<th>Operation</th>
<th>Members based on sector</th>
<th>Members based on professional activity</th>
<th>Membership types and prices/m</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK1</td>
<td>London</td>
<td>Shared open offices Lounge/Kitchen Meeting rooms</td>
<td>Active</td>
<td>Facilitative</td>
<td>Creative industries</td>
<td>Freelancers, small businesses, more established companies Couple of hundreds</td>
<td>£99 for Club £499 for Resident membership</td>
<td></td>
</tr>
<tr>
<td>UK2</td>
<td>London</td>
<td>Open space Kitchen</td>
<td>Passive</td>
<td>Organic</td>
<td>Diverse</td>
<td>Diverse</td>
<td>Pay per minute (5p)</td>
<td></td>
</tr>
<tr>
<td>UK3</td>
<td>Edinburgh</td>
<td>Shared open office Lounge/Kitchen Meeting rooms Break out area</td>
<td>Passive</td>
<td>Facilitative</td>
<td>Creative and tech industries</td>
<td>30 members Start-ups, small businesses</td>
<td>Starting from £60/20 hours a week/month</td>
<td></td>
</tr>
<tr>
<td>UK4</td>
<td>Sheffield</td>
<td>Shared open offices Kitchen Meeting rooms Private offices Event space</td>
<td>Active (accelerator)</td>
<td>Facilitative</td>
<td>Creative, digital and media sectors</td>
<td>370 people – 50 coworking members Start-ups, small businesses, entrepreneurs, freelancers</td>
<td>Standard, Platinum and Gold starting from £120</td>
<td></td>
</tr>
<tr>
<td>UK5</td>
<td>Bristol</td>
<td>Shared open office Lounge/Kitchen Meeting rooms Event space</td>
<td>Active</td>
<td>Facilitative</td>
<td>Diverse</td>
<td>60 members Entrepreneurs, small businesses and start-ups</td>
<td>Free if accepted into the Accelerator Programme</td>
<td></td>
</tr>
</tbody>
</table>
Table 7-3: Key characteristics of selected coworking spaces in the UK

Source: The Researcher
The spaces visited in the United Kingdom fell into several forms of collaborative community workspaces: coworking space, exclusive coworking club, accelerator, multi-functional service provider, and café culture working environment. Even though the research focused on coworking spaces, due to the definition of the coworking space clarified in Chapter 1, referring to the task/activity carried out in a shared, flexible, community-oriented environment, the researcher decided to include the spaces mentioned above in the sample in order to demonstrate the ‘colourfulness’ of collaborative community workspaces.

7.4.1 The Physical Space

Shared open plan work environments were found in each space visited in the UK. Each respondent agreed that a shared environment has many benefits. One, for instance, said, “productivity, stimulation, support, connection and constant learning are a few of the direct benefits coworking provide” (CM, UK3).

While some only offer shared work environments, other provide the coworking facilities as part of multi-functional services. “We’re not doing coworking for its own sake – we think it’s a really good thing to do to create affordable space in the city.... We can only offer it [coworking] on that [affordable] basis here because the core income is coming in from offices” (Operations Manager, UK4). There are a significant number of spaces within UK4’s building, about 50% are offices between 20 and 50 square meters, and there are some larger ones which are 300-500 square meters for companies that have grown out of the smaller offices and the coworking facility. The coworking facility also serves as a breakout space for people working in the building. This further facilitates interaction and opens up opportunities for possible collaboration between permanent companies and flexi coworkers. The way the coworking space operates is that people pay a subscription that allows them to use the space every day, as well as free use of meeting rooms after 5pm.

The presence of various work environments was found critically important in all spaces visited. The operations manager of UK4 for example highlighted that different areas for different activities is a must for entrepreneurs and mobile workers. “The whole point
about coworking is you’re able to work in an environment with other people, but not pay for the whole of that space – you’re just paying for a little section of it on subscription, so the space needs to allow you both that interaction with people, but also some privacy…. So having lots of different corners where you can go, and spaces where you can be quiet or make a private phone call, are really important…. I do think the ability to find quiet space within a coworking environment is very important, and the ability to collaborate in a more formal way in a meeting space, so you can’t have all your meetings in an open plan environment, so you need other spaces, so I think the most important thing is a range of spaces” (Operations Manager, UK4). The community manager of UK1 shared this view, and added, “I find it very helpful to have all these [various rooms with private corners] here, because if you have guests or visitors, you need to use some sort of more private kind of space. It’s good to be in an open space, but sometimes you just need a more private space” (CM, UK1).

A homely atmosphere was also found important in most spaces. For example, the community manager of UK3 said, “we created an environment that feels like home. We have all the amenities to take work done effectively and efficiently and we also like to have fun” (UK3).

Coworking facility at UK4
Shared work environment at UK1 Bloomsbury London

Small chill-out area at UK3

While most spaces visited attracted small businesses, entrepreneurs and mobile workers, undertaking mostly work related activities, UK2 feels like a social club, a place where everyone can feel at home, a place that allows visitors to be free and use the space
however they prefer. In the vintage bohemian environment people can work, make art, read, hold meetings, attend events and do many other things. Each guest becomes a micro-tenant of the space and may contribute to the community in any way. Professionals who are looking to work in the space, have all the amenities such as WiFi, access to printers, bookable desks, free hot drinks and cookies.

Workstation at UK2

7.4.2 The Community

The presence of a diverse, like-minded community differentiates coworking from other workspaces. “Our members come from a wide range of backgrounds – from design to technology. We are always surrounded by a wealth of rich and varied knowledge” (CM, UK3). However, in London, specialisation based on background varies geographically. UK1’s first club, located in Bloomsbury, hosts more established companies belonging to creative industries, while Shoreditch and Whitechapel are mostly occupied by techy people.
The club model suggests some kind of selection in taking new members on board. “We are like on the upper end of the market, so not everyone can join us. I mean, there’s some sort of… selection process…. It depends on the type of membership, but you need to show some potential, I think, and it’s always about the personality and it should be a good match” (CM, UK1). Similarly, UK4 targets businesses and professionals working in creative and technology sectors. Exercising a selection method based on background was also an obligation coming from the city. “Our space fulfils an economic function for the city, where they need to see a diversity of creative and digital businesses” (Operations Manager, UK4). He added that being specialised is also a great starting point for creating a well-functioning healthy community. “Not specialising might mean that it’s hard to build a community, because people have all got very different ideas about who they are” (Operations Manager, UK4).

Opposite to UK1 and UK4, the other three spaces visited are entirely open for people with diverse backgrounds and expertise. “In our space, everyone can contribute to the atmosphere and the character of the place, and is free to express themselves. The atmosphere is created and supported by our guests. We all work together to host workshops, talks, exhibitions and social events” (Host, UK2).

UK5 is an accelerator and has a strict selection method. After getting successful companies into the ‘hatchery’, the 6 month accelerator programme, the 80 businesses operate in a shared open plan office. The physical proximity allows them to get to know each other, socialise and interact, through building feasible and investable businesses. The businesses belong to various industries, and this diversity of background and interest supports knowledge and information sharing from different perspectives.

### 7.4.3 Facilitative vs. Organic Mode of Operation

Coworking spaces visited in the UK all have a host, facilitator or community manager whose responsibility is nurturing the community. In some cases, their duties include curation, or even leadership, while others are more easy going, depending on what function the space serves in the life of their members. One respondent, for instance, said,
“our focus is to create a big community of people that all the members of this community are going to be feeling supported and helped, and our main focus is to help their businesses grow and communications that happen between the members…. So basically, at the end of the day, it helps them work better” (CM, UK1). On the contrary, UK2 “provides freedom to all visitors to influence what’s happening in the space” (Host, UK2).

There are, for example, cultural events, lectures, workshops, exhibitions, and entertaining events that create opportunities to meet, interact and network in a lively and informal way. Events that are open to the public facilitate cross-pollination of ideas.

In each space events are offered by operators to enable members to get to know each other, their projects, interests and specialties. Events provide the opportunity for coworkers to seek new knowledge and make contacts for potential collaborations.

Facilitation was found to be essential in coworking spaces as, for some people, the simple co-location is not enough to become fully integrated into the community. “Hiding behind a desk as a small business is not an option. Getting out there and meeting people is the most important thing you can do…. We created a space that encourages collaboration, enables knowledge sharing, and creates the connections that will help our members to grow their businesses” (UK3). The success of this approach is displayed in the ‘serendipity map’, showing connections that have already emerged in the space to increase motivation, and provide visibility and awareness of the vibrant community.

UK1, UK4 and UK5 provide tailored services and structured programmes for their member businesses. “We have a partnership with Barclays – the Barclays Accelerated Programme which is powered by Techstart. Another one is Microsoft Ventures, which is the accelerated programme of Microsoft” (CM, UK1). Similarly, the operation manager of UK4 noted that “there is an accelerator in the building, it’s called Dot Forge, and there’s both a social enterprise accelerator and a commercial accelerator” (Operations Manager, UK4). UK5 operates around its ‘entrepreneurial enablement’ programme, taking entrepreneurs through a cognitive and action-centred development process. “We’re focusing on developing people because the entrepreneur is the person who is the most important. Because if we can help you to be great we could build great entrepreneurs, great business people…. Our secret source is building a positive and professional
entrepreneurial mind-set. We focus on ensuring that the entrepreneur is focused, constantly reimagining, looking to do things differently – how could we improve this, how could we get things moving…. That’s why we are here, to help people what it is that you need to learn to be successful when it comes to developing yourself, your organisation, your business. The entrepreneurial mind-set is the success, is the core of everything we do” (Entrepreneurship Development Manager, UK5). The development manager also mentioned that the accelerator programme follows a strict structure that is the same in each of their spaces, even though before setting up the space in a given city, the company makes sure they have the right approach to help that particular community. This begs the question whether the workshops offered are exactly the ones that are needed by the community. Their programme is seen as a ‘super success’ across the whole UK, however, people participating in the accelerator programme found the workshops too pushy and not as appropriate, in every case, for their operation, as the organisation thought. Spaces operating as part of a franchise model always need to undertake prior research to see whether the targeted community requires the same set of programmes, and match their vision and aims with the needs of the community targeted. The ultimate goal of the programme is not enabling creativity, but supporting the creation of feasible companies. However, one of their approaches, ‘celebrating success’, allows social and informal events that support group cohesion to emerge between participating businesses, and mutual support to form naturally.

Community managers or hosts in each of the spaces make sure they are fully integrated and aware of the life of their community, either sitting in the same area as members or moving between spots either regularly or occasionally. “We know every business that we have on board, know what they do and what they’re facing and help them in any way that we can” (CM, UK1).

7.5 Conclusions

This chapter sought to present a deeper insight into the coworking phenomena in practice by undertaking a ‘state of the art’ review of a purposive sample of established coworking
spaces in the USA (where the practice first emerged), then within Europe, before drilling down into the UK context.

The coworking spaces visited in the United States were all located in metropolitan areas with bigger physical spaces and a greater number of members, and, except for USA8, were highly entrepreneurial, outcome oriented models. In terms of design, the spaces put great emphasis on their physical appearance and attractiveness in terms of both layout and design: providing a comfortable and homely yet professional environment that stimulates and encourages. A variety of work environments were found in most cases, which members used depending on the task they were carrying out, their mood or their personal preferences, which reflects their well-being. According to respondents, members particularly valued break-out areas to informally engage with others, to chill, and to self-reflect. Cafeterias/lounges were seen as the soul of social life, where members can either hold planned meetings or bump into each other. Transparent walls, and various information boards (i.e. members in house, events) were used to increase awareness of the member community and encourage members to motivate each other, and be curious about what others do. Location was found to be crucial: spaces were usually located in attractive neighbourhoods, and were easily accessible by public transport. The communities usually consisted of young entrepreneurs mainly belonging to technology and digital professions (e.g. software, web, graphic developers/designers, media consultants). Some spaces focused on specific sectors while others focused on the formation of diverse communities. Diversity of profession and occupation was seen by most providers as an important element in supporting cross-fertilization and bringing different perspectives to the community. Nevertheless, intrinsic qualities such as attitude, personality and mutual social interests were seen crucial when accepting people into the community, in order to sustain socially and professionally satisfied, happy and successful members. Some spaces exercised a selection process, some did not. Those self-generative communities committed to organic operation suggest that strict selection processes imply elitism or supremacy. People might think they are ‘not good enough’ if they fail the application process. Nearly every space provided either accelerator programmes or access to investors and venture capitalists, and built up a strong base of advisors and professional service providers. Those communities who focused on sector-specific businesses and
professionals, usually organised various events to bring diverse knowledge, fresh ideas and new perspectives to the communities, with the aim of avoiding the lock-in effect. Except for USA8, each space had a dedicated community manager, facilitator or team of community managers to ensure everything is provided for the member community. Importantly, each space constantly kept up with the needs of their community and made sure each member had a positive coworking experience. Many coworking spaces visited in the United States fell into the so-called hybrid category. These were multifaceted workspaces combining features from several other categories, as discussed in section 4.2. The key element of these spaces was that they offered a variety of rooms and services.

The spaces visited in Europe were all located in capital cities, and, at the time of data gathering, all focused on prioritising shared social aspects of collaborative work through an attractive physical environment, access to a like-minded, supportive and diverse community, and facilitative tools (even though in most cases the community manager was also the founder). An entrepreneurial focus has started to appear recently (in early 2016) in EU3 and EU5. Both provide accelerators programmes to selected companies. Each space showed similarities in physical layout and design, to those in the USA, with a variety of spaces for different activities, inspiring designs, and a café or lounge area serving as the heart of community life. Some spaces (EU1 and EU2) encouraged their members to customise and decorate their workstations as it created a greater sense of physical comfort, and positively affected their productivity and well-being.

In the UK, spaces varied by location, size, profession, and approach to community development, some being more entrepreneurship focused (UK1 and UK5), some being more focused on providing conditions for positive coworking experience (UK3 and UK4). Physical appearance and practicality were highly valued by operators, enabling various kinds of activity. As in the US and Europe, differences were found in terms of active versus passive management (entrepreneurial outcome oriented versus supporting social practices focused), facilitative versus organic operation (presence of host versus self-sustaining communities), and diverse versus sector-specific community focused. Except for UK2 which took the ‘coffice’ approach, in each case, the facilitators played a crucial role in nurturing the community.
Chapter Seven: Findings I - ‘State of the art’ coworking practices

The general conclusion is that a balance, as suggested by Williams (2013), is needed between the space, the social environment (culture), and the individuals cohabitating the space, in order to maximise the chance of creative and entrepreneurial activities in the coworking organisation.

Table 7-4, below, summarises the key design features of the physical space and facilitative tools that respondents found important for supporting the members’ well-being, creativity and entrepreneurial activity. However, not all the physical and facilitative sub-conditions are equally important, or ‘must-haves’ in all cultures or contexts. It depends on what the hosted community needs, and what is possible to implement and provide given the particularities of the community and the broader socio-economic context in which the coworking space is located.
## Chapter Seven: Findings I - ‘State of the art’ coworking practices

<table>
<thead>
<tr>
<th>Physical - SPACE</th>
<th>Facilitative - CM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purposeful layout and design that stimulates and encourages</td>
<td>Enabling bottom-up activities</td>
</tr>
<tr>
<td>Homely and comfortable yet professional atmosphere</td>
<td>Top-down activities (events, workshops)</td>
</tr>
<tr>
<td>Good balance of spaces (private areas, collaborative/break-out areas, phone booths, meeting rooms)</td>
<td>Hosting-system</td>
</tr>
<tr>
<td>Cafeteria/lounge as the centre of social life (planned and/or serendipitous meet-ups)</td>
<td>Back/front office support</td>
</tr>
<tr>
<td>Shared office equipment</td>
<td>Mentoring, coaching</td>
</tr>
<tr>
<td>Visibility – transparent walls</td>
<td>Tailor made programmes (e.g. accelerators)</td>
</tr>
<tr>
<td>Information boards (members in house, events)</td>
<td>Welcome package/tour</td>
</tr>
<tr>
<td>Superfast broadband</td>
<td>Hands on support</td>
</tr>
<tr>
<td>Location</td>
<td>Virtual platform</td>
</tr>
<tr>
<td></td>
<td>Access to investors, angel capitalists etc.</td>
</tr>
<tr>
<td></td>
<td>Sustained relationships with universities and other organisations</td>
</tr>
<tr>
<td></td>
<td>Free-day ticket to try and test</td>
</tr>
<tr>
<td></td>
<td>Opportunity to upgrade membership and workstation</td>
</tr>
</tbody>
</table>

**Table 7-4: Key ‘state-of-the-art’ features from providers’ perspective**

*Source: The Researcher*
The next chapter presents an in-depth insight into present coworking spaces located in the Cardiff City Region and other highly urbanised areas of South Wales, to explore the intention of coworking space providers, how coworking spaces are used, and how they are designed to support creative and entrepreneurial activities in an economically challenged region, in comparison to those presented in this chapter.
Chapter Eight: Findings II - The Coworking Organisation: Variations for South Wales and the Cardiff City Region

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<th>Page</th>
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<td>8.7</td>
<td>Conclusions</td>
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</table>
8.1 Introduction

To illustrate how coworking spaces work in practice to support creative and entrepreneurial activities, the previous chapter has detailed ‘state of the art’ coworking practices in selected coworking spaces worldwide and has outlined key features necessary to support the creative and entrepreneurial activities of member businesses.

To explore how present coworking spaces work and support their member businesses in an economically challenged region, this chapter provides an in-depth analysis of coworking spaces located in South Wales, and more specifically in the Cardiff City Region from the perspective of founders and managers. The key points from 11 thematic interviews are summarised to present a deep understanding of the coworking model in the context of a medium-sized city and its surroundings, as well as other urbanised areas of South Wales.

It is hypothesised that coworking spaces fulfil different needs in a context of a medium-sized city and its neighbourhood, thus, it is necessary to understand the intention of founders/managers in terms of what role coworking spaces serve in different contexts and how the original big-city model can be shaped around the needs of local businesses and individuals. For this reason, unlike in the previous chapter, this chapter starts by summarising the intentions of coworking space providers, followed by an analysis of the main themes based on conditions identified in the literature review and ‘state of the art’ practices in selected spaces in the USA, Europe and UK.
### 8.2 Key Characteristics of Coworking spaces located in South Wales

<table>
<thead>
<tr>
<th>Sample</th>
<th>Location</th>
<th>Physical space</th>
<th>Management</th>
<th>Operation</th>
<th>Members based on sector</th>
<th>Members based on professional activity</th>
<th>Membership types and prices/m</th>
</tr>
</thead>
<tbody>
<tr>
<td>SW1</td>
<td>Caerphilly</td>
<td>Open-office Private offices Meeting rooms Canteen Coffee shop</td>
<td>Active</td>
<td>Facilitative</td>
<td>Creative and tech sectors</td>
<td>120 (July 2016) Freelancers Entrepreneurs Small businesses</td>
<td>Small Medium £250 Large £400 Funded, free for 1 year</td>
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<tr>
<td>SW2</td>
<td>25 locations in Wales</td>
<td>Open-office Meeting room Coffee corner</td>
<td>Passive</td>
<td>Organic</td>
<td>Creative and tech sectors</td>
<td>150 in the network Freelancers Entrepreneurs Small businesses</td>
<td>Pay-as-you-go £12 Part-time £60/m/5 days Half-time £100/m/10 days Full-time £180 Company from £720 Registered office £240</td>
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<tr>
<td>SW3</td>
<td>Penarth</td>
<td>Smaller and bigger private offices (23) 2 open shared offices Kitchens Lobby Huge social space Meeting rooms (3) Studio/event space Gym</td>
<td>Passive</td>
<td>Facilitative</td>
<td>Tech and creative sector</td>
<td>55 (July 2016) Freelancers Entrepreneurs Small businesses</td>
<td>Private offices from £1250 Coworking offer £250</td>
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<tr>
<td>SW4</td>
<td>Merthyr Tydfil</td>
<td>Shared open office Meeting room</td>
<td>Passive</td>
<td>Organic</td>
<td>Creative and tech sectors</td>
<td>6 full-time 8 part-time</td>
<td>Day tripper £10 Part-time £50/m/5 days</td>
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<td>SW5</td>
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**Table 8-1: key characteristics of selected coworking spaces in South Wales**

*Source: The Researcher*

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Information gathered from a combination of a priori internet searches, site visits and interviews.
8.3 Why do these coworking spaces exist?

The interview data suggest that besides helping individuals, entrepreneurs and small businesses to overcome isolation, and providing opportunities to get connected with creative and like-minded people, coworking spaces in the Cardiff City Region and South Wales also support economic regeneration and cultural change. These spaces aim to create a community centred concept that provides new ways of working, and increases aspiration and business development in the region. All respondents shared similar opinions concerning the purpose of the space, however, differences between sites were noted in terms of their target audience, mode of operation and the aims of the spaces.

The founder of SW1, before opening the coworking facility in 2012, experienced first-hand the frustrations of getting start-ups moving in Cardiff. Unable to get the support he needed for his start-up from traditional business support schemes he saw that it was the community of young entrepreneurs who were most forthcoming in offering each other support. “It takes about 3 or 4 months for someone to really get their head around what support is available and that’s wasted time. When you are in your early-stage of development… and in a situation when you don’t have time to understand when to start… it’s a big waste of energy and effort. So my realization really was that it was the people around you that helped, the people who’re going through the same process, who would be in the same process…. People understood why you are so desperate… to have a mentor who doesn’t understand the pain and passion it’s quite hard to take on. So that was my mission at that point to create a community where start-up businesses come together and help each other… so knew which mentors are the good ones… because you could have someone just next to you who could say ‘do not ever go to that mentor’, someone next to you could say ‘don’t apply for that fund because it will take you 3 months to know the outcome’… and that’s where a lot of the pain comes from that process” (Founder, SW1).

Founders looked at various innovation centres all over the world to try to get an idea of what would work, what would fail, what kind of model they want to follow and establish in Wales. “It became quite clear that we don’t want to imitate an existing model… everyone wants to create something a bit unique and a bit different… we wanted to create something that came from us” (Founder, SW1). As a result, together with the other two
co-founders, they developed a unique business model that they felt suited the needs of the Welsh entrepreneurs and could be implemented into the Welsh context. SW1’s vision is to be a thriving, sustainable centre full of extraordinary enterprising, fun loving and mutually supportive people each dedicated to causes that create positive social and economic impacts in their respective fields. SW1 refer to themselves as a ‘propeller’ for start-ups and small enterprises. In just over four years, SW1 has become a key player within the Welsh entrepreneurial ecosystem, playing an important role in the shift to a more innovative and enterprising culture. At present SW1 receives significant funding from the Welsh Government to help deliver on the wider government targets for stimulation of entrepreneurship. Around 50% of enterprises move on from their base at SW1 into private office facilities, indicating that a good proportion of members and former members are able to become economically viable companies, i.e. not receiving any subsidy for their business space. On the other hand, no one has to leave SW1 after the funded year ends. The community manager explained that SW1’s focus is helping people and finding ways to keep them within the community, even after the funded year comes to an end. Using an example of a lady who only needed a few months to move her business to the next level, he explained: “she got to the end of her first year and you could tell she was just ready to start exploding, but her funding had run out and she couldn’t afford to pay for the desk, so we let her have the desk for free for a month or two and then we actually got a second funder to fund her second year, so because our objective is to get people’s businesses going. When it gets to the end of the 12 months, we’re not going to go ‘right, out you go’ – we’re not going to kick you out – we’ll try and find ways to… whatever we can do to keep them.” (CM, SW1). SW1 realised that people in other parts of Wales can be helped by providing role models through supportive communities, encouraging people to realise that they can do things differently without relocating themselves to the capital city. “We think there’s probably more value in looking at North Wales”. He added, “the things we’re good at are support, community, giving people confidence – we can recreate that a little bit better… and potentially making more of a difference [for the people living there]” (CM, SW1). Finding out what people could do in other deprived areas could cause a knock-on effect, and would inspire and motivate more people to pursue success.
SW2, launched in 2010, is a not-for-profit, social enterprise. They find landlords with empty offices who are willing to do a deal. “So it pays the landlord to have somebody in there, and it attracts other people into the offices then” (CM, SW2 Newport). This model decreases the cost and time of seeking appropriate offices from the provider’s perspective, pays the landlord a negotiated percent of income coming from memberships, and supports city/town regeneration by utilising empty buildings and turning them into lively community based workspaces. SW2 was set up as a community interest company, limited by shares. In 2016 the founders of SW2 decided to give ownership to its community, thus, the community now has equal rights in decisions the company intends to make. The intention of setting up SW2 as explained by the founder was to “change the way that Wales does business… in our little way… I want to be able to find things that help that to be real and sustainable for communities. We forget about the supporting values what we’ve got in Wales - so tapping into those values [local communities] that we have had in the past… we want to create a sustainable community for start-ups and encouraging them to realise they can do business” (Founder, SW2). Besides the four sites located in Cardiff, there are many more in smaller places across South Wales. “The reason I want to go to small locations is because I feel like we can add something to them. We can do a little bit to change that [doing business] – believing people, that there is capability in people who are in communities there. The model has to be something appropriate for Wales” (Founder, SW2).

This provides further support to the argument that past models attempting to help business creation in Wales failed due to replicating old models (e.g. Technium). The community owned model suggests a much more flexible, organic, bottom-up way of operation, helping people realise entrepreneurial opportunities in the country via connecting people and ideas through collaborative environments. The director explained the approach of SW2: “The purpose of it [SW2] is simple... you create spaces where people can come and do what they want within that space. You don’t necessarily need to do any more than that… only technically inspire them… rather than any kind of sort of push and say ‘what you should be doing is this and this, how to best improve your business or if you did that you probably go and do this instead’…. I think it is more about just say, well, for these businesses in Cardiff and in Swansea, and in Newport, it’s really unique to have that
network… it’s about connecting the people further without actually saying ‘go and do this and that’. That’s the key” (Director, SW2 Swansea). The philosophy of SW2’s model is to build self-sustaining communities, that help each other without creating facilitated situations.

The notion of creating a supportive workplace where a community of people can share information and knowledge, and support each other, with the intention of changing the culture how people do business in the South Wales and helping people recognise entrepreneurial opportunities, was also identified by the founders of SW4. However, unlike other spaces located in South Wales, the need for a physical location came from an already established community. “Over the last four years there has been a bit of uptake in creative businesses and start-ups and we started to get a bit of a community going in the town [Merthyr Tydfil], going back about 18 months ago, where we were meeting up and sharing ideas and this kind of stuff, and I think there was a slight demand there, then, for a coworking space, so I think from our perspective the community came before the actual office. We were working towards the project [SW4], and would try and figure out how we can help the community and how we can use our skills as artists, digitals, creatives, and everybody working in the creative sector, how can we contribute something to that, and from that came the need to work together in a physical space as well. In Merthyr Tydfil, I’ve certainly seen a need for this type of thing for coworking, because it’s quite a lonely thing to do when you’re on your own running a business, and every day, really, you discuss your own work or you share your ideas and ask for opinions about your work, all this kind of thing” (Founders, SW4). SW4 aims to provide avenues for people and create a culture of people with start-up businesses where people can try things out by having the support around them. SW4 helps people with realistic targets and realistic business support.

The manager of SW3 explained that the founder aimed to create an appropriate workspace that suited the needs of companies that required similar kind of environments for daily business operation. “He has done most of the training going to them [clients’ premises] or to meet in like a hotel or something and it’s not very fitting, the environment doesn’t suit what he is teaching. So when they were looking for office space to house his company, they couldn’t find anything - there were all kind of old stuff [buildings]. So
they found this warehouse and they bought it and they just decided to make the space and opening up to companies that think in a similar way. It meant to be a place that encourages entrepreneurship and it can also accelerate growth. It’s kind of an activity centre for anything to do for businesses, so it might just give people a step up, for people to be in the right place at the right time” (Public Relations Manager, SW3). She added that many tech companies located in Cardiff “want to be in a place to which people can bring their clients, so then they can be impressed”. In the case of SW3, the purposefully designed attractive building was found to be very important and something that all the cutting edge technology and creative businesses were looking for.

Similarly, the founders of SW5 recognised the need for having a more specific, technology sector focused coworking space in Swansea. Previously they worked at an SW2 site located in Swansea but they found it “quite generic; they were sort of doing any kind of businesses which is good, because you get some tech businesses, some kind of – but there wasn’t a lot of alignment around tech” (Founder, SW5). Apparently there was an opportunity coming up to partner with one of the largest technology sector specific coworking providers. As a result, SW5 opened its technology focused coworking space occupied by a broad range of individuals and organisations (public sector, universities, professionals, companies) belonging to the technology sector, in 2013. “It’s a coworking space but also a tech community - it’s a close community of people” (CM, SW5).

Similar to SW5, the Founder of SW6 intended to create a space fulfilling the needs of a specific group of people, the freelancers of Cardiff. What he realised over the years of running his own business was that there were many freelancers in and around Cardiff, without any permanent location to work. “I don’t even know where they all come from – they just kept turning up to these events, and it was through conversations about ‘where do you work, do you work at home, do you work in an office, do you work for someone’” (Founder, SW6). He also claimed that he was aware of the presence of different studios for different groups such as artists and makers, and multi-functional centres, however, a kind of curated environment dedicated to freelancers was lacking in Cardiff. “We wanted to create a space that fulfilled the needs of an individual freelancer, that was slightly more digitally focused but that would also provide a space for those illustrators who didn’t have a studio; the artists that maybe had more of a curatorial practice – people that only needed
a computer to edit video on, people that worked within creative industries but didn’t necessarily have a physical output, who would just be desk-based, and for all those people, as well, who wanted a creative environment to work in that was a little bit different, that offered them something more than just the standard office, and that also provided them opportunity to have a conversation, to collaborate with each other and to open new doors to a wider community within the city” (Founder, SW6).

Interviewees highlighted that they constantly figured out how and what could be offered for their communities, learnt as they went and adopted things based on the needs of their member communities. For instance, the founder of SW4 claimed, “we want to adapt to the demands of people, but I think sometimes we’ve got to create something – people don’t know what they want or what the potential is for their business, and something – just by coming along here when we put events on, once you’re in an environment surrounded by people who are talking about ideas, it might be that bit of inspiration that the idea they’ve had in their mind for years or that spark that needs to be lit can happen just by being in a certain environment with like-minded people really” (Founders, SW4).

Since its start in 2012, SW1 has built up a well-structured supporting programme for member businesses to constantly develop and new businesses to get off the ground. The idea is providing the kind of events and situations that the community needs. “I’ll talk to the guys and go ‘what do you want, what do you need, what’s missing’ and then I’ll put the workshops on and the talks on and the mentors and support, based on that” (CM, SW1). Besides the Accelerator, there are ‘5-9 Clubs’ providing after-hour courses, and ‘Trade Missions’ connecting the start-up communities in Cardiff with those in London (a detailed description is provided in section 8.6). Similarly, SW5 launched its accelerator programme along with the Welsh Government that aims to scale up technology companies within a 2-month programme period. SW6 also has plans to partner with various organisations such as the Arts Council, Cardiff Council and the Welsh Government with the ultimate aim of creating values “as a collective – either solve a problem or create something of value for everyone else to enjoy” (Founder, SW6).

Whatever the motivation behind establishing coworking spaces in South Wales, it comes from a passion for creating something that is “driven on soul and understanding the local community” (Founder, SW1). Additionally, the models always need to be shaped to the
needs of their users. “You need to listen to the natives. They’ll tell you what people think as well. People understand people; when people have got the same philosophies, the same ways of doing things, and when one person comes in that’s destructive it can change it, and I think that’s the case in small communities like this” (Founders, SW4).

8.4 The Physical Space

Coworking spaces in South Wales host smaller communities than those in bigger cities. However, each respondent shared similar thoughts on what a coworking space stands for. As one of the respondents stated, “I think a good coworking space encourages collaboration and celebrates it as well, and it’s a place where people feel comfortable enough to be very open about what they’re working on. There needs to be a lot of trust as well” (CM, SW5). The physical design and layout in any case reflects the special needs of mobile individuals, entrepreneurs and small businesses: diverse areas for different activities, purposeful design, and a cosy café, to name just a few.

SW2 currently offers 25 sites across South Wales (at the time of writing), each having a unique ‘character’ created by the people who work there. However, the setting and design of the spaces relies on how much the landlord allows it to be changed. Usually the landlord provides the space with its original characteristics and furniture, thus, the style of the space can range from the corporate office look (Cardiff 2, Cwmbran) through to contemporary (Cardiff 3) or even a hipster, creative style (Haverfordwest).

Nearly every site offers an open shared workspace, a meeting room and kitchen area. Seat availability varies in each space. The biggest one is SW2 Cardiff 4, offering about 40 seats, while the smallest offers 6 seats (Cardiff Dock). Dedicated, as well as flexible desks are available through various membership options. Members are free to move between spaces and locations, which further facilitates serendipitous interactions and connections between members. SW2 Swansea has a small device lab for testing applications on various mobile devices, and a photography studio for hire. Two other SW2 sites offer tools and machines for making, creating and prototyping. SW2 Newport also has a small studio space available to hire.
Chapter Eight: Findings II - The Coworking Organisation: Variations for South Wales and the Cardiff City Region

SW2 Cardiff 3

SW2 Cardiff 2
In terms of layout and design, similar to SW2 sites, SW4 provides an open environment, a meeting facility and a lounge/café area. The design was completed by the founders, while most of the furniture was received from partners and clients. Member businesses are encouraged to use different environments for different activities. “What we’ve found is that we’ll get up and move around the space to do different activities. So if I’m sending an email I’ll get up and sit on the couch; if I’m video editing, I’ll use the hard drives by there. We can go into the shush thing, the sofas, to have meetings” (Founders, SW4).
The founder of SW6, besides making the furniture himself, purposefully designed the multi-use space for supporting various activities. “You can come and work in here with your laptop and have your lunch – work more focused on here [long rectangular desk], chill out on the sofas and whatever, and the little library is a great place for reading” (Founder, SW6).
SW5 provides an open shared office occupied by a variety of freelancers and entrepreneurs, the founder company with its 35 employees, a hackspace with machines and tools, a café/living room area, an event space, and a separate office for the employees of a resident public company. The café area plays a central role in community life, and it is free to use for all tenants. “We like to encourage everyone to come and collaborate and socialise, so Thursday actually, we have food on Thursdays, we’ll have free food at 1 o’clock, everyone from all the floors comes down, we have food, we chat to each other about what we’ve been working on. We always have a talk as well” (CM, SW5). The event space can be used by external parities (companies and university students). The Hacker space is usually used by hobby customers and the member community. The plan is to commercialise and upgrade the equipment, so external companies can also use it, for example to make prototypes.
Lounge area and shared office at the back at SW5

Hacker space at SW5
SW1 and SW3 offer a variety of spaces to suit everyone’s work style and business needs. Besides providing a coworking facility, private/serviced offices, meeting rooms, café area(s), break out area(s) and event space(s) are also available.

The spaces of SW3 are designed to complement a fast-paced workflow. On the ground floor there are two coworking rooms, each with 6 seats offering a hot-desking environment for a diverse group of individuals and entrepreneurs to enjoy ‘working alone together’. The first floor is designed with circular corridors and glass walls enabling visibility. The building is completely kitted out with innovative technology solutions. There are plenty of collaborative spaces that encourage productivity, chill-out areas, and a gym facility.
Social space, meeting rooms and offices at SW3

Meeting room at SW3

Similarly, SW1 offers two coworking offices for entrepreneurs and mobile workers: the ‘Co-Lab’ and the ‘Green Room’. Each has its own style and characteristics, and its own unique group of members inhabiting it. Full-time members have the option to have their own fixed desk, while virtual members are allowed to pick where to sit on the days they are in (either hot-desks or those desks that are not booked by fix members). SW1 also provides reception services to its members that sorts out phone calls and mail delivery. As the founder explained, “it’s great to have someone by the reception and calling you [that a client has arrived; the post was delivered; the meeting partner has arrived], that illusion of a company” (Founder, SW1). Combining the offer of private service offices with coworking facilities produces an important revenue source for the operators. “We are like a hub. People can come and use the café, come and use the training rooms and the offices. Coworking is part of what we do, but it’s not nailed on to everything we do” (CM, SW1). The physical layout and design also follow the needs of the community, and in most cases the operators implement what people ask for. “We realised that people always want to hold their meetings in cafés. We had the canteen but people needed
something more like a cosy café house feeling so we created this café area for them… and here is our beer bar as well, for parties” (CM, SW1). In a similar way, people asked for private phone booths to have private calls, and the operators made it happen. People very much like the concept and philosophy of SW1, this is confirmed by the number of people approaching them. As a result, they took over a building located on the opposite side of the street and plan to turn it into a home for more creatives and technology workers, aiming to develop their businesses with SW1 (opening in September 2016).

Members in SW1 and SW3 have the opportunity to upgrade their membership and move into more appropriate work environments. “What we’ve found it’s quite unique, what we have is that we tend to find people starting in the shared space maybe for 2 or 3 months, maybe 3 to 6 months and then they want their own private offices because they build their team or their company” (Founder, SW1). This helps keep tenants connected to the community. External organisations are also welcome to use each facility.

‘Co-Lab’ at SW1

Phone booth SW1
Chapter Eight: Findings II - The Coworking Organisation: Variations for South Wales and the Cardiff City Region

‘Calon’ at SW1

Coffee lounge at SW1
Location and accessibility by public transport, and nearby parking are important in each case. SW2 sites in Cardiff, Swansea, Newport and Milford Haven for example, are centrally located, although in some places the only way to access the space is by car. Parking places are limited or not available in most SW2 locations. SW1 and SW3 have a reasonable number of parking spaces available for members and visitors. Respondents noted that members of each space tend to live in close proximity to the coworking space. For example, as the community manager mentioned, members of SW1 come from the areas around Caerphilly and the Valleys. Proximity to cafés, bars, restaurants and artistic spaces is important when deciding the location.

In Cardiff, a shift can be seen in the location preferences of creative businesses, as explained by the founder of SW6. “What I’ve noticed happening down here is that there is a lot of empty space and it’s not overly expensive. There are 101 different creative businesses and agencies already in Cardiff Bay, and they either did it because it was cheap or because they saw something coming”. He then explained the reason why he thinks Cardiff Bay is going to be the primary place in Cardiff for creatives. “I think there is a lot to do with what’s going on in town now. I think in the next couple of years, town is going to get really expensive because of everything that’s happening… with all the redevelopment around Central Square, with all the stuff that’s happening in Capital Quarter – they’re just building offices and saying ‘come and work here, everyone from London – it’s cheap and we’ve got all the same stuff you have’” (Founder, SW6).

**8.5 The Community**

Except for SW5, all the coworking spaces visited in South Wales were occupied by a variety of people with mixed backgrounds belonging to creative and technology industries. Diversity was found to be a key driver of the valuable collaborations and learning processes within the spaces.

As the founder of SW2 stated, diversity by background and occupation generate much more interesting synergies than a homogenous group of people. “I think there is more strength in people with different capability sitting in the room…. Because then they can have conversations that they wouldn’t expect to happen, and they end up with things that
are quite interesting…. I think people who are tech delivers need to be alongside people who are doing something that is non-tech” (Founder, SW2). Members with different backgrounds and expertise can be valuable to each other by offering new knowledge and approaching challenges from different perspectives.

Similar to SW2, SW1 also provides a home for businesses, freelancers and entrepreneurs with diverse backgrounds. There are for instance designers, illustrators, marketing agencies and music producers, and a mixture of mature businesses and early stage businesses. The SW6 founder also saw strengths in diverse communities, claiming, “if you would be in a coworking space with ten other designers and you’re a designer yourself, that’s not going to benefit you. If you’re a designer, it would benefit you if you’re in a room with a web designer, a back end developer, a creative strategist, a PR and marketing person, an iOS developer, and that’s exactly what we’re doing.”

SW4 also hosts individuals and businesses belonging to the digital and creative sectors such as a digital agency, a design agency, a software developer, a virtual assistance company and so on. The community helps out with the constant development of the coworking space. External communities and groups can also book the space for various activities that support awareness of the space within the wider community and enable serendipity to occur. “We’ve got a group of table-top gamers coming in for a full Saturday – special table-top gaming… a lot of them are freelancers – I guess it’s like a geeky, nerdy community. We have got a traditional council resource board being held here at the end of the month as well” (Founders, SW4). Moreover, the founders see potential to support university students in their project work. Similar to the operation manager of UK4, the founders of SW4 believe that projects are a great way to bring students into the community but coworking spaces are not seen as environments dedicated to learning how to build a business from scratch. “We’re the environment that allows you to learn or share skills, but you’ve got to have that sort of eagerness, hunger, whatever you want to call it, to do what you want to do, really, and see things through. That’s why I think projects are better – the project could be pretty much anything; here’s the environment to work within, you’ve got people to talk to, but then they can do something that’s creative or whatever it is, and the opportunities are endless” (Founders, SW4).
SW5 share the opinion of SW4, and see plenty of potential for students in coworking spaces. “We’re open to anyone, but we have Swansea Met and Swansea University come in, and it’s mainly computer science students, because there’s a lot of developers here with a lot of knowledge, and it’s just nice for students to have extra study groups, so we ask students what topics they want to learn about, and then they’ll come in and they can spend a day in this space, working, and they can ask the experts in there, so just to share the knowledge” (CM, SW5). Digital Thursdays for instance are free for any kind of developer to join and use the space. There are usually up to 50 students who attend and use the space for doing homework. “We just want awareness for the students... we just want them to know, when they graduate and they have an idea or plan or a project, just know that we’re here to help” (CM, SW5).

In terms of the tenant community, SW5 hosts mainly technology companies, such as game developers, tech consultancies, and app developers. “As long as they have a tech company, anyone can come here” (CM, SW5). However, there is no strict selection process, as stated by the manager, “there are times when people will come for a tour if they’re interested in membership and we might think ‘maybe they are a little bit too corporate or a bit too introverted, and they might not like that’, but it’s not our place to tell them that – it’s up to them to decide if they want to work here” (CM, SW5).

Professional diversity seems to have a positive effect, with complementary skills and backgrounds found to be a good foundation for knowledge sharing and learning from other perspectives. “There are a lot of flexi members, some of them don’t have any experience in kind of coding and the tech side of things, but they have lots of experience in marketing, and they like to help people out” (CM, SW5). There are many start-ups and there are various companies in more mature phases. Start-ups can benefit from learning and knowledge exchange by having more experienced businesses within the coworking space. In the case of SW1 and SW5, experts regularly go to the space and give advice on legal and accounting issues. For instance, if there is an expert going to provide ‘office hours’, the manager sends an invitation email to all start-ups saying, “next Thursday we have a business consultant coming in for the afternoon and he can help you with any kind of business strategies you need help with, or ideas, anything you need help with, let me know. We try and find an agreement where we can kind of do it for the least cost for us,
really. So for example, one of the solicitors, he’s an employment solicitor, so he helps our businesses here where if they have to employ somebody or if they’re about to have a new paying customer, they need to sort out contracts and things like that, he can help them with that and in return, we’ve been helping him with his website and things like that, so we use the skills that we have in-house to help them, and then they’ll do it for free for us, which is very kind of them…. I think creating that kind of network of experts that we can offer help to our companies with is kind of priceless, really” (CM, SW5). Mentors are an important part of the supporting network in both cases; community managers usually assist to find the right ones. “One of my duties is setting new members up with mentors – I try to find them a good mentor – and then try to connect them with each other” (CM, SW1).

Initially, SW3 aimed to host technology companies, but as the time passed, the founders and managers realised the value diverse communities can contribute to business development. At present, its 55 tenants represent various types of business, such as app developers, software developers, creative copywriters, architects, digital media designers and so on. As in other spaces visited, external businesses and communities are also welcome to hold events, training and workshops. Amongst other events, ‘Digital Tuesdays’ were held in SW3, aspiring to engage with a broad spectrum of digital stakeholders including entrepreneurs, investors, innovators, start-ups, business leaders, developers, coders, educators, trainers and policy makers. Events were seen as a good way to increase awareness and the promotion of the space. Similarly, SW5 also holds technology related events such as ‘Swansea Software Development’, ‘Designs Swansea meet-ups’, and ‘Developer Thursdays’. Besides providing opportunities to open the doors to external users and for them to interact with members, these events are also used to promote the space. Moreover, the public sector company relocated a group of technology based employees to SW5. They have a team of software architects and developers, and they use a private office for a three or four-months stint, then they move back to the headquarters and swap around. According to the community manager of SW5, employees share information and knowledge about what they are working on with the community, hold a lot of events, and give talks about what they are doing and why they are doing it.
This is an effective way of tapping into the communities’ knowledge, and at the same time building awareness and opening doors for potential collaborations.

Each space offers free day passes for finding out how it feels working alongside a creative community. This helps aspirational individuals and businesses realise what benefits coworking spaces can offer. Tours are also offered when people have an opportunity to ask members what their experience of the space is.

Of all the spaces visited, SW1 was the only one employing a strict selection process for getting new members on board. “The first stage is sitting down and having a coffee, the second is an application form, basically a business plan template. The first thing we do is that we get an idea what the business is doing whether it is something we want to have here. The next stage is, is this person for real? We try to understand the person, we try to understand what support we could offer and we try to make sure that we can do something” (Founder, SW1). Apparently, natural selection also applies from a community point of view: like-minded, open, creative people are attracted by others sharing similar traits to join the community. On the other hand, flexible members are also highly supported. “Our support doesn’t stop if you’ve not got a desk... we have a lot of people from outside who just want to connect with people on things like that and learning stuff” (CM, SW1). All other spaces, except SW2 which is totally open, when accepting new members usually take into consideration whether the newcomer is a good fit in the community, in terms of personality and profession, but people are usually able to decide whether the vision of the coworking organisation is in line with theirs. SW6 for instance finds both attributes equally important, while in the case of SW5 the profession appears to be more important as it is a sector specific space: “as long as they have a tech company, anyone can come here” (CM, SW5). In terms of personality, people are able to decide whether the vision of the coworking organisation is in line with theirs.

8.6 Facilitative vs Organic Mode of Operation

Similar to the United States, the United Kingdom and Europe, there are examples of organic and facilitative coworking spaces. Except for SW2 and SW4, each space has its
own dedicated team responsible for building the community, making connections between members and organising events.

SW2 is strongly against the facilitative mode of operation. “Things that I deliberately stay away from is doing too much for people. I’m not gonna go and do stuff, I’d rather find themselves make it happen. You can’t force entrepreneurship onto people. Just simply presenting an opportunity” (Founder, SW2). He added that if he were to place a community manager in each of the SW2 sites to organise professional events, people would rely on that structure and in the case the manager disappeared for a day, everything would just stop working. “If there is a managed space, there is a whole list of mental expectations people have around what they get for that… there is a dynamic around people’s expectations and can’t change the way how people think about a space. You let them do what they want. If the community manager disappears… people want to build real community; you actually want people who stand to do things for themselves. I know there is a risk but I would rather want something that in 5 years’ time you’ve actually got something that is self-generating stuff rather than it’s a community managers’ job to do something and there is a lot of people there who could provide legal and accountancy stuff… but I’m not gonna go and do stuff, I’d rather find themselves make it happen. I don’t do any professional events because I think they could do it. If I did things and stop, they would more rely on this structure” (Founder, SW2). Instead of community managers, a so called ‘anchor tenants’ help out in each space, do introductions to newcomers, and make sure the space has everything sorted. Anchor tenants are business owners at the same time, so their usual workday is not entirely dedicated to running the space. The only SW2 site with a dedicated community manager is the one located in Newport. The reason for having a facilitator is that it is a joint partnership was between SW2, Newport Council and the University of Wales Newport. The council own the building, SW2 manage and operate it, and the university provides desks for students with scholarships from the Bright Ideas Trust. As a result, the site is occupied by a mix of students and mature businesses. The community manager is responsible for students having the right support such as workshops, access to experts, etc. During the site visits she highlighted that, according to her experience, providing only the physical space does not benefit the occupants. “I believe that there should be somebody who actually facilitates coworking, and I’m not in
here all the time but although there’s only a few of us here, we’ve got a real coworking spirit”. She added that for being a facilitator, a particular mind-set, attitude and personality are needed. “You have got to get the right sort of person into that role, who is a facilitator, a coordinator, and a linker with people… who is seeing connections” (CM, SW2 Newport). This experience is in line with the founder of SW2, who usually makes the effort to find the key person within a place’s community; a person who knows everyone in that particular community, and what people are needed for that particular environment. This strategy helps attract others to try out and work in the space. Additionally, the personality of the anchor tenant is also crucial; if he/she is a chatty, always on the go type of person who likes to connect with people, it is really beneficial for the whole community because he/she creates an atmosphere where people are confident to talk to each other and ask for help. As later sections on member satisfaction cover, not every space has the right type of person in the anchor tenant position. In return for acting as the anchor tenant, the founder gives desk space at a discounted price. Often this is the only external motivation, and thus, people who might not have the right personality to be hosts, take over the anchor position just for the discount. At present, each space has a particular type of anchor tenant, some being open and eager to connect and help, some being more introverted, focused on their work and doing the minimum, e.g. showing people around and explaining what the space has to offer. As the next chapter explains, in the life of the SW2 community the anchor tenant plays a key role, and communities that have the right type of person usually have more joy and are more satisfied with the coworking experience.

Even though from the users’ perspective, facilitation is crucial, the founder and director of SW2 strongly believes that the simple co-location of member businesses is sufficient for interaction and collaboration. Although the model suggests that the concept of a serviced office is more closely related to the present offer of SW2, he added, “this is not the ‘dirty-little version’ of Regus, this is not hot-desking. The difference is the community around. There is a lot of strength in it. The advice that people get from other people might not be the advice they rely on to run their businesses… it’s more about the advice they rely on that they trust on the other… because the same person the day before they talked to about life stuff, it isn’t meant to be business advice. The access to expertise is out there”
(Founder, SW2). In the past two years however, a shift has been seen in SW2; members have started a blog where events, gatherings and information about member businesses can be found (e.g. ‘food for thought picnics’, summer socials, various workshops and networking events). Yet, as SW2 explained in a recent blogpost, they follow the same approach to advertising their sites as to community building: organic, relying more on “communication, community spirit and good old fashioned gossip”.33 SW2 also has a venture arm, helping businesses to reach the next level. “We found 11 businesses [to January 2015] that are all in various stages in the community. We help to make their businesses successful and get them investment when they need it” (Founder, SW2 Venture Arm).

Facilitating interactions and creating connections in coworking spaces is not the same as managing people. “There is a big element of a community that naturally happens, obviously natural serendipity. But what we do here is trying to... show people what people are about, we try to show what’s in their soul, what their passion is. I think... if there’s a group of 5 of you, and you don’t know what those people are about, you don’t want to help them to achieve what they want to achieve. And if you have got 5 people around you and you know that this person is doing this because at some point they want to change the world, and that people were sick about the corporate and they want to do something, this person is doing it because he/she found an opportunity... you really want to help these people” (Founder, SW1). SW1’s success has come from connecting people on various levels, exposing their passions, fears and dreams and doing whatever it takes to enable them to succeed. “It’s about trying to connect people with experiences... because a lot of the time, people don’t realise what they can and can’t do” (CM, SW1).

There is a dedicated team in SW1 helping people succeed and be constantly supported. “We do quite a of lot of different things for the community. Every Tuesday night we play football. Fridays are pub evenings. We’ve got a Facebook group, weekly newsletter to members and monthly to the wider community. We have quite a good team that supports the community” (Founder, SW1). At present, SW1 supports members in order to help them feel more confident and connected to the community through various supporting
programmes. For instance, the ‘5-9 Club’ is a structured 12-weeks after-hours course (with mentors, workshops and specialists) designed to support aspiring business owners through the early stages of enterprise development. It also allows members to bring challenges into the club gatherings and get connected to experienced people who have been through the same situations. It’s a place where business people can help and support each other with their ideas, moving from ideas to action. The type of things attendees can learn about are how to research competition, test the market, put a proper plan together, address legal issues and manage money. The ‘5-9 Club’ is currently running only in Caerphilly but there is a plan to extend it to a wider community. “We really want to run those in village halls and sports clubs in these towns, because we don’t want to have barriers in the way – they don’t have to come to Caerphilly, we’ll come to them” (CM, SW1). The ‘#CDFTOLDN monthly Trade Missions’ are monthly trips offered to smaller businesses in Cardiff, to travel to London, meet clients and get connected to the business community. Trade missions are run in partnership with Cardiff Start - Cardiff’s creative, digital and tech start-ups, Enterprise Nation and Business Wales. The first trade mission took place in early 2016 and as the community manager explained, “the idea behind it was that we’re going to set you up in a coworking space, but you plan your day – you plan meetings, you connect with the community there, you set your meetings and you plan your day, and then we meet in the evening and have a drink and then we go back”. He said that without any structure or facilitation the event would not work; “people weren’t putting a plan into their day – so people were turning up and going ‘well, what do we do now’, and in the spaces we went to there wasn’t a community manager connecting people; they were just plonking people at desks and there would be strangers sitting there, and people weren’t setting their own agenda. So we started building in workshops and they’ve become more like learning journeys” (CM, SW1). SW1 invites people from the coworking community visited to give talks about a previously agreed topic. “On the last one… we had a training room and had a great training session and workshop on presenting and personal branding, so everyone engaged with that, and then after that we all went to a place in Shoreditch and did a session on trading with America, so they were engaged with the people who ran the workshops, but there wasn’t any organic kind of connection” (CM, SW1).
On the other hand, the right set of people are needed in the space to create synergies. If they do not feel comfortable, they simply do not want to talk to people, and the host cannot do anything in that situation. This is the reason why most places accept people based on their personality and attitude. “Sometimes it might take a few weeks, a month, for people to feel confident in a space” (CM, SW1). This is in line with the experience of the founders of EU1 and EU2, that had the idea of the long-term membership approach (see section 7.3.3). The manager of SW1 continued, saying, “engage with them, but then there’s nothing else coming from the other end, it’s not going to happen, so they might… not find out what other cool things people are working on. The element of people naturally connecting doesn’t [work], because of the British way”. He added, “I think you always need someone there to stimulate it and to be facilitating it [the community]” (CM, SW1). This opinion seems to justify the assumption that certain types of model only work in certain types of culture.

As noted earlier, SW1 receives significant funding from the Welsh Government to help deliver on the wider government targets of stimulating entrepreneurship. Thus, there are more structured and accelerator programmes available for entrepreneurs to get their business ideas off the ground, such as the ‘ICE 50’ in partnership with organisations such as the Fairwood Trust, the Welsh Government, Lloyds Bank and the WCR Group, aiming to give start-up businesses a structured route to sustainability, create jobs and boost the Welsh economy. The ‘Accelerator’ targets those who have ambitions to grow, to build a team, and to trade beyond borders (run through the Business Wales Accelerated Growth Programme funded by the European Regional Development Fund). The programme of support includes monthly board meetings comprising of industry experts from the local start-up community, masterclasses, peer support, trade opportunities, and access to experts.

‘GRIT’ is a 15-module programme of training including idea generation, business planning, etc. The programme however was thought to be too structured by members, and as a result they rarely turned up to all modules, thus, the whole programme had to be rethought. “So we flipped it on its head and went ‘let’s just plug these courses in, but just sporadically, let’s not put any structure in – we’ll just have three different modules of completely different things’. So this month, we had a session on – the first one was about
presenting, just a session on how to present your business, and the second one, a week later, was a session on keeping sane, so about focusing and keeping sane, and the third one, was about marketing, so three completely different things, but if you wanted to go to one of them, you could go to it, and if you didn’t want to go to all three, you didn’t have to” (CM, SW1). This is again a good example of finding out what people really want and expect from workshops in collaborative environments. There are further programmes designed specifically for young people (18-24 years old) such as the ‘24-hour lock in’ aiming to develop ideas around a challenge.

Besides professional events, there are many social events organised by the management team as well as members, such as ‘Breaking the ICE at Calon’, ‘Friday Drinks’ and ‘BBQ Parties’. ‘Friday ICE talks’ are also popular amongst members. The community manager explained why these events are particularly helpful for new members. “Say you’re a new person and you’ve been here for a month, and we want you to tell your story… we want you to tell us something interesting – give us a talk about something you love doing, and we normally get 20-odd people in the room, which is nice, so 20-odd people you’re opening up to who will become more empathic to you, they’ll love what you do and they’ll be more likely to work for you as well. The objective is getting members to open up to each other” (CM, SW1). ‘Hello’ networking events are also helpful for members, as explained by the community manager: “the idea is that we put on a networking event here so that people can come to it, but actually, I’m going to come to a networking event in the same place I have lunch every day; there’s going to be a few people there that I know, but they’ll be externals so I can practise networking in a safe environment” (CM, SW1).

In can be suggested that in bigger communities and those where the percentage of early-stage businesses are higher, members rely on support more than members of spaces that target mostly mature and established businesses. This pattern is found in SW5, where there is a relatively small community with many early-stage businesses operating on a daily basis. “I obviously look after everyone in the building, make sure they’re all happy, and we’re doing the best we can… the nice thing about this one is it’s nice and small, so I get to know everyone, I know exactly what they’re working on and what their kind of pinpoints are with their business and what they get stuck on, and I use that kind of
information to try and plan events that help the community” (CM, SW5). In a small community where members know each other well, the presence of a community manager is not needed, and an organic, bottom-up way of operation seems to work well. “If we just had an office manager, it’d be sterile” (Founders, SW4).

8.7 Conclusions

This chapter has provided an in-depth insight into present coworking spaces located in the Cardiff City Region and in other highly urbanised parts of South Wales. As the interview data suggests, these coworking spaces not only help entrepreneurs, small businesses and freelancers overcome isolation, loneliness and distraction, and create spaces where they can easily have access to peer support, but also support cultural change and economic regeneration in South Wales. However, there are no two spaces that are alike, each is determined by its community and the approach that its provider takes to community and business support. People interested in joining coworking spaces can find an offer that is suitable for their personality, employment status, and type of business.

All respondents shared similar opinions concerning the purpose of the space, however, there are differences between sites in terms of the physical design and layout, the mode of operation, and the approach to community support.

While nearly every space was purposefully designed and provided a number of different spaces, such as meeting room(s), lounge, collaborative or private areas (e.g. SW1 and SW3), some spaces even though they were purposefully designed, only offered various areas in the same open office (e.g. SW4, SW5). Amongst all the spaces investigated, SW2 was the only one without a purposeful design, offering only a meeting room and an open plan office at most of their sites. The reason for not having a purposeful design in many SW2 sites was that the deals they made with landlords did not allow any fundamental change to office layout and design. Nevertheless, the design of the space was critically important as it attracts people, helps them enjoy being at work, and inspires them.

Except for the founders of SW2, every provider had the same opinion about the need for facilitative conditions in a coworking environment. Some had a dedicated office/
community manager (SW1, SW3, SW5), while at others, due to the small number of users, the founder had the role of facilitator (SW4, SW6). Community managers were seen as the soul of the coworking community, not pushing members to collaborate (forced facilitation) but rather creating opportunities to do so, enabling situations and encouraging people to find out about each other’s expertise, personality and social interest; all helping to build a lively, open and friendly community that attracts people to share joy, pain and success.

Each provider agreed that the people constituting the community play the most important role in sustaining the life of the community, and have the ultimate power to attract others, and fill the space with social interactions that support creative and entrepreneurial activities. The member community was different in each space, depending on who the provider targets. SW1 was occupied by many start-ups, SW2 mainly attracted independent, mature entrepreneurs and businesses, SW3 and SW5 targeted technology businesses, while SW3 and SW6 mainly focused on freelancers belonging to creative and digital media sectors.

In a broader sense, the findings suggest that the present offer (services, approach and aim) of coworking spaces located in South Wales is similar to those located elsewhere. Like the USA, Europe and the UK, the mission of the spaces is in line with the services they provide to their communities, meaning that if the ultimate aim was entrepreneurship acceleration, then coworking spaces have an active management style, i.e. helping their members financially and professionally; but if the space is dedicated to enabling social practices, such as creating networking opportunities, and situations that support self and business development, they have a more easy-going style and focus on helping their members emotionally and mentally while providing a shared environment that reduces isolation and loneliness. There are good practices in the context of South Wales that are similar to the selected spaces discussed in the previous chapter. These are the availability of a variety of spaces (SW1, SW3, SW5) to support different activities; making efforts to build and strengthen self-confidence (SW1); inviting various professional associations to use the space for events (SW3); providing events and opportunities for the public to experience what the space and its community provides (SW1, SW3; SW4, SW5, SW6), and offering funding and investment opportunities (SW1, SW2, SW5).
However, the exact models coworking spaces in metropolitan areas take, cannot be implemented in the context of South Wales or Cardiff, as the culture and the people are different. Thus, the models always need to be shaped around the needs of the target audience, whether they aim to accelerate entrepreneurship and job creation; or make an impact as a collective on one area of the city, e.g. bringing together creatives with the aim of helping local suppliers to succeed and promote the area. Coworking spaces in South Wales have already made some great steps in supporting their member communities, and constantly develop their models based on what the community needs. To give a few examples, SW1 usually asks members what kind of events and programmes they need, and once the programme starts, if it does not meet expectations the management team changes it to make it more beneficial for the attendees. SW5, when they noticed that their member community was experiencing difficulties in terms of getting the right support for accounting and legal issues, made a great effort to partner with experts and invited them to the space to provide ‘happy hours’ to help and give support to the community.

Financial support is especially crucial for businesses and entrepreneurs trading in Wales because many owners struggle financially to establish their brands, or to move their businesses to the next level. In South Wales the availability of venture capital and commercial accelerators is lacking, instead, Government led programmes are more typical. Even though these programmes have helped, for instance, SW1 to achieve positive impacts in respect of both jobs and GVA, it can be argued that because Government led programmes usually provide free support from advisors and a free space for businesses to operate, their ultimate aim is not to invest in the businesses themselves, and therefore the motivation of the participating businesses might not be as strong as if they had participated in an equity-based commercial accelerator. Free is often not valued after a certain time; the pressure to succeed might be an effective external motivational factor. Nevertheless, for early-stage companies, funded accelerator programmes are an effective way to start and establish brands.
Chapter Nine: Findings III - Coworking Members’ and Non-users’ Experience in the Cardiff City Region — A Contrast

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9.1 Introduction

The previous chapter has discussed the perception of coworking practices and communities located in South Wales from the providers’ (founders/operators/community managers) points of view. The co-existence of three particular conditions were found to be necessary to support creative and entrepreneurial activities: the physical environment; the community; and facilitative tools that are in line with the main elements enabling creative and entrepreneurial activities identified in the existing background and subject literature (Table 4.7 in Chapter 4).

This chapter provides an overview of how coworking spaces are perceived by their members in terms of supporting creative and entrepreneurial activities, contrasting their views with non-users’ opinions, and seeing how both opinions match the views of the providers of coworking spaces in South Wales.

At the start of the data gathering process, only two coworking space providers were on the market in the Cardiff City Region: SW1 in Caerphilly and SW2 in various locations. Thus, in-depth consideration could only be applied to those cases. Other SW2 sites located elsewhere in remote areas of South Wales are not considered in this research. Besides participant observation and non-participative observation in SW1, SW2’s four Cardiff sites (SW2 Cardiff 1, SW2 Cardiff 2, SW2 Cardiff 3, SW2 Cardiff 4) and their Newport site (SW2 Newport), a 34-question member survey reaching a broad user audience at SW1, SW2 and SW5 (see section 6.5.2.2) was applied, with the aim of investigating issues emerging from the literature outlined previously, and from the ‘state of the art’ review described in Chapter 7. The questions address issues relating to motivation for using coworking spaces, patterns of usage, alternative work options, perceived benefits with regards to knowledge sharing, collaborative activities, creative activities and firm growth (i.e. improved creativity, productivity, motivation, network growth, direct business results), and last but not least the drawbacks of coworking. Respondents were also asked what improvements in provision they would like to see. The issues are investigated overall and by comparison of the two main coworking spaces (SW1 and SW2).
A combination of open and closed questions was employed, with the survey administered both in hard copy on-site, and electronically (using the Qualtrics tool) through membership details provided by SW1 and SW2, and via social media. The results of the observation and the questionnaire survey help build a comprehensive picture of the environment, the atmosphere, the dynamics, the processes and interactions between the members in a given community. These methods were useful to contrast what members say they do, and what they actually do, in the workspace. Furthermore, the intentions declared by the management and the perceptions of its members were also investigated. In order to explore what is missing in the Cardiff City Region, a non-user questionnaire was designed to contrast the responses of the two distinct groups (members and non-users) and find out what issues coworking spaces solve, or might solve, in middle-size cities, and what functions or opportunities they deliver to location-independent professionals, entrepreneurs and small businesses not permanently using these new work environments.

Section 9.2 presents qualitative insights into the life of the coworker communities, as well as the results that emerged from the analysis of the member questionnaire survey. The information gathered from observations and informal interviews follows the same structure used to report the perceptions of coworking space providers in Chapters 7 and 8. It is broken down according to the key themes that emerged from the literature and ‘state of the art’ practices (physical, community and facilitative). Section 9.3 reports the results of the questionnaire survey, starting with the member demographics, then the other results that emerged from the analysis, emphasising the key differences between SW1 and SW2, as observed by their member communities.

Section 9.3 discusses the results of the non-user questionnaire survey (i.e. those location-independent professionals and home-based entrepreneurs in the business community who do not currently use coworking spaces).

Section 9.4 brings together the results of the two surveyed groups, aiming to give a comprehensive explanation of how coworking spaces are used and perceived in the Cardiff City Region.
9.2 To Cowork…

During the site visits, several coworkers were formally interviewed, of which 19 members’ quotes were selected to illustrate how they perceive the physical environment, other peers, and the facilitative tools coworking space providers employ to sustain creative and entrepreneurial activities within coworking spaces (Table 9-1 is the same as Table 6-8 in section 6.5).

<table>
<thead>
<tr>
<th>Code</th>
<th>Gender</th>
<th>Age</th>
<th>Occupation</th>
</tr>
</thead>
<tbody>
<tr>
<td>CW1</td>
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<td>Under 33</td>
<td>Software developer</td>
</tr>
<tr>
<td>CW2</td>
<td>Male</td>
<td>Under 33</td>
<td>Software developer</td>
</tr>
<tr>
<td>CW3</td>
<td>Female</td>
<td>Under 33</td>
<td>Business consultant</td>
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<tr>
<td>CW4</td>
<td>Male</td>
<td>Under 33</td>
<td>Marketing consultant</td>
</tr>
<tr>
<td>CW5</td>
<td>Male</td>
<td>Under 33</td>
<td>PR adviser</td>
</tr>
<tr>
<td>CW6</td>
<td>Male</td>
<td>Above 33</td>
<td>Banker, regulator</td>
</tr>
<tr>
<td>CW7</td>
<td>Male</td>
<td>Above 33</td>
<td>Photographer</td>
</tr>
<tr>
<td>CW8</td>
<td>Male</td>
<td>Under 33</td>
<td>Software developer</td>
</tr>
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<td>Above 33</td>
<td>Software developer</td>
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<td>CW15</td>
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<td>Under 33</td>
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</tr>
<tr>
<td>CW19</td>
<td>Female</td>
<td>Under 33</td>
<td>Administrator</td>
</tr>
</tbody>
</table>

Table 9-1: List of coded coworkers informally interviewed during observations

Source: The Researcher
9.2.1 Qualitative Results

9.2.1.1 How is the physical environment perceived?

Most users of SW2 perceived its sites as closer to serviced offices than collaborative work environments. One former user of SW2 in Newport explained that even though “it was low rent cost, they gave tea and coffee there… got post delivered”, there was no support, or a network “plugged into pipelines of networking and other people in South Wales” (CW1). Thus, her company did not see any additional benefits in staying. However, it is important to note that her company left the site before the dedicated community manager joined the Newport site from the University of South Wales. Section 9.2.5 explains in more detail the role of the community manager in the life of the SW2 Newport community.

With regards to the design and layout, members of SW2 noted that the layout did not easily support formal meetings or phone calls. With regards to meeting rooms at SW2 Cardiff 4 one respondent noted, that “there is just one meeting room for all of those people and so I have to go to the stairs to make private calls or just work from home” (CW2). At the SW2 sites there are no spaces for privacy at all. Noting this as the greatest issue, the same respondent added, “I think the biggest challenge across the work with that sort of coworking and open office space is that there is never any privacy. So privacy especially for a company like ours where clients are very confidential, the information that they’re dealing with and their interest are confidential, and what they are charging that is confidential so I can’t have any conversation at my desk…. I basically cannot say anything” (CW2). Similarly, a former member claimed that one of the reasons her company left the coworking space was because of the lack of privacy. “Space and privacy were the two main factors which encouraged us to kind of get our own office” (CW1). They also highlighted that the open plan room was not appropriate for every kind of business, saying, “sometimes in the office we just get loads of post-it notes and stick them around everywhere. We’ve got the freedom of all those types of communication in one space, and quite a lot we have team meetings in there… so I prefer being in our own office now” (CW1). Furthermore, in SW2 Cardiff 3 the lack of phone signal
was one of the biggest downsides, as one respondent mentioned, “I need to go outside to make phone calls even when it’s raining. There are some spots so some people have the right office spot where they can make calls but where we are there is not… what I do now is that I stay at home if I know I have to do a lot of phone calls” (CW3). Members in SW2 Cardiff 1 noted other issues related to the space and layout, commenting that, “even though we have a meeting room, it’s not very convenient because the walls are like made of paper and anything said in there can be heard in this room [open office] as well” (CW4). Members of SW2 Cardiff 1 mentioned other negatives such as not having heating during winter time, and the toilet being located outside, and used by other people working in the shops nearby.

A further problem was that the site officially closed its doors and fence at 6pm, not allowing members to use the space after this time. This means that the flexibility of time, which most self-employed people are looking for, was not provided by SW2 Cardiff 1. SW2 Cardiff 2 was perceived relatively positively by its members, noting the professional look provided by the reception, the availability of shared offices of various sizes, and the presence of various sized shared offices and “client-friendly” (CW5) meeting rooms (a board room and a smaller one) as advantages.

It was found that people like to change their environment, regardless of how satisfied they are with the space they joined. More important is finding an environment where people can undertake the tasks they like to. One member at SW2 Cardiff 1 reported, “sometimes I simply stay at home and do the work there, really depending on my mood or the work I’d like to get done” (CW5).

A general problem experienced with SW2 sites located in Cardiff was that there are no parking places available outside. However, most members live in the neighbourhood so they can access the spaces on foot or by bike. Respondents also found the location of the space important, i.e. being in close proximity to the train station, or in an area where plenty of cafés can be found. One respondent explained, “I commute every day between Cardiff and my home town, and this space is in a convenient location - close to the station and in a really nice neighbourhood” (CW6).
Respondents using SW1 on a regular basis were satisfied with the physical layout of the two coworking spaces, the ‘Co-Lab’ and the ‘Green room’. They noted that SW1 offered everything they needed for their business operation in terms of various areas; they usually used the canteen and the café area for meetings, and the tiny phone booths for private calls. Nevertheless, the physical layout, similar to SW2, does not support every kind of business activity. For instance, one virtual (temporary) user noted, “my company deals with commercial media production, and although it’s a great place with fantastic people, they just do not offer a rentable studio for the types of businesses as mine, so I tend to use the shared facility only when I carry out other stuff like paperwork or have meetings with clients” (CW7).

Based on the observation data, coworkers located in the open shared offices are divided into three categories based on the timescale and the spot they occupy: one kind only spend a day a week (at varied times and seats), the second kind use the office exactly the same days of the week and always sits in the same spot, and the third kind use the space every day of the week and sit in the exact same spot. Both coworking rooms offer hot-desking and dedicated seats. At present (July 2016), there are 20 virtual members (mostly freelancers and those who prefer to use different places depending on their activities, or using SW1 as a professional meeting facility), and 100 regular users, of which 30 operate mature businesses and 70 have start-up companies at the early or mid-stage of the business life cycle. Mature businesses tend to locate themselves in private offices, as do start-ups with more employees, while solopreneurs generally prefer shared coworking facilities. SW1 offers parking facilities, that are crucial and convenient for members coming by car from the local area, Caerphilly and the Valleys, and for visitors in general. People living in Cardiff without a car find it relatively far from their homes, thus, not many people from Cardiff operate at SW1. These people also reported that even though there are virtual membership options, and a ‘10-days free trial’, would-be members have to sign up at least for 12 months in order to become members. This option was not found suitable for people wishing to use the space on an ad-hoc basis.
9.2.1.2 How are the social aspects of coworking appreciated?

One respondent stated that coworking spaces on a usual workday feel “very quiet, it’s like a library” (CW2). Another respondent pointed out that “I had that sense if you are in a coworking space you’re gonna have plenty of friends, and it’s gonna be such a good atmosphere, but the reality and the truth is not really like that” (CW3). Solopreneurs sitting by their desks are usually quiet and focused, while partners or employees sometimes have a quick chat, discuss an issue, a work related task, or an important email. They are respectful and do not want to interrupt others’ work around them. But if someone's behaviour is not acceptable and tolerated by other members, they use their right to refuse the presence of the interrupting person. For instance, on her first day at SW2 Cardiff 1 the researcher saw a person packing and it seemed he was moving out. When the researcher had a chat with members, one mentioned that the person was not tolerated by others any more as his behaviour was often disrespectful and loud, so others could not focus on their work (as it later turned out, this was not the only reason the person left the space). Interestingly, at the same place, there was a group of people actively and loudly chatting and discussing the project work they did in joint partnership, and no one seemed to be disturbed by them. The same person who told the story about the person who was just about to leave the space mentioned that he usually makes and takes phone calls outside because the open office is not suitable for that kind of activity.

At SW2 Cardiff 2, the coffee corner seemed to be the place where most people had quick chats with each other, and used the round table for in-team project meetings. Client meetings were always held in one of the meeting rooms. Many members of SW2 Cardiff 2 noted that they like the space, however, some commented that they did not have any other choice to choose another space as their company decided to move into the SW2 Cardiff 2 office.

Each of the SW2 spaces visited, SW2 Cardiff 3 and SW2 Newport, were found to have a ‘real’ community spirit. Coworkers at both sites mentioned that besides having the right type of people in the space, the facilitator (the anchor tenant at SW2 Cardiff 3 and the community manager at SW2 Newport) was a crucial person in the
life of the community (the next section, 9.2.5, explains the facilitators’ impact in more detail).

However, it is important to note that in each site the way the social aspects of the space were perceived, was determined by people’s social bonds. A respondent who had used SW2 Cardiff 2 for quite some time, and had well established relationships with others, explained that, “inspiration comes from… the other people in the space, and once you’ve got people in there and say ‘oh this person started a business from nothing’ and you think well I can do it, it’d be possible… all the barriers that seem to be there I can overcome because this person sitting opposite to me… and those people just in the same place, there is no barrier to think of that person might be better than themselves” (CW8). Another member of SW2 Cardiff 3 also claimed that being surrounded by other people makes a huge difference and is mentally stimulating. “I was quite glad to be in an environment where I was able to meet new people and have like a network – this idea of just not being alone with my colleague. So this had made a huge difference for my mood, I remember when I was just glad to go and meet new people” (CW3). Other members also agreed that being in a coworking space affected their state of being positively. For example, one respondent from SW2 Cardiff 1 said, “I can be more productive and disciplined, and use my time more effectively in here” (CW9).

Several other people mentioned that they had previously worked from home; they struggled to find work-life balance, experienced isolation, distraction, and self-motivation problems, and had been unhappy. For instance, one respondent noted, “if you work all day at home it feels like your whole life is a never-ending workday” (CW10).

Users of SW1 also pointed out that being part of a coworking community feels “like part of something bigger than just yourself” (CW11). Similarly, another member said, “everyone is friendly, supportive and always willing to help” (CW12). Another respondent reported, “there is always something going on or someone’s doing something totally different thing that makes your day interesting” (CW13). Similar to SW2 sites, members based in the shared environments of SW1 usually worked in a focused and quiet manner, making sure they did not interrupt others’
work. The place for holding meetings or just chilling out and chatting with peers was usually the canteen or coffee area.

9.2.1.3 Is facilitation important?

Casual small talk is the first basic interaction people usually have with each other. Observational data suggest that sharing knowledge and advice can hardly happen in an environment where people do not feel comfortable and supported, and there is no trust. Everyone is different, some people are more open and talkative, while others are introverted. When there is a diversity of people in terms of personality and background, without any kind of curation or encouragement, people are not going to realise the opportunities diversity brings to the workplace. As one of the members of SW2 Cardiff 4 highlighted, “there needs to be a fundamental shift in those norms in order for people to sort of work in a coworking environment and turn that into an actual collaborative environment, and that can cure if you have the right kind of structure, and the right kind of people try to make that change and it happens in only very specific areas with very special circumstances that confluence of actors coming together. So create the structure and then create a strategy within that structure and execute or feature those pieces of the strategy and that means yes you have an office. But then there needs to be somebody who socialises events, socialises ideas exchange to get people interacting… things that you can bond around and are not necessarily work related, that get the idea of creative juices flowing” (CW2). The idea of having someone who creates a trustful environment was noted by many respondents in various SW2 sites. One respondent of SW2 Cardiff 3 described that when she moved to her coworking space, the following week there was a social event and it helped a lot to get to know others in the space. She also added that for someone new joining the space it is essential to have a welcoming atmosphere because he/she can feel quite lonely at the beginning as it takes a lot of time for social bonds to emerge between complete strangers. “So even though we had that time [social event], it took so long to actually build up a relationship with other companies” (CW3). However, continuous support and encouragement is also needed. “If you don’t have any events organised for the
community, you cannot create an environment where people are confident asking and helping each other. It just doesn’t happen” (CW2). This further supports the idea that people in coworking spaces need different types of gatherings, both informal and formal, where they can get to know each other, find out who does what and how they can help each other. Social gatherings give the workspace a “lively buzz” (CW14).

As noted earlier, the facilitator (community manager) played a key role in the life of the SW2 Newport community. She was always keen to spend time talking to people, connect them with each other, give them the support they needed, and organise lots of social gatherings, such as ‘Thirsty Thursdays’, where the small community got together and enjoyed each other’s company. Respondents mentioned that after her contract ended and she left the space, “it was just not the same anymore” (CW15) and many missed her, so some members also left the space. Similarly, the anchor tenant of SW2 Cardiff 3 (previously Cardiff 2 and most recently Cardiff 4) had a visible effect on the community life. One respondent noted that when the anchor tenant moved to another SW2 site, many of his friends followed him and moved to the same site as him. The same respondent noted, “since these guys left, the atmosphere is just not the same; there is no joy, casual talks, everything is just quiet… I wish there were more guys like him [anchor tenant] in each site” (CW3). These examples illustrate that the presence of the host is particularly important in the life of a community and his/her personality inspires others to be themselves, be open, fun, and grateful with others. Additionally, it was noted by respondents that not every space has the right anchor tenant in terms of personality. On the contrary, a member noted that the presence of a facilitator is not needed and not everyone can tolerate the constant “hang-outs”, saying that, in SW2 sites, “people would not give any help to each other, they can ask for themselves” (SW16), in other words, a simple desk in a simple office means everything people need for business operation but not necessary being too sociable, because not everyone can tolerate that type of environment. This suggests that the right set of people is more important than a facilitator, as one respondent noted, “although
there’s only a few of us here [SW2 Newport], we’ve got a real coworking spirit because of the people in here” (CW17).

In 2012, when SW1 opened its doors to entrepreneurs and businesses, they did not have a dedicated community manager. The community manager only joined the organisation recently, at the start of 2016. Before he joined, a well-functioning operation team made sure each member was supported: events, workshops and a community newsletter, were a few of the tools the community had for support. As the organisation developed, the workload of the team increased, making it necessary to hire a full-time community manager responsible for member orientation and nurturing the everyday life of the community. Members were satisfied with SW1’s management team and highlighted that they were usually asked what kind of events they would value for self and business development. For example, one member attending one of the events explained, “being here and being able to mix and collaborate with others being in the same situation as you, gives a lot of confidence” (CW13). Moreover, people reported that events, especially networking events were particularly helpful because attendees could ‘practice’ in a safe environment without being judged by others, and in a really fun way. Most recently (October 2016) a new person joined the management team, whose main duty is to engage with the community on-site as well as off-site, to capture members’ everyday life, and to share their stories with the wider world. The aim being to share best practices and further develop a sense of community.

9.2.2 Quantitative Results

The aim of the member questionnaire survey was to triangulate the results that emerged from the observation data and from the informal interviews with coworkers in order to explore if the qualitative outcomes hold true for a broader coworking population, as well as support assumptions made about the qualitative outcomes.
Member demographics

Overall, 89 usable responses to the survey were obtained from members of the coworking spaces, 26 from SW1, 50 from SW2 (across the various sites), and a further 13 from SW5 in Swansea. No definitive figures exist for the population of coworkers in the Cardiff City Region nor across South Wales, but given that SW1 and SW2 are the largest providers, and at any given time have around 220 members, (120 in SW1 (July 2016) and 100 in SW2’s network (February 2015)). This figure therefore represents reasonable coverage of the regular coworking space user population in the Cardiff City Region. Moreover, SW5 accommodates approximately 40 coworkers on a regular basis, and has around 150 people in its network. The three main coworking space providers house around 500 people, on either a regular or occasional basis in the South Wales region.

The figures below provide an overview of respondents regarding qualifications, sector of operation and profession. In addition, the coworking respondents represent an extremely young demographic, with 60% aged under 33. At SW1, 76% of members are below 33, while at SW2 it is 52%. At the 95% level of confidence the Chi-square test does not confirm significance, but with a 90% confidence interval it can be argued that members of SW1 are more likely to be younger than members of SW2 (see Appendix 5). This significant difference in age demographics between the two spaces might reflect the different missions of the two spaces; while SW1 puts high emphasis on supporting early-stage enterprises and encourages their members to hire students and recent graduates, SW2 is mostly occupied by mature companies, who prefer independent work without any top-down facilitation. With regards to gender, overall, 72% of users are male, while only 28% are female. This suggests a remarkable male-dominance in the coworking spaces.

Figure 9-1 shows that over 70% of all respondents are educated to at least degree level, demonstrating very high levels of human capital.
From Figure 9-2 it can be seen that around two thirds of the coworkers surveyed are active in professional and ICT based activities (e.g. web or software designer/developer), again a much higher proportion of knowledge-based activities than can be found in the general population. The Chi-Square test confirms that, at the 95% level of confidence, coworkers in SW5 are more likely to belong to ICT based activities than members of SW1 and SW2 (see Appendix 5). Arts and entertainment activities (e.g. media, digital media consultants, marketing/PR adviser, journalist, writer) along with other services (e.g. publisher, administrator, assistant, video producer) form the majority of the other sectors represented. There is some variation seen between spaces, with SW1 for example having a greater proportion of ICT and also arts based activities, while at SW2 besides ICT and professional, scientific and technical activities, administrative and support services
are also represented. Amongst the category ‘other’ based at SW2, sectors mentioned include publishing services, software consultancy, 3D visualist/designer, administrative services, property/housing agency, surveyor, builder, catering and customer service advisor.

Figure 9-2: Respondents by sector
Source: The Researcher

With regards to employment status, it is interesting (see Figure 9-3) that just over half the respondents are employees, albeit the majority of these with very small businesses; especially in SW1 where over 40% of the respondents work for a company with 5 employees or fewer. Related to this point, the remainder typically identified themselves as entrepreneurs, with very few being the classic freelancers typically associated with coworking spaces. It might be suggested that freelancers are mainly occasional users of coworking spaces, and not represented in the sample because during the time of data collection, the researcher did not come across occasional users (either location-independent freelancers or home-based freelancers). When comparing the three coworking spaces against each other, the
Chi-square test does not show any significance for whether members are more likely to be solo-preneurs (freelancers or entrepreneurs) or employees of a company at SW1 compared to SW2 and SW5 (see Appendix 5).

![Bar graph showing respondents by employment status]

**Figure 9.3: Respondents by employment status**

*Source: The Researcher*

**Space usage patterns**

With regard to space usage, the vast majority of respondents attend most days, or every day, each week (85%), with over 80% listing home as their most likely alternative workplace, followed by coffee shops or similar (43%). The vast majority of members have full-time membership (76%), suggesting that the survey captured mostly regular users in each space. Around half stated that their previous regular workplace had been their home. Interestingly, despite the often highlighted potential for flexibility, over two thirds of respondents stated they expected to stay for at least one year.

Observation and conversations suggest that respondents who ticked the category ‘employee of a company with 6 to 99 employees’ mostly belonged to companies employing 6-15 people. The only exception is the founder company at SW5.
When users were asked what type of spaces are currently missing from the present offer of coworking, 36% reported they would need ‘more space for play and/or socialising’ and 33% missed ‘more space for privacy and/or self-reflection’. Significant differences between SW1 and SW2 were not noted, the only difference seen was that at SW1 only 3 people marked the need for ‘more meeting space’ out of 26 respondents, suggesting that SW1 provides enough meeting facilities (canteen, café, various meeting rooms) for its member community.

Reasons for joining a (particular) coworking space

What people missed before joining a coworking space, is illustrated in Figure 9-4, below. What people most missed in their previous regular place of work was, ‘interacting with likeminded people’ (51%), and the need for ‘expanding social and/or business network’ (49%). These two clearly relate to the basic needs of a human being at the workplace; people to interact with, or at least have the possibility of ending up in serendipitous situations. A given/defined physical space and established social setting with others co-located in the space appeared to be crucial. Coworkers also listed ‘coworking gives a cheap solution’ with its fairly good infrastructure (45%) as the third most popular reason for joining a coworking space. However, some people found the present offer of coworking spaces expensive, or not worth paying that much money for. At this point it is worth mentioning that the cost of a desk in a serviced office is nearly the same as the price of a desk in a coworking space (from £113 to £300 per person per month in a serviced office35 versus £180 for full-time membership at SW2), consequently, there must be some other value coworking offers for members otherwise it would not be a viable business for the operators, and would not give the expected social value for the community.
In terms of why people have chosen a particular workspace, as shown in Figure 9-5, 58% indicated the importance of the ‘social and enjoyable atmosphere’ (defined by its people), 62% highly rated the presence of the ‘good office infrastructure’ as a basic need, and the ‘possibility to interact with each other’ (51%) was also shown to be important. The location of the place (e.g. close to home, and in an attractive neighbourhood with cafés, exhibitions, artistic places) was considered important by 43% of respondents. The first three are basic elements of a workplace that support creative behaviour and outcomes in organisations (Amabile et al., 2005; McCoy, 2000; Williams, 2013).
Figure 9-5: Reasons for choosing a particular space
Source: The Researcher

Differences can be seen by breaking down the responses to the various spaces, suggesting that users perceive the aim of the space differently to that which the operators intended to create. For instance, founders of SW2 intended to create a supportive community where people are keen to help each other out. Responses suggest that members had a different perception of what the coworking space could offer them. 64% of members using SW2 sites indicated that the most significant reason to move into a coworking space was the ‘good office infrastructure’, 62% said that coworking is ‘good value for money’, while the presence of the ‘sociable and enjoyable atmosphere’ as a reason to choose SW2 was indicated by only 50% of the members. As the previous sections have noted, amongst SW2 sites, community spirit was mainly experienced and reported in SW2 Newport and SW2 Cardiff 3, while SW2 Cardiff 2 was perceived as more of a serviced office type of space. The results of the survey support the information coworkers shared and the impressions that appeared during observations in those spaces. For instance, out of

*Note: on the form it was possible to tick more than one option*
the 20 people located in SW2 Cardiff 2, 13 agreed the space was ‘good value for the money’ and 12 marked ‘good office infrastructure’ as the most important reason why they chose the SW2 Cardiff 2 office. On the contrary, 10 members from SW2 Cardiff 3, out of 14, marked ‘sociable and enjoyable atmosphere’, ‘interaction with others’ and ‘it’s a community’ for reasons to consider SW2 Cardiff 3 in the first place.

The fact that good office infrastructure was given as a reason to join a particular place suggests that people in that particular place perceive it as being closer to a serviced office than a collaborative work environment. This example illustrates quite powerfully how much difference there is between how members and operators perceive the coworking model. Even though people in SW2 sites indicated that the most important reason they have chosen the coworking space was the ‘good office infrastructure’, respondents equally agreed that in some of SW2’s sites the infrastructure did not meet members’ expectations and in many cases was not sufficient for particular types of activity. This might explain why, sometimes, people like to work from home or in coffee shops.

In the case of SW1 members, their responses compared favourably with the founders’ comments in terms of the space they intended to create. 80% of members associated the space with a ‘sociable and enjoyable atmosphere’, 65% with a ‘community’, 61% with the space enabling ‘interaction with others’.

Nature of interactions within the space

Figure 9-6 unpacks the nature of interaction with ‘casual small talk’ (93%) and ‘knowledge sharing’ activities (88%) playing the most substantial roles, in combination with more supportive interactions. Big differences between SW1 and SW2 were not seen. These results suggest that interactions are determined by people located in a given space rather than the facilitative tactics of anchor tenants and community managers.
*Note: on the form it was possible to tick more than one option

**Figure 9-6: Most common type of interaction**

*Source: The Researcher*

**Importance of enabling/environmental factors**

Members were also asked to rate the importance of a range of enabling/environment factors on a scale from 1 to 10 (where 1 means not important, 5 means average importance, and 10 means extremely important) in their coworking space. The results are shown in Table 9-2, below, with the average score overall and for the two spaces separately. The ‘difference of means’ test was performed using One-Way ANOVA in SPSS (see Appendix 6 for the output table). The aim of running the test was twofold: firstly, to triangulate the findings from the qualitative results (section 9.2.1) regarding experienced differences between SW1 and SW2; and secondly, to see which factors (physical environment, community, facilitative conditions) have greater effect on how people perceive the space.

An initial analysis using a difference of means test, when comparing SW1 against SW2, suggests that SW1 users rank their experience of their fellow members, the
community, networking opportunities and of events (social, professional) as being substantially more important than those of SW2. It can be seen that respondents in SW2 ranked the physical appearance of the space (design, meeting facilities) as more important than social and facilitative factors. This might suggest that people perceive SW2 as closer to a serviced office, providing fairly good office infrastructure, than a collaborative space emphasising social values (Table 9.2).

Table 9-2 also shows that the difference of means values between SW1 and SW2 is statistically significant, at the 95% level of confidence, in the case of social factors (community, other members and atmosphere) and facilitative factors (events and opportunity to network), meaning that respondents in SW1 valued the presence of social and facilitative factors as more important than the physical factors (design, meeting facilities) within their space. The results suggest that the presence of the social environment (community, other members and atmosphere) and the facilitative tools (events and opportunity to network) have a more powerful effect on how people perceive the space and what conditions they consider more important, in SW1.

These outcomes are consistent with the differences in the over-arching philosophies of the two spaces, with the management of SW1 stressing the value of community, mentoring and capacity-building and the provision of a supportive community, while those of SW2 highlight the importance of self-reliance and bottom-up community activity. This, in turn, is a reflection of the funding regimes and business models; SW1 receives funding from the Welsh Government as part of its support policy for entrepreneurship, while SW2 relies totally on self-generated revenues. Thus, the observed differences may be a reflection of the different roles played by the spaces within the entrepreneurial ecosystem. Moreover, it could be argued that as around half of SW1’s clientele is not presently paying directly for their use of the space, they may be inclined to have a less critical viewpoint in general and be less likely to make a direct connection between the space they use and business outcomes.
<table>
<thead>
<tr>
<th>Enabling/environment factor</th>
<th>Overall</th>
<th>SW2</th>
<th>SW1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall design of the space</td>
<td>7.35</td>
<td>7.2</td>
<td>7.54</td>
</tr>
<tr>
<td>Meeting facilities</td>
<td>7.42</td>
<td>7.3</td>
<td>7.31</td>
</tr>
<tr>
<td>Other members</td>
<td>7.2</td>
<td>6.72</td>
<td>7.96*</td>
</tr>
<tr>
<td>Community(^{36})</td>
<td>7.66</td>
<td>6.96</td>
<td>8.69*</td>
</tr>
<tr>
<td>Networking opportunities</td>
<td>7.4</td>
<td>6.68</td>
<td>8.73*</td>
</tr>
<tr>
<td>Events</td>
<td>5.63</td>
<td>4.62</td>
<td>7.1*</td>
</tr>
<tr>
<td>Atmosphere(^{37})</td>
<td>8.42</td>
<td>8.18</td>
<td>8.81</td>
</tr>
</tbody>
</table>

\(^{*}\)significant differences comparing SW1 to SW2 at the 95% level and above, rankings on a 10-point scale from ‘not important’ to ‘extremely important’

**Table 9-2: Respondents’ ranking of enabling/environment factors**

Source: The Researcher

When comparing the difference of means of the ranking of enabling/environment factors with demographic variables i.e. male versus female, aged under 33 and above 33, ICT and non-ICT (art and recreation, financial services, professional services) sectors, employee versus non-employee (entrepreneur and freelancer), significant differences are shown only with regards to sectors, as shown in Table 9-3. The overall design of the space and the atmosphere, at the 95% level of confidence, are shown to be more important for members belonging to non-ICT sectors i.e. those engaged in art and creative activities (i.e. stimulating amenities and design), and those who are service (either financial or professional) providers (i.e. importance of meeting spaces that make the business presentable). The presence of other members and networking opportunities are also rated higher by non-ICT businesses; at the 90% level of confidence these factors are more likely to be more important to art and creative businesses and service providers than those who work in ICT occupations (see Appendix 7). Even though the values of each factor except for events are also highly ranked by ICT businesses, the significance test suggests that for non-ICT businesses the creative and social impulse (enabled

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36 Community refers to a sense of belonging that comes from a distinctiveness and sameness within (Bauman, 2013b).

37 The atmosphere refers to the experience the space creates for its inhabitants that allows them to interact and behave in a way that maximises their potential for individual and collective creativity (Groves and Marlow, 2016).
by the atmosphere and design) are more important than for ICT businesses when it comes to maximising their creative activities in the space.

<table>
<thead>
<tr>
<th>Enabling/environment factor</th>
<th>ICT</th>
<th>Non-ICT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall design of the space</td>
<td>6.98</td>
<td>7.70*</td>
</tr>
<tr>
<td>Meeting facilities</td>
<td>7.23</td>
<td>7.59</td>
</tr>
<tr>
<td>Other members</td>
<td>6.84</td>
<td>7.54</td>
</tr>
<tr>
<td>Community</td>
<td>7.35</td>
<td>7.96</td>
</tr>
<tr>
<td>Networking opportunities</td>
<td>7.00</td>
<td>7.78</td>
</tr>
<tr>
<td>Events</td>
<td>5.12</td>
<td>6.11</td>
</tr>
<tr>
<td>Atmosphere</td>
<td>8.05</td>
<td>8.76*</td>
</tr>
</tbody>
</table>

*significant differences comparing ICT sector against non-ICT occupations, at the 95% level and above, ranking on a 10-point scale from ‘not important’ to ‘extremely important’

Table 9-3: Respondents’ (belong to ICT and non-ICT sectors) ranking of enabling/environmental factors

Source: The Researcher

Positive affects experienced

Table 9-4 summarises the responses regarding changes in performance of member businesses. One Way ANOVA was used to examine ranking differences in performance outcomes when comparing SW1 against SW2 (see Appendix 8 for the output table).

Given that a neutral response (i.e. the respondent is neither better or worse as a result of using the space in question) ranked at 5 on a 10-point scale, it can be seen that the impact of coworking is viewed as substantially beneficial to performance across the range of areas investigated - i.e. from network growth to higher levels of creativity, motivation, and productivity. This is clearly an important result with implications for both current and potential members of coworking spaces, for providers and indeed policy-makers charged with improving levels of creativity, productivity, entrepreneurship and SME performance. These outcomes are of course self-rated by the respondents in response to the questionnaire survey, and thus may be subject to various issues of prestige-bias or perceptions that are not necessarily highly-correlated with more objective measures of performance.
Chapter Nine: Findings III - Coworking Members’ and Non-users’ Experience in the Cardiff City Region — A Contrast

With regards to observed differences between SW1 and SW2, Table 9-4 shows that members of SW1 ranked the impact on their productivity as being significantly higher. This is interesting but could be explained, at least in part, by the nature of their members. The motivation and creativity scores are also high overall in both spaces, suggesting that the coworking space makes a difference in the life of the member businesses, increasing creativity, and boosting motivation by supporting collaboration and diversity. The motivation, creativity and network growth scores are also higher in SW1 than SW2, although they are not significantly different.

The difference of mean values, comparing SW1 against SW2, is statistically significant at the 95% level of confidence in the case of productivity, meaning that there is a significant effect of SW1 on perceived productivity, while the effect of the space on creativity, motivation and network growth, even though higher in general, is not significant at the 95% level of confidence. Existing studies confirm the positive affect of community on productivity, as it supports members both emotionally and mentally. Surrounded by people going through the same process and being based in the same space, raises confidence and empathy, and positively affects productivity.

The reason why creativity, as a noticeable performance outcome, is not significantly higher at SW1 over SW2, could be because creative moments also happen when people walk away from work related activities and thoughts. Especially in the case of coworking spaces, ‘eureka’ moments can happen anywhere, as people usually move between spaces to carry out different activities, instead of sitting all day in the same office. This can also be true for motivation and network broadening, as people find networks outside their space, either purposefully (for instance through Cardiff Start or other interest groups) or randomly when attending events and workshops where they can accidentally meet people carrying out similar or complementary activities.
Chapter Nine: Findings III - Coworking Members’ and Non-users’ Experience in the Cardiff City Region — A Contrast

<table>
<thead>
<tr>
<th>Performance outcome</th>
<th>Overall</th>
<th>SW2</th>
<th>SW1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creativity</td>
<td>7.43</td>
<td>7.24</td>
<td>7.77</td>
</tr>
<tr>
<td>Motivation</td>
<td>7.82</td>
<td>7.67</td>
<td>8.31</td>
</tr>
<tr>
<td>Productivity</td>
<td>7.82</td>
<td>7.59</td>
<td>8.35*</td>
</tr>
<tr>
<td>Network growth</td>
<td>7.01</td>
<td>6.55</td>
<td>7.5</td>
</tr>
</tbody>
</table>

* significant differences comparing SW1 against SW2 at the 95% level and above, rankings on a 10-point scale from ‘much worse’ to ‘much better’

Table 9-4: Respondents’ ranking of change in performance outcomes

Source: The Researcher

Further results regarding the positive affect of coworking spaces, comparing female members against male members, show that, at the 95% level of confidence, female members are more likely to be productive in coworking spaces than male members (Appendix 9). This suggest that for female entrepreneurs, coworking spaces are less distracting than their home office for instance, where besides undertaking business related activities, they might be distracted by external factors.

Comparing members belonging to ICT occupations against those that are non-ICT businesses, it is found that coworking spaces significantly increase the motivation and productivity of non-ICT firms (i.e. those belonging to art and recreation businesses, financial, and professional services) (95% level of confidence). With a 90% confidence interval, the difference of means test suggests that the space also increases creativity for non-ICT members relative to those in ICT (Appendix 10). This links back to the result shown in Table 9.3, where the non-ICT business population valued the overall design as well as the atmosphere of the space significantly higher for increasing individual and group creativity.

In summary, Figure 9-7 provides a breakdown of business performance outcomes attributed to coworking by the respondents to the survey. Innovative outcomes are a key business performance result, with nearly 65% of respondents citing at least one new product or service introduced as a direct result. Moreover, around 30% reported increased business income, and better funding options. Even though 34% reported no direct business outcome since joining a coworking space (represented by the category ‘none/not sure’), those who indicated direct business results suggest
that they experience very high levels of innovation and growth, which they attribute
directly to the spaces in which they operate.

*Note: on the form it was possible to tick more than one option

**Figure 9-7: Business performance outcomes**

*Source: The Researcher*

The results suggest that members aged under 33 are more innovative than those
above 33: 37% of members aged under 33 introduced new services, while for
members aged above 33, 20% launched new services since becoming members of
the coworking space. This result is not significant at the 95% level of confidence.
The Sig. value is .088 comparing the two age groups against the ‘introducing new
services’ variable, which means there is a significant relationship, i.e. younger
members are more innovative than older members, with a 90% level of confidence.

The Chi-Square test confirms, at the 95% level of confidence, that members under
the age of 33 are more likely to realise better funding opportunities than those above
33 (Appendix 12). This might be because younger members still need financial
support for their business development, whereas members above 33 do not
necessary need this form of support. With regards to professional activity, the Chi-
Square test confirmed that non-employees (entrepreneurs or freelancers) are more
likely to experience increased income in coworking spaces than employees of any of the member companies (Appendix 13).

The breakdown of business performance outcomes to SW1 and SW2 is presented in Figure 9-8. 42% of SW1 members introduced new services, and 35% new business distribution and business opportunities since becoming members of SW1. These business performance results are lower for SW2, where 28% of members launched new services and 14% introduced new services since joining SW2. The increases in income levels were similar in both spaces, at SW1 35% and at SW2 30% of members reported positive changes in income levels. On the other hand, more than 30% of respondents noted no substantial business outcome results since operating at SW2.

The other important difference between SW1 and SW2 was that 57% of respondents operating at SW1 experienced better funding opportunities, while at SW2 the percentage was 20%. The Chi-Square test confirms that, at the 95% confidence level, members of SW1 are more likely to experience better funding opportunities than members of SW2 (Appendix 14). These outcomes are consistent with the funding regimes and business models of the two spaces: while SW1 receives funding from the Welsh Government as part of its support policy for entrepreneurship, and more than half of its current members receive a full subsidy for membership either from the Government or from the Fairwood Trust, SW2 relies totally on self-generated revenues but its members can get investment support from its venture arm (which had supported eleven businesses to February 2015).38
Another positive result is that nearly 40% of respondents reported starting a new project with a fellow coworker, which suggests very high levels of collaboration facilitated by proximity and a collaborative working environment. At SW1, 50% of members, and at SW2, 28% of members, reported that they started a new project with coworkers they met in the space. The Chi-Square test confirms that, at the 95% level of confidence, members of SW1 are more likely to start a new project with fellow coworkers than members of SW2. This suggests that SW1 has a more supportive environment in which collaborative activities form and emerge. Moreover, the Chi-Square test, performed to test whether high levels of collaboration result in new direct innovative outcomes, confirms that, at the 90% level of confidence, those who start a new project with fellow coworkers are more likely to introduce at least one new product (Appendix 15).
9.3 …or not to Cowork

Besides demographic and job-related questions, the non-user’s questionnaire covered several themes such as the reasons for becoming a freelancer or home-based business owner, the type of workspace most favoured, prior/present experiences of coworking, and whether they had considered joining a coworking space. The underlying intent was to enable comparability between users of coworking spaces and potential users of coworking spaces who currently work elsewhere in the Cardiff City Region, with the main aim of exploring why these non-users of coworking spaces do not find the present offer of coworking spaces appropriate for their needs.

The non-user questionnaire survey contained open-ended questions, particularly where the intention was to gain self-descriptive information about whether location-independent freelancers/entrepreneurs and home-based freelancers/entrepreneurs have experience of coworking spaces, and if so why, or why not, and whether in the future they would consider joining a coworking organisation, and if so why, or why not. In total, 14 answers were selected that best reflect the responses received to the above questions (Table 9-5 is the same as 6-10 in section 6.5).
Table 9-5: Selected non-user’ responses in coded form

Source: The Researcher

9.3.1 Quantitative Results

Non-user demographics

Overall, 53 responses were obtained from the non-user population. The figures below provide an overall profile of the non-users with regards to qualifications, sector of operation, and employment status.

41% of the non-user population are aged under 33, while 59% are aged above 33. With regard to gender representation, 58% of non-users are male, and 42% are female. Non-users are also well qualified, with over 80% educated to at least degree level (Figure 9-9).
Figure 9-9: Business performance outcomes

Source: The Researcher

Figure 9-10, below, indicates that amongst the non-users surveyed, the most common sector is information and communication, at 50%, and art and entertainment activities, at around 22%. The main occupational categories are web-designers, photographers, media-producers, translators, and journalist/writers. ‘Others’ are translators, coaches or in market research occupations.
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From the responses, 75% of respondents indicated home as their primary workspace (either entrepreneur or freelancer), and 25% considered themselves as location-independent workers (either entrepreneurs or freelancers) (Figure 9-11). It is important to note however that the accuracy of the responses can be questioned as many of the respondents the researcher talked to in person, while completing the questionnaire, could not decide whether their business activity counts as a home-based business or location-independent professional status, and also noted that the way they consider themselves really depends on the day and the activity they carry out. The reason for this is, firstly, because they like to change their place of work even though they consider themselves home-based businesses or location-independent workers, and secondly, given the fact that most people have more than one profession. For example, a photographer might undertake design work, and thus cannot be categorised either as an entrepreneur or freelancer, because they have both kinds of status, one being the main entrepreneurial activity, while the other is a freelance activity.
17% of non-users indicated that they work part-time as either location independent professionals (referred to as LIF and LIE) or home-based business owner (referred as HBF and HBE), and the rest of the time they are either self-employed, an employee of a company, or run a business besides their freelance activity. 25% of people who work part-time indicated working for a company besides undertaking freelance activities, while 65% indicated undertaking self-employed activities while doing freelance work at the same time.

At the time of completing the survey, 70% worked from home, 11% operated in coffee shops, and 13% in coworking spaces (either SW1 or SW2) or other kinds of collaborative environments (e.g. Chapter Art Cardiff, Growth Hub Gloucester).
With regards to the future plans of home-based business owners and location-independent professionals, Figure 9-12 shows that the most frequent future plans were either ‘keep working as self-employed’ (81%) or planning to grow the business to obtain bigger projects, expand current operation or “merging with an existing company and taking a “directorship with equity” (NU1) (19%). Interestingly, no one said that would like to find a job as an employee, which shows that most respondents wanted to stay independent.

![Figure 9-12: Future plans](source: The Researcher)

**Reasons to become a location-independent professional or home-based owner**

As Figure 9-13 shows, the willingness to do business independently and the fulfilment of personal aspirations seem to be nearly equally important reasons for starting a home based business and/or engaging in freelancer activities. The first aspirational factor is the willingness to do business independently. 67% listed as ‘to be your own boss’ as the most important reason to start a home-based business or a freelancing job. The second aspirational factor is personal preference for a certain lifestyle such as flexibility in terms of time (56%) and place of work (56%), the eagerness for creative impulse (40%), and to have a career that is also a hobby (37%). Achieving independence, flexibility, and career satisfaction seem more
important than earning money (15%). Similarly, the fact that only 15% of respondents said that they could not find a job as an employee indicates that necessity-related motivations are only of limited importance. If we examine the demographic characteristics, 60% of the respondents are above 33 so it could be suggested that those people have established their businesses by that age and/or have chosen that way of work to have a better work/life balance (e.g. travelling more, working on the way, more time with family), or the way they carry out work suits their personality and type of profession better.

*Note: on the form it was possible to tick more than one option

**Figure 9-13: Reason to be home-based worker or location-independent professional**

*Source: The Researcher*

Comparing the benefits of being a home-based business owner versus a location independent professional, a few differences can be seen. Even though both surveyed groups listed being able to work flexible hours (97% and 100%), the second greatest benefits for location-independent professional is the ability to work wherever they prefer (70%), followed by the ability to do business independently and having more freedom (70%) (Figure 9-14). On the other hand, home-based

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The reason the responses of location-independent professionals and home-based business are reported separately is that different questions were set to these two distinct groups of respondents.
business owners favour a better, more comfortable, quality of life over professional satisfaction. 65% said they achieve better work-life balance because working at home can save time (65%) to undertake more important activities in a quieter atmosphere (54%) where they feel more productive and focused (51%) (Figure 9-15). Home workers also mentioned that they could save money by operating their businesses at home.

*Note: on the form it was possible to tick more than one option

**Figure 9-14: Benefits of being location-independent professional**

*Source: The Researcher*
When asked about the downsides of being a home worker or location-independent professional\(^2\), respondents from both populations agreed that the greatest disadvantage was that it is hard to distinguish between work and life (57% and 90%). Home workers listed a lack of social interaction as a second disadvantage (54%), while 60% of location-independent professionals said irregular income and not having a steady workload was the second biggest difficulty (Figure 9-16 and 9-17).

*Note: on the form it was possible to tick more than one option

**Figure 9-15: Benefits of being a home-based business owner**

Source: The Researcher

\(^2\)The reason the responses of location-independent professionals and home-based business are reported separately is that different questions were set to these two distinct groups of respondents.
Figure 9-16: Downsides of being a home-based business owner
Source: The Researcher

*Note: on the form it was possible to tick more than one option

Figure 9-17: Downsides of being a location-independent professional
Source: The Researcher

*Note: on the form it was possible to tick more than one option
Alternative places of work

When asked about occasional alternative workplaces, 67% of location-independent professionals mentioned coffee shops, 58% their home, 42% coworking spaces, 33% libraries and 17% small shared offices or clients’ premises. When asked which of these they found the most beneficial workspace, they mainly mentioned home, coworking spaces and coffee shops (Figure 9-18).

*Note: on the form it was possible to tick more than one option

Figure 9-18: Alternative workspaces for location-independent professionals
Source: The Researcher

71% of the people surveyed, including both location-independent professionals and home workers, usually hold meetings in coffee shops, while only 10% of them meet with clients in their home. The second most popular place for meetings listed was clients’ premises, by 48% of respondents. 20% also noted they use coworking spaces (e.g. SW1, SW2, The Growth Hub and Engineshed) or other ‘third places’ (e.g. Chapter Art) for meetings. 46% of location-independent professionals prefer

As noted, the coworking survey captured mostly regular users of coworking spaces. It can be argued that some of the non-user respondents, particularly those who ticked coworking space as an alternative place of work should have been in the coworking sample. The researcher, during her visits and while undertaking the coworking survey, did not come across many occasional users (those being represented in the non-user sample); however, the non-user questionnaire results suggest that some respondents do actually use coworking spaces.
to hold meetings in coffee shops, whereas for home-based workers, home, coffee shops and coworking spaces (e.g. SW1, SW2, SW5, The Growth Hub) are also favoured places for meetings. Those who mentioned other places, listed hotels, various networking events, and online platforms (Figure 9-19).

![Figure 9-19: Usual places for meetings amongst home workers and location-independent professionals](image)

**Source:** The Researcher

**Pros and cons to consider about coworking**

59% of the people surveyed indicated that they had not been a member of a coworking space, while 41% said they had already tried coworking as a workspace option. Those people who tried coworking spaces (mostly SW1, SW2 and Morgan Studios) said that the reason they tried was “to get out of the house” (NU2), to get support from others, to network, and to have the opportunity for “an occasional change of scenery and to maintain ties with professionals working in my field” (NU3). Some indicated they are still members of the coworking communities and visit the space occasionally. Those who left, found the present offer of coworking expensive, or just did not use it as often as they thought they would due to travelling a lot, thus, they did not find it worthwhile paying the membership fees. Some also noted that the diverse coworking environment was not very valuable for their
business and they would have preferred more sector-specific coworking communities. Other reasons included coworking spaces not being appropriate for their needs (e.g. not having studio space for photography and filmmaking), or the design and layout not being favourable (e.g. not having heating, bad ventilation, poor design). Some people also mentioned that with SW1 the biggest concern was the location, as well as not having flexible membership options, only a 12 months sign up was available. One respondent who was a member of SW2 mentioned that in his case the uninterested people and the lack of stimulating events was the biggest disappointment. This links to the idea of facilitation and the need for the right mix of people in terms of profession and personality in the workspace. Having a core group of people who are seen as ‘champion’ members is extremely important. These people determine the community. Newcomers, typically with the same attitude and personality, are attracted to the space and take further the life of the community (see section 4.5.4 for types of participative behaviour).

Similarly, those who have not considered coworking as a workplace option said that collaborative work environments were not a professional or personal need. For instance, one stated, “the fact remains that I need a fast laptop or computer and with excellent connection to the internet and no distractions. Shared space is full of distractions” (NU3). Others said that coworking spaces are expensive and noisy, they are too far away, or there is no parking place available outside. Some people said they feel more comfortable at home, or simply just like to change the workplace. “I can work whenever. Usually that’s home or a friends’ place, maybe a coffee shop” (NU4). One respondent pointed out that coworking “does not represent value for money when compared with working from home” (NU5). These reasons are important to consider for future coworking space providers and link back to what coworking space founders/managers said in previous chapters with regards to the need for having a clear aim and objective for how the workspace can add value, what it stands for, and who it targets. Responses from people who had not considered coworking as a workspace option suggest that people in cities the size of Cardiff might not want to use coworking spaces as permanent workplaces,
as they only need them on an ad-hoc basis, for instance, for networking, or being connected with sector-specific likeminded people.

Interestingly, 54% of people had considered joining a formal coworking space to have “an office based location, more presentable to clients’ expectations” (NU6), an eagerness for “more social interaction, to be able to bounce ideas off” (NU7), “exploring options” (NU8), finding “potential networking benefits and more opportunity for business growth” (NU9), or simply “to focus and separate work from home” (NU10).

The 46% of people who said they would not move into a coworking space mentioned “no value in doing so” (NU11), or personality reasons such as “does not appeal to me - the beauty of my job is not having a formal working pattern” (NU12). As another person put it, “the main thing is that I am not a social person and being self-employed means I choose to work on my own, why would I want others around me?” (NU13). Costs (67%), noise (44%), distractions, not having the coworking space nearby, and a lack of privacy and security were all mentioned as reasons not to consider coworking spaces. People also said they had everything in their home office, and therefore did not see the point of leaving home. On the other hand, people seemed to be aware of the benefits coworking might have on their business and self-development.

67% of the respondents stated that they would consider coworking spaces for ‘interaction with others’, 63% because coworking space is associated with ‘a sociable and enjoyable atmosphere’ with ‘good office infrastructure’. Interestingly, 65% also said coworking is ‘good value for money’, even though most respondents found coworking being expensive one of the downsides of the present coworking offer. One respondent who saw potential in coworking spaces pointed out that, “I think there’s a bit of a mental attitude to going out the house, going to your coworking office”. She added that having a meeting room gives the impression that “it’s kind of the overall appearance that you’re a professional organisation”, so really worth the money as the “living room is not really professional” (NU14). The response ‘good value for money’ might refer to this way of thinking (Figure 9-20).
The survey also revealed that 84% of respondents were members of professional networks such as Cardiff Start, Federation of Small Businesses, Enterprise Nation, ITI Cymru, Zokit, Copywriters UK, BNI, various Facebook groups and many others. 69% said that they attend networking events, and 63% participate at information sessions. Furthermore, people noted that they highly value informal freelance and coworking gatherings such as ‘Laptop Fridays’. On the other hand, a respondent who lost confidence and interest in networking events added that they “extremely rarely seem worthwhile” (NU13) for his type of profession and personality. This data suggests that people are different, thus, what works for one person may not work for another. People usually made only one or two useful contacts during the events organised by the networking organisation they were part of. A positive result, however, was that more than 50% of the respondents started a common project with those they made contacts with during events.

Respondents also explained that in a city such as Cardiff, there is a fairly closed and small business community in which people know each other well and most likely
have already had some common business in the past. These people are offered many networking and informal event opportunities to meet and share as well as to find potential business partners. Cardiff Start for instance organises monthly social events where attendees are offered free drinks and pizza while mingling and talking. Some cafés such as Little Man Coffee Co and KIN+ILK have partnered with members of Cardiff’s business community and offer informal coworking events to the wider community, for example, freelance mornings, laptop Friday, and animation grill (all free to attend). These cafés purposefully attract mobile workers and entrepreneurs with events, helping them get to know each other and to get connected with like-minded people. The founder of Little Man Coffee Co opened the café with the intention of creating a platform for local independent freelancers and creative people to meet, create, interact and work with clients. There are various events held at Little Man Coffee, such as a freelance morning every Monday between 7 and 11, with usually around 6-7 people. Laptop Fridays are informal coworking events dedicated to location-independent professionals and home-based businesses with the opportunity to meet peers, network and interact. Besides the café area, there is an open-plan space in the basement, and a room for private work and to hold meetings.

9.4 Comparison of Members and Non-users’ Perceptions of Coworking

Overall, 89 usable responses were received from members of coworking spaces, and 53 completed non-user questionnaire surveys.

There is a greater proportion of females using either home or other locations for business (42%), than in the member population, which is 72% male (Figure 9-21). This suggests male dominance at coworking spaces, and this might be one of the reasons why female entrepreneurs generally prefer home as a permanent space for work, where they can feel more confident and comfortable. A home office is also more suitable for female entrepreneurs with children, aiming to use their time more efficiently. The Chi-Square test however does not show any significance for
whether coworkers are more likely to be male, which might be because of the small sample.

![Bar chart showing gender comparison between Members and Non-members.]

**Figure 9-21: Comparison according to gender**  
Source: The Researcher

Figure 9-22 shows that 60% of the coworking member population is aged under 33, while non-users represent an older population with 61% over 33 years old. The Chi-Square test confirms that, at the 95% level of confidence, coworkers are more likely to be younger, and non-users are more likely to be older (Appendix 16). Age differences between the coworker and non-coworker population suggest differences in financial stability and lifestyle. The younger generation are probably more likely to live in shared premises located in core city areas while the older generation are more likely to have more stable financial situations, and be able afford to live in bigger houses, with spare rooms to use as a home office, in the suburbs.
Figure 9-22: Comparison according to age

Source: The Researcher

Figure 9-23 indicates that around two thirds of members surveyed are active in professional and ICT based activities (web or software designer/developer), representing a much higher proportion of knowledge-based activities than can be found in the general population (see Chapter 5.2). Arts and entertainment activities (media, digital media consultants, marketing/PR adviser, journalist, writer) along with ‘other’ services (e.g. publisher, administrator, assistant, video producer, 3D visualist/designer) form the majority of professions represented. Similar results can be drawn from non-users’ responses. ITC, and art and entertainment activities represent the highest proportion in the surveyed freelancer and home-based business population. The ‘other’ category refers to translators, coaches, and market researcher occupations.
Coworking spaces are mainly occupied by individual entrepreneurs (39%), seeking a sense of community, a place where they can be themselves, and through collective learning support each other’s self and business development. According to member responses, ‘interaction’, and the ‘opportunity to expand social and/or business networks’ were the most attractive elements of considering a coworking space as a potential workspace. Besides social benefits, respondents found coworking spaces a cheaper alternative, among options such as private offices or coffee shops, for regular business operation. In terms of what attracts respondents to a particular space, members of SW2 stated ‘good office infrastructure’, ‘good value for money’, and ‘social and enjoyable atmosphere’ as the main reasons to choose SW2. These
responses suggest that the way members see SW2’s approach is closer to a shared office, a ‘transitional space’, as one respondent noted, “as kind of the area for a business or an individual looking to start a business – an area to grow up, to kind of get from crawling to on your feet, so it’s just an area to kind of stabilise yourself, with the view that you will be able to go off on your own and get a space yourself” (CW1). However, as mentioned previously, members’ opinions differ in each space, and it depends on the community and the relationships or friendships formed in that particular place. Opposite to SW2, SW1 is considered by most members to have a ‘sociable and enjoyable atmosphere’, ‘community’, and the opportunity to ‘interact with others’. These perceptions of members are in line with the approach SW1 takes to maximising member experience and well-being in the space, while also helping them professionally and financially. One respondent at SW1 pointed out, that coworking space is the kind of environment where “you can work for yourself but not by yourself” (CW18), while another respondent called fellow members “a group of people who help you on your journey” (CW19).

Even though the physical appearance (layout, design, attributes) of coworking spaces is an important element, when it comes to attracting new members and keeping the first comers in the pool, the layout and design are not seen positively by many users of SW2. The most common concerns mentioned were the lack of privacy and meeting rooms, and bad ventilation. Without a purposeful layout and design, or facilitators, the only elements attracting and keeping members in a given SW2 space are the community and the friendships formed there.

With regards to non-users’ experience, mobile and home-based business owners would consider coworking spaces firstly for the ‘possibility to interact with each other’, secondly, coworking means ‘good value for money’, and thirdly, coworking spaces offer ‘good office infrastructure’. These responses are very similar to those given by present coworking space members. Amongst the non-users surveyed, less than half stated they had tried coworking spaces. The most common reasons to try were ‘to get out the house’, to get support from others, to network, and to maintain ties with peers. Those who had not considered coworking mentioned the reason was that coworking spaces are full of distractions, or that coworking spaces do not match
their particular type of personality or business, or not needing a permanent office space as mobile workers enjoy much flexibility with regards to time and workspace. Non-users also noted that coworking memberships are expensive, and usually do not offer flexible options. This suggests that coworking spaces in Cardiff do not target freelancers or home-based business owners, instead, this non-traditional worker population has its own particular networks, either virtually or physically, where they can find each other on an as-needed basis. Even though some respondents who participated in the survey are virtual or flexi users of coworking spaces, their way of life, type of profession and personality requires flexibility both in time and workplace, something that should be considered by coworking space operators. Even though SW2 offers flexible membership options e.g. ‘pay as you go’ (£12 per day) and ‘part-time associate’ (£60 per month for 5 days), SW2 does not provide for the kind of expectations that mobile workers or home-based businesses have (specific workshops, networking events). SW1 was found to be more popular amongst this non-traditional worker population and this might be due to the fact that SW1 offers many different kinds of events and workshops that are accessible to occasional users and even non-users. It has been found that non-users need a ‘really good reason’ to try coworking spaces. Chapter 10 provides some ideas on how to attract this non-traditional worker population.

9.5 Conclusions

The present chapter has brought together various perceptions of how members of coworking spaces and non-users perceive the present offer of coworking spaces.

Besides the different ways of perceiving coworking spaces (e.g. shared office, serviced office, transitional space, community space) in the Cardiff City Region, Chapter 9 has also outlined the differences between the member communities based in SW1 and SW2 in terms of basic demographics, profession, occupation, and business phase. In terms of the age and gender of the people located in coworking spaces, SW1 had a younger population, with 60% under age 26, while 62% of SW2 sites were over 27 years old. Both spaces were male dominated (roughly 70% were
male members). On the contrary, non-users represented an older population (59% above 33 years old), and there were far more female entrepreneurs who primarily used their home (41%). In terms of sectors, technology and art professionals mainly occupied SW2, while in SW1 professional service providers (30%) and technology occupations (30%) made up more than 60% of the community. The non-user population showed similarities with coworking space members in terms of the sector they belonged to: information and communication (50%), and art and entertainment activities (22%). While SW1 was mainly seen as a home for start-ups and younger entrepreneurs, SW2 sites were usually occupied by more mature and independent businesses.

This chapter has also illustrated how coworkers use and perceive their preferred coworking spaces. The following three figures summarise the actual use of the physical environment (Figure 9-24), and the features members perceive as important in the social (Figure 9-25) and facilitative environment (Figure 9-26) of the coworking space.

![Figure 9-24: The physical environment as observed by members](image)

Source: The Researcher
Interestingly, the number of freelancers in both providers were very low, and were mainly occasional users. On the contrary, Deskmag found that freelancers represent
more than 50% of coworking communities (Deskmag, 2013). This was not the case in the Cardiff City Region, and this chapter has also provided some information about why freelancers (either location-independent or home-based) did not find the present offer of coworking appropriate for their business and personal needs (e.g. not suitable for their personality and/or type of business, expensive, or the location of the spaces is not convenient). Figure 9-27 summarises these key inhibitors to coworking reported by location-independent workers and home-based business owners. As the previous section presented, most of those individuals who have not considered coworking spaces as permanent workspaces found the present offer of available spaces expensive, and perceived no additional value to their professional and personal development when compared with other options (such as the home office). This is a so-called ‘not knowing - not understanding’ paradox in the world of coworking that can be changed or at least positively influenced via various tools. Section 10.2 proposes a few recommendations on how to help these people understand why coworking spaces are beneficial for personal as well as professional development.

Figure 9-27: Key inhibitors to coworking in the Cardiff City Region
Source: The Researcher
Chapter Ten: Discussion of Key Findings

10.1 Is Coworking an Effective Model for Increasing Creative and Entrepreneurial Activities in an Economically Challenged Region? 10-3

10.2 How should Coworking Spaces be Designed to Maximise Creative and Entrepreneurial Activities in an Economically Challenged Region? 10-12
The numbers of freelancers, independent and mobile workers, and entrepreneurs have drastically increased in recent years. Parallel with this growing trend for non-traditional workers, various types of collaborative community workspaces such as coworking spaces have emerged. Since the start of the coworking movement, coworking spaces have been popular mainly in bigger cities such as London and New York. However, in the past few years coworking spaces have appeared in cities of different sizes to encourage social practices such as networking, idea sharing, collaboration and interaction between member businesses belonging to creative, technology and new digital media sectors. The term coworking reflects these activities carried out in a shared, rentable, community oriented environments where the interplay between the physical environment, the member community and the facilitated social environment are important elements in supporting creativity, productivity, well-being, network growth, knowledge sharing, and business development (e.g. Capdevila, 2012; Parrino, 2013; Gardenitsch et al., 2016).

The present thesis attempted to provide answers to the following research questions:

1. **Is coworking an effective model for increasing creative and entrepreneurial activities in an economically challenged region?**

2. **How should coworking spaces be designed to maximise creative and entrepreneurial activities in an economically challenged region?**

To answer the research questions, a three-phase primary research process with a quasi-inductive approach was designed. Even though there is an existing body of literature examining the role of factors affecting individual, team and organisational creativity in the workplace (e.g. Amabile, 1983, 1996; Csíkszentmihályi, 1996; McCoy, 2000), given the evolving nature of coworking research, academic literature on the topic was limited, and therefore exploring ‘state of the art’ coworking practices in selected spaces in the USA, Europe and UK was essential (‘State of the art’ phase). The results that emerged from the ‘state of the art’ review suggest that coworking spaces can increase the creative and entrepreneurial activities of member businesses by providing the triad of an attractive and purposeful environment that encourages, connects and stimulates; a like-minded community (either diverse or sector-specific) formed around the individual where a wide variety of peer support (emotional, mental, professional) is available; and a facilitative,
trust-based, stimulating, and welcoming environment serviced by tummlers that provide fertile soil for different learning perspectives via formal and informal events, programmes, and workshops.

The second phase, paralleled with the ‘state of the art’ review, focused on the Cardiff City Region and some other key areas of South Wales employing a mixed methods approach with the aim of exploring coworking communities in more detail, including the perceptions of founders and members in terms of by whom, why, when and how coworking spaces are used, and whether coworking is found to be a beneficial environment that supports creative and entrepreneurial activities. The last phase (CCR non-user phase) aimed to explore why the present offer of coworking spaces was not found appropriate by many location-independent professionals and home-based business owners for their working needs. Information from all three phases helped to compare various perspectives about the coworking phenomenon in the context of a middle-sized city and an economically challenged region, and helped create a set of recommendations for how coworking spaces should be designed for various communities in a way that supports their creative and entrepreneurial activities.

10.1 Is Coworking an Effective Model for Increasing Creative and Entrepreneurial Activities in an Economically Challenged Region?

At the beginning of the thesis, Williams’ model was introduced as a framework though which to organise the literature and analyse the primary data (Chapter 2.6). Her model emphasises that, in a given creative workplace, there is an interplay between the physical environment, the social (cultural) environment, and the individuals inhabiting the workplace in such a way that the space reinforces the culture, the culture reinforces peoples’ behaviours, and peoples’ behaviours are supported by the space. The outcome (i.e. product or service) is developed from peoples’ behaviours or processes, which are made possible by how those people perceive the environment within which they are working.

The findings suggest that the same model could be observed in the context of coworking spaces, in which members are equally affected by the physical space itself (right
environment – design, layout, and suitable affordances); the skills, attitudes and personality of the individuals constituting the community; and the facilitated social environment (whether it inspires, nurtures, creates trust, and where members feel comfortable and valued). Additionally, coworkers have their external networks both virtual and physical (e.g. specific hobby and professional interest groups) where they interact regularly or on an ad-hoc basis. These interactions might occur inside or outside their coworking organisation, but in any case, people move between spaces to engage with people (in ‘third places’ such as cafés) or disengage (at home or in the library) which also affects their behaviour, activities and business outcomes. Figure 10-1 displays those internal (physical environment, community, facilitated environment) and external (physical environment and virtual networks) conditions that affect coworkers creative and entrepreneurial activity, as they emerged from the primary research.

Figure 10-1: Interaction model supporting creative and entrepreneurial behaviour/activities/outcomes in coworking spaces
Source: The Researcher

Overall, each of the above enabling/environmental elements were highly rated by coworkers, suggesting that the greater the interplay between all conditions (offered by the space and perceived by its members), the higher the chance of the emergence of creative and entrepreneurial activities leading to successful business outcomes. Nevertheless, the social factors (atmosphere (8.42) and community (7.66)) as shown in Table 9.2 (section 9.2.2), were ranked the highest amongst the factors. This suggests that coworkers value more the social elements of the coworking space (community, other members, and atmosphere) over the facilitative and physical elements. However, some differences were
seen between SW1 and SW2, the two original coworking spaces that were first to emerge in the CCR. Even though each feature generally ranked higher at SW1, its members also ranked the social conditions (community, other members, and atmosphere) and facilitative elements (events, and the opportunity to network) significantly higher than members of SW2. At SW2 the physical (design, meeting facilities) elements of coworking spaces were ranked higher over the social and facilitative elements. This suggests that SW1 seems to match the revised interaction model (Figure 10-1) more closely, supporting creative and entrepreneurial activities in the coworking organisation.

The present study has also shown that coworking spaces studied in the context of South Wales, in particular the original ones located in the Cardiff City Region, have made a positive difference to their members’ creativity, productivity, motivation and network growth, as shown in Table 9-4 (section 9.2.2). The difference of means test shows that the overall scores are above 5 in each performance outcome, but generally higher for SW1, particularly for productivity, which is significant. For both coworking organisations, there is qualitative evidence that members do not want to work on their own, instead, they need motivation, they need inspiration, they want to build their confidence, they want to meet new people. Nevertheless, providers need to create physical environments in a way that stimulates, encourages, inspires, and supports well-being, which are key elements of creativity and entrepreneurship. The design of the physical environment in coworking spaces was found to be critically important because it enhances positive affect such as emotion and mood, which are crucial for well-being. This result is in line with Amabile et al. (2005) and Fredrickson’s (2001) research; when people feel happy and supported, their personal state of being is more ready to pursue novel, creative and unscripted paths of thought and action leading to creative and entrepreneurial outcomes.

As Williams (2013) explains, the usual way individuals carry out activities requiring different forms of creativity follows a three-component pattern. Firstly, they engage with people with information and ideas, by intentionally looking for them as well as by ending up in serendipitous situations. Secondly, they disengage from others in order to better engage with thinking, to focus and to engage cognitively through quiet and private solo working. Finally, they disengage from the issue or problem at hand, walk away from it in order to refresh their minds in whatever way works for them. Based of Duffy (1997)
model, she created a matrix of different work environments, each accommodating a different type of behaviour that enables creative activities (Figure 10-2). In the ‘dwelling’ an individual can disengage from all distractions and focus on solo, quiet work. The ‘bazaar’ refers to a space where individuals can find out what is happening, and who is around. The ‘den’ allows team members to disengage from external pressure and not be distracted by others, while the ‘neighbourhood’ supports groups to interact with other groups or teams. Finally, the ‘plaza’ is the place where individuals and teams can connect, a place for serendipitous encounters, informal chats, social activities, as well as reflection (Groves and Marlow, 2016). Besides Williams’ research, several other studies mentioned in this thesis (e.g. Duffy, 1997; Fayard and Weeks, 2011; Groves et al., 2010; McCoy, 2005) indicate the need for diverse areas to foster creative behaviour, thinking and activities that are required by individuals and groups at any given time throughout different phases of the creative process (preparation, exploration, incubation, insight, prototype and trial, planning and execution, reflection and evaluation), for example when people are on their own in their deep-thinking phase, or when wanting to engage with ideas or other perspectives (Groves and Marlow, 2016). The findings of this research study indicate that people in coworking spaces need to have these different areas to accommodate different types of activity, to support their creative and entrepreneurial activities. This maps to the theory of Williams’ (2013) in terms of why different spaces are needed for different activities, and one of the contributions of the thesis therefore is how her theory can be applied to coworking spaces, and how her model works in practice in the context of coworking spaces. Figure 10-2 which is an iterated version of Williams’ model (Figure 2-1) lists a few possible areas. ‘ Dwelling’ type of spaces could be individual workstations in open coworking environments where people might want to disengage from each other, possibly by the use of headphones; it could be private environments such as small library areas, phone booths and even private offices. A ‘bazaar’ type of space could be a flexible event space for training, workshops, talks, exhibitions, as well as demo/pitch days where people just go individually and get some inspiration and fresh ideas. ‘Neighbourhood’ environments represent cafés and lounge areas, while ‘den’ type of activities could be carried out in bookable team/meeting rooms.
Coworking spaces in the Cardiff City Region tried, with varying levels of success, to support engagement, disengagement and also solo-individual and focused-group working. It can be argued that some spaces do this better than others. SW1, based on both qualitative and quantitative outcomes, seems to match the model more closely than SW2. Members of SW1 were generally satisfied with the physical environment, as it supported various activities through the following design elements, that are in line with those discussed by McCoy (2000): 1) visibility: open shared coworking environments, and transparent walls at the ‘Co-Lab’ – raising awareness of others, and keeping members motivated; 2) collision spaces: communal areas (café, lounge) that create/support multiple, informal, serendipitous interactions and provide a place for planned formal activities; 3) private areas to disengage, focus, chill, re-charge or self-reflect. On the other hand, there were a lot more complaints regarding the physical environment at SW2 i.e. not having privacy, enough meeting room or an appropriate phone signal.
Whether people are in coworking spaces or not, the findings indicate that they all realise the importance of different spaces to carry out different activities. So, for the people who do not go to coworking spaces (referred to as non-users), the way they follow the model is that they do the disengagement at home (‘dwelling’), they go to networking events to engage with others (‘bazaar’), and they may go to coffee shops to meet people and have more ‘den’ type of activities. The findings that emerged from the non-user questionnaire indicate that the non-user population try to create an equivalent process to the engage/disengage model.

Wondering outside and working away from home also plays a part, so it is not just working in coworking spaces itself that tends to support more the engagement, collaboration and group aspects of creativity. However, as the results of the coworker qualitative and quantitative phases indicate, coworking can substantially increase creativity and entrepreneurial activities. Although there might be other groups that do not feel it is the appropriate environment because of their business activity or personality type. These groups still need to be aware of the engage/disengage framework, otherwise their own creativity might be affected. Non-users still need to go to networking groups, still need to go to various environments, and still need to follow the principles of the engage/disengage model. Coworking spaces can make engage type activities more formalised and easier to some extent. Both the qualitative and quantitative outcomes provide evidence for the benefits of coworking spaces. Finding contacts, learning skills, experiencing greater satisfaction, and networking opportunities are uniformly reported commonalities, both groups enjoy from the coworking model. Members reported positive changes in mood, increased motivation when seeing someone else being successful, and the opportunity to share joy, and overcome difficulties. Non-users were also aware of the positive affect that coworking spaces might bring to their personal and professional development, i.e. the opportunity to have more social interaction and potential networking benefits, and separation of work and personal life, which are all important for creative and entrepreneurial activities. These are clearly positive examples of how coworking spaces support the key preconditions for carrying out successful entrepreneurial activities.

Regarding the importance of the facilitated social environment within coworking spaces, the findings indicate that top-down encouragement is a crucial element of supporting the personal and professional development of members. Even though the nature of
independent professionals is being independent, some kind of encouragement creates a
friendly and welcoming atmosphere, where people want to support each other and engage
in random conversation. If people are supportive, open, and talkative by nature, it does
not necessary mean they want to know what others do, until they are gently integrated
into a trust-based comfortable atmosphere. The only way of making them feel at ease is
by creating a trust-based supportive environment. As the research shows, there must be
some kind of curation and enablement (the opposite to forced facilitation) in the
workspace to create other kinds of proximities (social, cognitive) and help people realise
what they can do for others and for themselves, and how (Capdevila, 2014; Parrino, 2013;
Merkel, 2015). Without guidance it is difficult to help people realise their strengths and
how to help each other. One condition necessary for creativity is organisational and
supervisory encouragement (Amabile et al., 1997, Amabile, 1996). This suggests that
some kind of curation needs to be provided by operators to help realise the potential of
coworking spaces for creative and entrepreneurial activities.

Coworking spaces can be very powerful environments, particularly in the context of an
economically challenged region, where people might have a lack of confidence and
aspiration. Therefore, they need environments where various forms of peer support
(emotional, mental, professional) combined with top-down support and financial support
are available. The model of SW1 is built around helping people to enhance self-
confidence, self-belief, self-awareness, and learn entrepreneurial skills and traits, such as
the ability to manage others, make decisions, cope with difficulties, be persistent and trust
in their own judgment. Rentfrow et al. (2015) noted that some people living in Wales lack
those personality traits, which are positively associated with carrying out successful
entrepreneurial activities. Another study by Brooksbank et al. (2012), looking at attitudes
towards entrepreneurship, found that amongst the Welsh population as a whole, 25.7%
have a role model, or network with someone who can give advice, and 49.1% have ‘the
get up and go’ attitude (confidence) to undertake a business start-up. Low levels of these
personality traits and professional attributes can be an issue when starting and developing
businesses in Wales. However, this research suggests that these traits and attributes could
be developed through coworking spaces, especially those set up like SW1.

These findings suggest that in the context of the CCR, a more appropriate coworking
model is emerging which overlaps with the new learning space concept (provide training,
workshops and events for professional and personal development) and a start-up accelerator (provide/assist with obtaining funding). The second theoretical contribution of the present research therefore is that bringing together different elements of different types of collaborative workspaces (presented in section 4.2) into one model is more effective in regions needing more capacity building. Figure 10-3 (iterated version of Figure 4-1) presents how a new era of coworking might be more appropriate in economically challenged regions.

![Diagram of collaborative workspaces](image)

Figure 10-3: A new era of coworking in economically challenged regions

*Source: The Researcher*

In a broader sense, there are noticeable signs that coworking spaces change the way people work in the Cardiff City Region and less entrepreneurial areas of Wales. One piece of evidence is that while in 2013 there were only two coworking space providers in the city region, the number of coworking and other type of collaborative workspaces has significantly increased. Entrepreneurs, freelancers, small-businesses, and even home-based business owners recognise the benefits of a supportive community, and even though not a huge number of professionals use coworking spaces on a regular basis, more
and more professionals tend to use them in an occasional manner, attend events or workshops, and make an effort to stay connected to the core community through flexible memberships (nearly half the businesses and entrepreneurs surveyed currently not using coworking on a regular basis, used to be somehow occasional users). The key is creating spaces where people want to be and offering something that people need.

Nevertheless, coworking spaces are not suitable for every type of personality or profession. The issues noted are partly intangible (e.g. not suited to personality or type of business, or people might dislike others being in the space), and partly tangible (cost, slow WiFi, no desktop provided with essential software). One can argue that private offices still reflect status symbols, putting up a mental barrier against new ways of working. It could be suggested that, for this reason, those professionals who can afford a decent home office, still find the home office more presentable for clients than inviting them to a shared office where no confidential information can be shared. These professionals also use their clients’ premises and coffee shops for meetings that are still considered a better option than coworking spaces (where there is a lack of privacy and meeting options, especially in SW2’s Cardiff sites).

To sum up, coworking is changing how people work. Coworking spaces are being recognised as appropriate and stimulating work environments in South Wales, as more spaces open, and more people demand them and recognise the benefits and values – cultural change is happening. Changing the mind-set of how to do business from day to day will help people break established ways of doing things that will, in turn, help them recognise their inner creativity. However, ad-hoc informal coworking events and personal networks seem to have a stronger impact on the way independent professionals operate their businesses. There is a shift that can be experienced especially in the case of newly emerged coworking spaces that position themselves as a hub of activity and community life. However, there is still a lot to do to change the culture of entrepreneurial activities in CCR and South Wales.

A few recommendations are proposed in the next section for what should be changed in order to maximise creative and entrepreneurial activity through coworking spaces in an economically challenged region.
10.2 How should Coworking Spaces be Designed to Maximise Creative and Entrepreneurial Activities in an Economically Challenged Region?

The research found that providers of coworking spaces have already made a good effort to effectively support the creative and entrepreneurial activities of member businesses in the Cardiff City Region. The previous section has argued that SW1 seems to match the two models introduced in Chapter 2 (‘interaction model for creative behaviour’ and ‘engage/disengage model’) more closely than SW2. The operators of SW1 realised that the physical environment plays a key role in the life of the community, and created various environments to accommodate different needs and activities. The other strength of SW1 is the purposefully created facilitated social environment, with its commitment to creating opportunities for members to interact, share, co-create, socialise and network in a trust-based welcoming environment. In addition, SW1 consciously supports the personal development of its members via various opportunities to teach self-confidence, self-awareness, and various entrepreneurial skills essential for managing and growing businesses.

If the intention is to create equivalent coworking spaces to SW1, that positively impact creativity, productivity, motivation and network growth, each supporting entrepreneurial activities, the key physical design features discussed in the previous section, need to be understood. If would-be providers break that model, it is likely that they will have the issues experienced by SW2, having a negative impact on performance outcomes.

Based on the results, besides the importance of a powerful, stimulating design and different areas for different activities, the other key areas coworking space providers should pay attention to in economically challenged regions are:

- The first ingredient is *approaching people with a problem they know they have* instead of creating something that they do not need. SW1 was created with the intention of helping businesses get off the ground, establish their brands and develop their businesses via supportive communities, but also to help them access the financial support which is particularly important in the early-stages. Moreover, the results of the non-user survey provide some good points about what new spaces could focus on - things that are still missing. For instance, 1) coworking spaces could let specific freelancers or home worker groups have their meetings
there with the ability to mix them with permanent users; 2) specific membership options could be offered at an appropriate price that includes ‘time for collaboration’ or ‘professional services happy hours’ where freelancers could be offered accounting, legal or design support that could decrease ‘legwork’. This approach might work with regular users as well, who could purchase membership options in which ‘free time for collaboration’ is included. This could decrease the mental barrier of ‘I paid a lot to have this workstation therefore I’m not going to use a single minute to talk to my neighbour as it could result in losing time I could spent on something that is more important’; and/or 3) another possibility might be the use of computers installed with specific software to use at a reasonable price, or a special freelance membership that includes software for private laptop use at a discounted price, which would again be an attractive factor for freelancers and home-based businesses to come and see the space, connect, enjoy working alongside like-minded supportive people, and experience the benefits of being part of the coworking community.

- **Value-proposition** is the second ingredient: in Cardiff, for instance, desks in a serviced office can be rented for prices from £113 to £300 per person per month including office infrastructure, Wi-Fi, and back and front office services⁴⁴. There has to be something attractive for people to want to leave their serviced office or home office and enjoy the social values human interaction in coworking spaces can offer. This could be one of the ‘attractors’ mentioned, as could the presence of different areas for different activities, highlighted by most of the respondents from the member population as a ‘must have’.

- **Better promotion** of the coworking model/space: at present, coworking spaces are well promoted but at the start of the data gathering they were not well advertised, thus, even though people might have heard of this new way of working, they could not imagine or understand what coworking was all about. The challenge is that providers might find it hard to sell ‘come and join our vibrant and supportive community’. What people check first is the attractive work environment and the speed of the WiFi. The unusual attributes also increase interest, for instance, one

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respondent of SW5 during a quick chat in a coworking open day mentioned that he got attracted by the gym and the decoration of another coworking space, so he might move into that space. He also mentioned that next to eye-catching design, the practicality of the material used in the space is important. Once people get into the space, they can easily understand and process the benefits a supportive community can offer in terms of complementary skill-sets and backgrounds.

- The fourth ingredient is the availability of financial support. There is a lack of venture capitalists, angel investors and private sector accelerators in Cardiff and South Wales, thus, businesses have two ways to obtain financial support: 1) they travel to London or to another international metropolitan area to participate in a highly reputable accelerator; or 2) they apply for public funding. Even though a lot of support is available, businesses often do not find the right ‘agent’ who could explain which specific fund the business should go for, or in another situation when the entrepreneur invests a huge amount of time to find the right support and completes all the necessary forms, it takes far more time to obtain the fund/grant/loan than he/she would have thought. At this point coworking spaces, as could be seen in the case of SW1, are great sources for advice. Coworking spaces might also be partnered with the government/council/trust and might provide assistance on how to establish their brand and raise awareness (model of SW1). Coworking spaces influenced by public sector regulations (i.e. with the aim of job creation and economic regeneration) besides providing the right infrastructure for businesses, also make sure businesses remain feasible and investable, thus, businesses facilitate economic revitalization. Many good examples such as UK4, EU6 and EU7 in the sample fulfil a central place in public sector programmes, and help their members obtain financial support for business development.

- University partnerships can also be beneficial for the member community, and thus, worth pursuing. Special tenancy agreements might contain obligations to actively participate in the life of the university in the form of giving lectures, specific workshops, judging competitions, taking interns into the business, helping researchers commercialise research, and in return the business could get access to academic knowledge, national and international alumni networks, etc.
Several good examples were presented in the thesis, such as subsidising workstations in coworking spaces for students and graduates (CBTC – see section 5.7), inviting students to carry out activities and projects (SW5), or attend events (EU5). These strategies help students and graduates understand what coworking is all about.

- **Hybrid innovation and business centres** can offer coworking facility support for businesses who outgrow one facility move to a more appropriate one, and are able to pay the full-tenancy cost while keeping connected to the community. “If you’ve got another business model, like offices or serviced offices working around it, then you can have a more affordable offer and you can use that as part of animating and making a lively working space” (Operations Manager, UK4).

- Besides top-down facilitation, a good approach might be to *fully integrate members into the life of the coworking operation*, letting them co-own, co-drive and co-direct the space that, in turn, could maximise positive affect through creative and entrepreneurial activities.

- Last but not least, creating a coworking model in a way that *raises self-confidence, self-awareness and passion* and teaches essential skills to help entrepreneurs carry out their businesses. This could be done through facilitative tools or selection (matching personality and type of business) while keeping a healthy balance.
Chapter Eleven: Conclusions

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11.1 Introduction

The purpose of this chapter is to conclude the research, reflect upon the journey and identify the next phases of coworking research beyond this PhD project. The preceding chapters have outlined the theoretical background, the trends that shape the way people work in the 21st century, a literature review of coworking spaces, the research design, and the findings and analysis of coworking spaces in practice.

This chapter provides the conclusions of the study concerning the research problem, commencing with a review of the research process and its limitations. The chapter also restates the major findings and identifies the contribution made by the study to the topic of coworking spaces. The implications of this research for practitioners, student/graduate entrepreneurship, and policy-making are explored, before proposing opportunities and future avenues for investigation.

11.2 The Research Journey

Coworking spaces are shared, proactive and community-oriented workspaces occupied by a diverse group of professionals from various sectors. They emphasise intangible factors and social aspects including entrepreneurial networking, and mentoring (from fellow members, hosts and networks) through flexible, informal settings, which enhance possession, access and use of various forms of capital (social, human and financial).

Even though in recent years there has been a dramatic increase in the number of coworking spaces in cities of all sizes, scientific research has still not paid adequate attention to these emerging work environments for supporting community-based collaboration, that is crucial for the creative and entrepreneurial activities of independent professionals (entrepreneurs and freelancers) and start-up businesses. Existing sources have been mainly published by practitioners (Baim, 2013; Davies and Tollervey, 2013; DeGuzman and Tang, 2011; Kakko, 2014; Kwiatkowski and Buczynski, 2011a, 2011b; Leforestier, 2009; Nakaya et al., 2012; Olma, 2012; Schuermann, 2014; Suarez, 2014; Sundsted et al., 2009; Silicon Sentier, 2009), investigating the practical issues of how to set up coworking space, how to sustain the community and the business model behind the
space. Academics have mainly focused on defining the term, and understanding the effects of coworking activities on the everyday life of businesses. Academic works have outlined a number of influential factors of productivity, creativity, venture development and social practices across coworking spaces e.g. the physical work environment, the office setting and design (Doulamis, 2013; Fabbri and Charue-Duboc, 2014; Stumpf, 2013; Gardenitsch et al., 2016); open social settings and diverse community (Muhrbeck et al., 2011; Spinuzzi, 2012; Pohler, 2012; Moriset, 2014; Gardenitsch et al., 2016); the professional ‘background’ environment provided by operators (events, services, support, welcoming atmosphere, access to network and external resources) (Deijl, 2011; Muhrbeck, 2011; Fabbri and Charue-Duboc, 2014), and the presence of hosts/managers aiming to coordinate and strategically manage collaboration and interaction (Parrino, 2013; Liimatainen, 2015; Cabral and van Winden, 2016; Merkel, 2015; Garrett et al., 2014). Except for the work carried out by Heikkilä (2012), coworking spaces have not been investigated in the context of the less entrepreneurial areas of a given region or country.

This gap identified in the literature, and the researcher’s interests and motivations to learn more, set the research process in motion, covering many years and countless eye (and mind) opening experiences. The research was guided by the following questions:

1) **Is coworking an effective business model for increasing creative and entrepreneurial activities in an economically challenged region?**

2) **How should coworking be designed to maximise creative and entrepreneurial activities in an economically challenged region?**

After reviewing the emergence of coworking theory and practice, the researcher sought deeper insights into the phenomena by undertaking a ‘state of the art’ review of a purposive sample of established coworking spaces in the USA (where the practice first emerged), then within Europe, before drilling down to the UK context (‘State of the art’ review). The qualitative fieldwork (interviews – formal and informal, site visits, observation, participant observation) of the SW and CCR coworking review was undertaken within the Cardiff City Region of South Wales, before moving on to the
quantitative fieldwork – i.e. a questionnaire survey of current coworking space members. In the final phase (CCR non-user review), location-independent workers (freelancers and entrepreneurs) and home-based businesses located in the Cardiff City Region were investigated with the primary aim of finding out why the present offer of coworking spaces was not appropriate for their working needs. The findings from all three phases provided an in-depth and broad understanding of how coworking spaces are used to support creative and entrepreneurial activities, and are perceived by various actors in the context of the Cardiff City Region and South Wales, offering guidelines for those private individuals/companies and/or public sector initiatives who are looking to set up and develop coworking spaces in areas similar to Cardiff and South Wales in terms of entrepreneurial and business culture, and the attributes of entrepreneurs/businesses.

The key findings indicate that coworking spaces in economically challenged regions do make a difference to their members’ creative and entrepreneurial activities and outcomes. However, certain design features need to be considered when it comes to supporting existing member communities and those who need inspiration, motivation and confidence to build up successful companies in economically challenged regions.

Throughout her PhD journey, the researcher published and presented work related to her studies in the academic domain. In 2014, the researcher attended the ‘Revival of Places’ PhD Symposium (Hanover, Germany), and the R&D Management Conference 2014 (Stuttgart, Germany) where she received valuable feedback from the academic community after presenting her study entitled ‘New in-house organisational spaces that support creativity and innovation: the co-working space’. The paper suggests that coworking ‘values’ (collaboration, community, sustainability, openness and accessibility) can serve as a guide for the implementation of future R&D workspaces, particularly via a ‘club’ model of purposeful yet informal and non-hierarchical interactions. Valuable feedback was received from the academic community in both conferences that was considered by the researcher. The comments and feedback resulted in the development and acceptance of another peer-reviewed paper in the Journal of Creativity and Innovation Management, with the title ‘Does the ‘co-working’ model
provide insights for larger organisations in facilitating innovation and creativity?’, co-authored with her supervisors.

In 2015 the researcher presented the early findings of the member questionnaire survey at ‘The 8th International Conference for Entrepreneurship, Innovation and Regional Development’ (Sheffield, UK) entitled ‘Co-working spaces for supporting entrepreneurship in South Wales’. The presentation was based on a journal paper published the same year in the Regional Studies, Regional Science Journal with the title ‘Co-working spaces for promoting entrepreneurship in sparse regions: the case of South Wales’. The paper provided an overview of two different kinds of coworking environment in South Wales. The main findings reported in the journal paper indicated that there is no one model better than the other, and that the coworking model is strongly culture and context dependent, i.e. it always needs to be shaped around the needs of the hosted community.

The researcher also attended practitioner related workshops and conferences (such as Coworking Europe Conference 2014, Lisbon, Portugal), that further deepened her knowledge of how coworking spaces work in practice in various countries.

The researcher got inspiration about the way coworking spaces could support economic regeneration and entrepreneurship acceleration as part of the new potential development strategies in Wales, from her short research period undertaken at the Massachusetts Institute of Technology MIT Innovation Initiative during the Summer of 2015 (sponsored by a Santander Scholarship), where her role was to develop a report assessing the current innovation and entrepreneurial ecosystem of Wales with the use of the MIT Regional Entrepreneurship Acceleration Programme framework. Beside the quantitative and qualitative assessment of its Innovation and Entrepreneurial Capacity, the report also addressed strength and weakness areas, and the key region-specific elements of the Welsh ecosystem. The report served as an important point of reference regarding the current state of the Welsh entrepreneurial ecosystem and was used by the Welsh REAP team. The main findings of the assessment report are in line with the findings of the present

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Wales is currently one of the ‘cohort three partner regions’ in the MIT REAP programme period 2015-2017. 45
study regarding the crucial need for the ‘soft’ infrastructure (interaction, collaboration, peer support, networking) to support business creation and development in Wales.

In late 2016, as part of a reflective exercise exploring how the key principles of coworking were of interest to wider stakeholders, paying careful attention to the soft aspects rather than developing ‘new Techniums’ that could serve as a home for innovative and aspirational businesses which could become the drivers of the Welsh economy, the researcher attended an event organised by Nesta called ‘Creating creative spaces for the co-production of knowledge’. The aim of the workshop was to explore what specific aspects (i.e. physical, soft) Cardiff University’s SPARK centre should consider when creating value through collaboration and community building for its wider ecosystem. The discussion focused around some of the key aspects presented in this thesis such as finding out who the community is, and what the community needs to maximise positive affect through co-location and mutual support. For further aspects to be considered in the development of the SPARK see the picture below.
11.3 Conclusions from Key Findings

The research presented in this thesis has investigated coworking activities within South Wales, and specifically in the Cardiff City Region with the aim of exploring whether they have a positive impact on creative and entrepreneurial activities.

SW1 and SW2, the two main coworking space providers in the Cardiff City Region, fundamentally differ from each other. In terms of physical layout and design, each of SW2’s 25 spaces have a different appearance, dependent on the original style of the site. What is common to each space is that it contains a shared open plan office with a coffee corner, and at least one meeting room. The community is typically diverse; members are mostly from mature businesses and belong to creative and technology sectors. SW2 is predicated on a belief in self-managed autonomous communities; founders provide sites across South Wales and let people use the spaces to facilitate natural relationships among them. Nevertheless, anchor tenants are charged with welcoming newcomers, showing them around, and making sure everything works well in the space.

SW1 provides two separate coworking facilities as part of a robust innovation centre. The centre provides private offices for single companies, a canteen and café area, meeting rooms, phone booths, and event spaces. The coworking community mostly consists of start-up and early stage businesses and entrepreneurs. SW1 is a coworking space particularly designed to support networking and facilitate relationships, where members do not just interact but also exchange information and engage with each other in areas of interest. SW1 puts high emphasis on supporting personal development (i.e. confidence, self-awareness) and well-being, as well as assisting with obtaining funding for establishing the brand of the company.

The personality and the nature of work of the members of both spaces are different, and people tend to use the space that is more appropriate to their personality and type of business. SW1 seems to be more suitable for people who enjoy interacting and speaking with other like-minded people, but lack finance and personal qualities such as self-confidence, while SW2 seems more suitable for those who prefer focused solo work, but, for their mental well-being, carry it out in a shared environment where others are based.
The facilitated model used by SW1 however, appears to work well for communities with a high proportion of start-ups and young entrepreneurs, who are more likely to need a facilitated and caring environment where self-confidence and entrepreneurship related skills can more easily be acquired, while the organic model seems to work better for more confident and independent individuals, looking for a convenient office space but with opportunities to interact with others belonging to the community on an ad-hoc basis.

While the providers of SW2 highlighted that people only need a physical space without forced interactions for their business operation, and only the physical proximity is sufficient for them to interact, many coworker respondents did not agree and mentioned top-down facilitation as an important element for their inner creativity. Facilitation in this case is not the same as managing people, but rather it refers to an enabling and encouraging role of facilitators that creates a trustful environment where people do not fear asking or offering to help each other. These situations can be created through informal and social events, where people feel comfortable and not feeling judged by others. Whether it is possible to replicate the organic model experienced in a few coworking spaces in the USA (USA8) and Europe (EU1 and EU2), i.e. guiding members to help each other and act collectively, is questionable. People are different, the culture is different, and as coworker respondents confirmed, the British way of interacting is not the kind that happens naturally and organically. It might happen, but it requires a fairly small number of community members who ideally have formed an ad-hoc community beforehand, having the right mind-set and attitude when it comes to acting and supporting collectively. In any case, facilitation was found to be a must, at least at the start of the formation of the community. Similarly, over-enthusiastic American models were not found suitable in the context of Wales, where the natural state of entrepreneurs is different from the Americans, and the context in which they trade is different, thus, more appropriate ways are needed. These are, as suggested, approaches that help people be self-confident, not shy, and share, help and trust each other. For this, top-down facilitation, encouragement and inspiration is necessary, and once people feel confident about themselves and their businesses, natural, organic relationships could easily evolve into to transactional relationships.
Chapter Eleven: Conclusions

The study has provided evidence that coworking spaces do support the creative and entrepreneurial activities of their members. It can be argued that SW1’s model is more appropriate than SW2’s model particularly in an economically challenged region such as South Wales. It is important to note that the particular entrepreneurial culture of a given region needs to be appreciated when creating coworking spaces, instead of trying to imitate existing models that are successful in other cultures. This research study argues that big-city coworking models cannot be implemented in the context of an economically challenged region as it is culturally different to highly urbanised metropolitan areas. The findings indicate that coworking spaces in economically challenged areas are more likely to succeed if they follow the model of SW1 i.e. supporting members financially (through funds), and helping them develop their personal and professional skills. Nevertheless, in the long-term the SW2 type of self-sustaining community model might be appropriate in the context of Wales, but for this to work in the future, public policy needs to play a key role in more effectively supporting individuals and businesses to learn essential personal and professional skills of how to build sustainable businesses, as in the case of SW1. Either way, community-focused coworking models were found to be appropriate environments for business development in the context of Wales, as it is a nation with strong social cohesion and collective action that produces a high trust society (Huggins and Thompson, 2011). Community-focused coworking spaces, together with policy-makers, can play an important part in helping people improve their self-confidence and increasing their knowledge and skills to a level required to run a successful business. Ultimately in the long-run any support that requires significant public funding may of course be uncertain in the post-Brexit policy climate.

Besides the two original coworking spaces, there are more coworking spaces opening, each taking a unique approach based on the demands of entrepreneurs and businesses. This can be taken as clear evidence that people in the CCR and SW are paying attention to coworking principles, and their supportive role in areas such as increasing creativity, productivity, motivation, community life and network growth. Other planned future
developments using the key principles of coworking are the Creative Cardiff ‘pop-up hub’, the PathFinder\(^\text{46}\) and Cardiff University’s SPARK project.

Creative Cardiff has an ambition to develop a hub to provide a workspace for creatives across Cardiff. As part of its development process, a pop-up hub event was organised involving selected individuals from the creative community with the aim of exploring what the space should look like, how it should be used, and where it could be established. Thoughts on all questions varied.\(^\text{47}\) The project is still in the development phase, and the ultimate aim is to create a space that is “about innovation, creation, connection, ideas, and engagement”\(^\text{48}\).

PathFinder, plans to start in January 2017, as an accelerator programme for a period of 3-4 months, open for early stage businesses from diverse backgrounds. The membership fee (£200) will cover all workshops and events set for the programme period, access to a broad network of experts, hands-on support from the owner and his business network, and the use of meeting rooms for limitless time (most coworking spaces in Cardiff charge member companies for the use of meeting rooms). After the acceleration programme period members will have another 3-4 months post-programme period to stay, but the ultimate aim is to make member businesses viable, feasible and investable during 6-8 months, and then let them move forward to private units or a coworking space set for established, more mature businesses\(^\text{49}\).

Cardiff University’s Social Sciences Research Park (SPARK) is due to be completed in 2018, and will be co-located with an innovation centre supporting start-ups and spin-outs. The mission of the science park will be “to generate economic, environmental and social value through co-developing innovative and effective solutions to societal problems”. Start-ups and companies will have an option to choose from a wide variety of office environments (single units, dedicated desks in a shared environment, hot-desking options); there will be meeting rooms, collision spaces, and most importantly the companies will be co-located with academics, and public and third sector initiatives, to

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\(^{46}\) Proposed name of the initiative.  
\(^{47}\) http://www.creativecardiff.org.uk/52/32-building-hub-cardiff  
\(^{48}\) Conversation with Sara Pepper, Director of Creative Cardiff on 13/7/2016.  
\(^{49}\) Conversation with Aadil Mukhatar, owner of Almukhtar Corp Ltd on 31/10/2016.
better utilise learning from various perspectives, collaboration and serendipitous encounters. Price and Delbridge (2015) predict that the success of the science park will be delivered through its soft infrastructure, culture, sense of endeavour, associated capacity and network capital (Price and Delbridge, 2015).

11.4 Original Contribution to Knowledge

This thesis makes four contributions to scholarly knowledge.

1) By looking at selected coworking spaces in three geographical areas (USA, Europe, and the UK) from providers’ perspectives, the research study suggests that coworking spaces do support creative and entrepreneurial activities.

2) The research study presents an in-depth investigation from various viewpoints (provider, member, potential member referred to as non-user) and shows that coworking spaces do support creative and entrepreneurial activities in economically challenged regions. Building upon the results, the study recommends the use of coworking spaces in other similar regions.

3) The study provides new knowledge on how coworking spaces need to be designed to maximise creative and entrepreneurial activities in an economically challenged region.

4) The study provides an understanding of who coworking spaces are appropriate for and why, in the context of an economically challenged region.

11.5 Implications of the Study

This section describes the most important implications of the study. Based on the results, practical, theoretical, student/graduate entrepreneurship, and policy implications are proposed.

Various actors can benefit from this study, such as present coworking space providers looking to learn and implement new strategies to further support creative and entrepreneurial activities within their communities; future providers aiming to open
coworking spaces and attract a specific group of users currently lacking support; larger companies planning to utilise the talent pool of coworking spaces or establish coworking spaces within their boundaries; universities aiming to support aspirational students who are about to start their own business, by utilising elements of the coworking model; and policy makers aiming to boost the economic performance of businesses through community-based collaborative workspace environments.

### 11.5.1 Practical Implications

The practical objectives of this study were to increase knowledge of how coworking spaces support creative and entrepreneurial activities, and how coworking spaces are perceived by various actors (providers, member, non-users) in an economically challenged region.

Suggestions for coworking space providers are presented below:

- **There is a need to state a clear mission, goal and objectives** about how, and for what, providers would like to use the coworking concept. The mission and goals will determine the types of work and occupation that could be accommodated with regards to the need for a unique facility (e.g. maker space, lab area, studio space), tools (3D printer, videoconferencing), specific services (accelerators, investor hours), and location factors (parking space, accessibility by public transport, location within the neighbourhood, proximity to cafés, leisure and art spots).

- **Attractive layout and design matter.** They stimulate, inspire, encourage and motivate people to carry out activities. These are the attributes that people consider when walking into coworking spaces – they can see and understand what they are paying for. Selling ‘nice atmosphere’ is challenging, people are not going to understand what benefits and positive affect the space could have on their personal and business development, or how the environment could match their personal and professional needs until they experience it themselves. One way to encourage them might be through an eye-catching, welcoming, warm and yet professional physical appearance.
- **Attracting potential members is challenging.** Even though there are millions of blogs and magazine articles promoting the benefits of coworking and the added-value of personal and professional development, people were found to be sceptical, and in many cases especially in relatively small cities where their personal and business networks are well enough developed, do not consider coworking as a workplace option. Members of the business community know where to find people with similar interests and business backgrounds and do not necessary need a permanent spot in a coworking space. Coworking spaces do their best to provide merged offers such as ‘those who pop-in to our open-day or event have the option to sign up for two or four weeks of free membership’. The issue that even though people, particularly location-independent professionals, try to experience it, they will not necessary sign-up to become a member. These people, who usually show up to informal coworking events or open days provided by coworking spaces are not going to experience any of the added-value that coworking spaces could contribute to their activities. A better approach might be to attract these people through their networks and organising structure, theme-specific gatherings and events planned for longer periods and held in coworking spaces. An already existing community who have identified objectives that the community spirit can take to the next level, created trust and formed social and business relationships, is more likely to need a permanent office base. That is only the first step, and the provider needs to work hard to sustain and, later, make the community self-sustaining. Good examples of ‘first community then space’ approaches are SW4 and SW6.

- **Listening to people and recognising what they need** in terms of layout (e.g. more privacy), design (e.g. more motivational posters), professional services (e.g. accelerators, guest speakers, mentors), and personal support (e.g. building confidence, opportunity to practice in a safe environment) is crucial.

- **Value-proposition:** the value scale needs to be relevant to the target audience. For instance, most location-independent professionals and home-based businesses do not see the value of coworking spaces for their personal and professional
development, and find the current offer of coworking spaces in Cardiff too expensive. Coworking spaces need to offer something that makes these people go out and experience them.

- **Ownership**: linked to shared values and interests. Everyone who is member of a coworking space is so because he/she wants to be part of something bigger and own a small part of it. These people value interaction and social relationships with each other. There are no manager-member hierarchies – that would restrict the formation of a sense of community, and people’s well-being, or negatively affect creative and entrepreneurial activities.

- **Enabling, encouraging, connecting and curating the community, but letting organic activities and relationships emerge.** Creating trust within the community helps the formation of a community culture that stimulates social activities that might lead to fruitful business collaborations. Guiding people on how to help each other might increase their confidence in terms of what they are capable of and how can they help each other. People in some cultures need more encouragement than others, but personality traits, previous relationships/friendships also matter in a given community.

- **Replicating existing models that work elsewhere is usually not possible as every community and its wider socio-economic context in which people do business is different.** Before implementing an idea previously experienced or heard of in another space, make sure the community sees it as crucial (is it something that can be adopted at all in that specific community culture, and is it something the community needs?).

- **Coworking does not work for everyone.** This research study has shown that coworking spaces are considered a favourable environment by mostly young and mostly male professionals, belonging to new digital media and technology sectors. These individuals also have a particular personality (open, social, keen to socialise, learn and share), and a mind-set and attitude of ‘together stronger’. Shared coworking environments however might not be such a suitable environment for those with introverted personalities and mind-sets. The right
facilitation approach however could support building confidence, entrepreneurial mind-sets, and professional skills to develop businesses. The types of businesses that do not necessarily find coworking a pleasant environment are those dealing with sales, extra confidential information and those needing specific office infrastructure such as big screen computers with specific software. Nevertheless, more coworking spaces are shifting to a hybrid approach, and providing various working areas, specific infrastructure and services, or whatever tenants consider necessary for their personal and professional development.

- **Achieving funding support for members to get their businesses off the ground and to make progress in business development might be available through public bodies such as the government or councils.** In those coworking spaces where the model is heavily reliant on public funding support i.e. it receives a large amount of money that can be used to pay membership fees to selected members, making the coworking business model self-sustainable i.e. transferring funded members to full cost tenancy, is challenging. One possibility might be to reinvest the money paid by mature and successful businesses for members in need, and help them with subsidised space or discounted membership fees.

- **If successful members leave the space, it does not necessarily mean the space has failed.** It means those businesses became strong and sustainable and they achieved another step in their business-lifecycle. It is most likely that coworking spaces helped these companies to achieve success to the point where they could adjust their mind-set, think about new possibilities, create strong social bonds that later turn to business relationships, etc.

- **Building up partnerships with universities gives benefit for the coworking community, the students and the university.** Key in partnership is collaboration: tenant businesses need to contribute to the university in a variety of ways such as taking interns, giving talks and lectures, giving input into entrepreneurship curricula, and judging businesses or business ideas in competitions. In return companies could receive office space, access to networks, funding, training and education, knowledge via research contracts, projects and partnerships.
11.5.2 Implications for Student/Graduate Entrepreneurship

The contribution of this study to student/graduate entrepreneurship via coworking spaces is important. The study suggests that the key principles of coworking spaces (e.g. carrying out activities in a shared environment, the potential to interact with peers in a social and professional manner while forming supportive communities) can be used to support student and graduate entrepreneurship in the following ways:

- Working in less crowded areas, such as cafés or libraries
- Ability to work for extended periods of time
- Ability to learn about entrepreneurship
- Hands-on experience with a community of experts
- Putting theory into practice
- Conducting personal projects in a motivating work environment
- Access to internship opportunities and employment.

Several respondents explained how they support recent students and graduates by allowing them to use their spaces to carry out course or project work, and graduates by helping them to start and develop their businesses (see for example SW1, SW2 Newport, and SW5 in sections 8.5 and 8.6). Nevertheless, not every respondent had a positive experience with students/graduates using coworking spaces for business operation. These respondents claimed that coworking spaces are not educational environments. Students and graduates must have some business ideas, and ideas on how they are going to trade, because without that they might have high expectations from mature businesses operating in the space i.e. distracting them with questions and not appropriate behaviour. Coworking space operators, and the leaders in charge of the student/graduate entrepreneurship programmes have to make sure that two criteria apply to those students and graduates aiming to trade in coworking spaces: one is whether the student is somebody who is dedicated to the idea; and the second is whether the idea has any attraction, so when the time is ready it can become a viable business. Selection as a tool for picking the right students based on personality traits, attitude, dedication and mindset needs to be applied. This is crucial because people in coworking communities do not want anyone who is ‘messing around’ and distracting others. Coworking spaces are the
kind of environment people want to be part of, helping and supporting each other, so the right set of people constituting the community is crucial: students have to be a good fit.

Many coworking spaces attract students with ‘happy hours’ where they can use the space for project and course work and also attend events organised by the space. These are effective ways to let students know about coworking spaces, attract them to feel the ‘vibe’, and illustrate that starting a business as part of a community is not necessarily something impossible. In this way they can get inspiration, support and encouragement, and might become more confident when it comes to developing their business ideas.

One of the issues with graduates or students looking to operate in coworking spaces, as reported by respondents, is that graduates and students often do not have the money, or the confidence, to discover what benefits and added-value coworking spaces might offer. Perhaps money is the biggest issue, students do not have any resources to start businesses from scratch, but on the other hand, free is usually not valued and students do not take free things seriously. A solution could be to give students a desk at a discounted price that would include continuing education (e.g. workshops, events, training). Most importantly, aspiring students could have access to the broader talent, knowledge and expertise of the coworking community.

To make student and graduate entrepreneurs’ businesses ready to operate in coworking spaces (entrepreneurial attributes such as confidence, viable business, relevant knowledge about business operation), universities could support their aspirational students and graduates via on-campus incubation/entrepreneurship/innovation centres. Good examples can be found at Cardiff Metropolitan University: the CSAD 50 Inc Space, and the Incubation Space provided by the Centre for Student Entrepreneurship (see section 5.4 for more information about how they work and support students/graduates).

Creating coworking spaces on campus could also be beneficial for the university and entrepreneurial students and graduates. Special letting agreements could be made when a company applies for membership, for example it has to agree to participate in the life of the university such as judging competitions, taking interns, or giving talks, modules or
seminars. In return, the company can benefit from the services the coworking space offers i.e. purposefully designed physical environments, inspiring work areas, business lounges, events and networking opportunities, and the academic environment.

11.5.3 Policy Implications

The research study has explored how existing coworking spaces are used, how people perceive them, what the benefits are and what issues they can solve in the Cardiff City Region. The findings suggest that coworking spaces support entrepreneurial activities, and thus represent positive returns for the social and economic dynamisation and revitalisation of the area (local community, city, and region).

Previous policy initiatives that aimed to increase the number of businesses, support entrepreneurship, and accelerate economic growth such as the Technium programme, essentially a real-estate initiative, largely failed due to replicating old incubation processes (Cooke and Clifton, 2005) without consideration of the ‘softer’ entrepreneurship infrastructure (networks, culture, social capital) (Cooke et al, 2005). This suggests the need for more effective policy initiatives that simultaneously support soft aspects while providing suitable physical infrastructure for optimising flourishing enterprises, and avoiding creating empty shells that are inhabited by isolated actors. There is a need for more policy programmes that focus on these soft aspects such as community cohesion, shared values, and bottom-up activities. The element of supporting people through empowering communities can be found, for instance, in the Communities First programme that supports the most disadvantaged people in the most deprived areas of Wales, with the aim of making those communities more prosperous, healthier, more skilled and better informed.

As demonstrated in this research study, coworking offers potential local/regional benefits over and above those accruing to individual entrepreneurs or micro-enterprises. This should be a key consideration of SME support policy more generally within Wales, particularly in the light of the Smart Specialisation agenda at the European level. A key issue within this is the entrepreneurial discovery process which requires effective bottom-up activities to promote search activities by entrepreneurs – rather than the top-down
interpretation still prevalent within Wales. Moreover, effective networks are becoming ever more important to successful regional development, without which investment in purely hard infrastructure is rendered ineffective. To this end coworking spaces may potentially serve in the future as linking platforms between entrepreneurs, large companies, and academia – i.e. going beyond naïve co-location which does not consider how interaction and collaboration might develop (or at least assumes it will occur spontaneously within an otherwise neglected ‘black box’).

In this regard, a few suggestions for the potential utilisation of coworking spaces in the context of South Wales are summarised.

The City Deal programme has already suggested that the creation of accessible coworking spaces across the Valleys could be the key to unlocking talent across the region. There is great potential in those areas, and, as section 5.2 described, people in more rural areas of Wales have a greater tradition of entrepreneurship, are more confident, and see more inspiring role-models than those living in more urbanised areas. The key in these areas would be to financially help these aspirational people to become a strong part of the economy, and create more workplace opportunities where they can get inspiration and motivation from others. The coworking model at this point could be used as entrepreneurship development intervention, in a similar way to how SW1 was created in the Caerphilly area. Coworking spaces could be established along key CCR Metro stops, based on key lessons learnt from this research study. These spaces could be hybrid spaces, offering both incubation and coworking collision environments designed to bring businesses across the region together to increase the connectivity of ideas, and the chance of serendipity. The spaces might become hives of activity, through a series of events and structured workshops designed to support nascent entrepreneurs, and growing micro and small businesses. These spaces could have the potential to work in partnership with local schools, colleges and universities as well as the business community, to support employability and raise aspiration within communities. They could turn Metro stations into spaces with the capacity to bring businesses together across the region, and highlight how accessible businesses across the Valleys are for the City Region. Home workers across the region, could use the spaces to connect with new potential customers, partners,
or support networks. There is also capacity to develop more ‘5 to 9 entrepreneurs’, those who spend their evenings and weekends developing plans and ideas around other commitments. This resource could have the potential to help develop a more diverse and resilient economy in South Wales, and enable more people to own their careers and create jobs for others. City councils could utilise empty abandoned buildings and turn them into coworking facilities in a similar way to the future Metro stops explained above. This could support city revitalization, connect people and create a ‘buzz’ in communities across cities and towns of various sizes. The government and councils could offer fiscal incentives to members and providers in the same way as has been done with SW1. Nevertheless, too interventionist and directed a policy could have counter effects and interfere with the organic development of the community.

As this research study has demonstrated, top-down facilitation plays a crucial role in encouraging, inspiring and motivating people to start developing businesses, particularly in the context of South Wales. At SW1, there is a dedicated team in charge of supporting every aspect of business development such as networking and professional development. At SW2, anchor tenants hold the responsibility of acting as hosts with duties including welcoming newcomers, maintaining the space, and showing people around. However, anchor tenants are business owners, and are not dedicated to sustaining the communities, partly because it is not the approach to community formation at SW2, and partly because employing a full-time facilitator at each space would be costly. To provide a solution to the increasing demand for coworking spaces as central to the City Deal, facilitators could be trained through the Siroll Institute developed ‘Enterprise Facilitation’ programme. In 2009, the Welsh Government provided funding to implement the Sirolli ‘EFFECT’ model, in Blaenau Gwent. The central aim of the Sirolli model is to stimulate communities, promote economic activity and enable individuals and communities to be more self-reliant by delivering advice, guidance, mentoring, training and support to business start-up and development. Following the success of Blaenau Gwent; Merthyr Tydfil, Torfaen and Bridgend in partnership, and later Powys, were provided funding by the Welsh Government to take forward the Sirolli model. As part of the Sirolli model, the institute trains enterprise facilitators who are not necessarily experts, but well-known and well-reputed in the local community, who are good listeners, supportive, well-networked,
and able to evaluate the skills and needs of entrepreneurs (these attributes are the same as a coworking space facilitator). The institute also trains the community board members who typically consist of local business and civic leaders, economic development practitioners, and private sector professionals. The board supports the facilitator by providing introductions to community leaders and potential clients. Among the many benefits the enterprise facilitation model provides, it stimulates local passion and creativity, helps create a more effective local business network, and produces visible success stories within the community that provide a live, tangible and real demonstration of what can be achieved, in line with what coworking spaces are created for, especially in economically challenged areas.

Promoting innovation-driven entrepreneurship\(^{51}\) (IDE), and creating conditions for entrepreneurs and businesses to accelerate economic growth are, recently set, key objectives for enhancing entrepreneurship in Wales, with a Welsh team participating in the Massachusetts Institute of Technology Inaugural Regional Entrepreneurship Acceleration Programme. The programme started in Autumn 2015, and during its two-year engagement period with MIT, through a series of action-learning activity workshops, Wales needs to build and implement a custom regional strategy for enhancing its IDE ecosystem. IDE can play an important role in contributing to economic growth, job creation and poverty reduction, and help address key social challenges. As this research study has demonstrated, coworking spaces can contribute actively to the local processes of innovative entrepreneurship by linking talented individuals to innovative communities and firms. Coworking spaces provide a community-based supportive infrastructure (hard and soft) for creative and entrepreneurial activities relevant to the entrepreneurial culture of Wales. They provide access to knowledge, support, a diverse talent pool, and even finance (through accessible funding or investment bodies linked to the coworking organisation). These aspects are particularly important for innovative entrepreneurship. This research study provides a point of reference for policymakers looking to accelerate the growth of innovative entrepreneurship via, or in partnership with, coworking spaces.

\(^{51}\) Innovation-driven entrepreneurship focuses on global markets, the IDE company is based on some sort of innovation, the ownership is more diverse and includes a wide array of external capital providers, the company starts by losing money but if successful will have exponential growth (Aulet and Murray, 2013).
11.6 Limitations of the Present Study

Even though the research intended to produce valid and representative results, a ‘perfect’ research project, as such, is not possible due to practicalities and realities of conducting the research. Firstly, the methodological limitations will be explained, and in the following section, on avenues for future research, some possible solutions are provided in order to mitigate against some of these.

The research design involved undertaking multiple visits to a variety of UK and international locations. This was of course constrained by budgetary issues, meaning choices had to be made regarding suitable case study locations. There were also some limitations on time, and the interviews were limited by the availability of the respondents.

There were also challenges to achieving a reasonable response rate for the questionnaires both amongst coworking space members, and those not currently using coworking spaces on a regular basis (referred to as non-users) located in the Cardiff City Region. Even though the researcher attempted to obtain questionnaires from all coworkers present at the time of a visit, respondents were mainly regular users, thus occasional users were not highly represented in the sample. For this reason, occasional users were considered non-users in the sample. The researcher accessed the non-user population in non-coworking environments and/or had conversations about their experience of coworking during informal coworking events, the impression given was that those people were not regular users of coworking spaces. Instead, they identified themselves either as location-independent professionals or home-based entrepreneurs, who might use coworking spaces on an occasional basis such as for holding meetings, attending networking events or professional workshops. Thus, it is acknowledged that there may be some blurring of the sample groupings, but for the reasons given above this is not considered a major issue.

Similarly, with regards to the non-user questionnaire, after data collection it become clear that the lines were also blurred in terms of how people self-identified themselves (in terms of employment status, sector and occupation). Given that the questions were single answer, the responses might be somewhat ambiguous.
In the member questionnaire, there was no direct question regarding the length of membership of the present coworking space. This is a potential omission, but not a significant one. There are three reasons for this. Firstly, the data was collected early in the life of the coworking spaces, when members were just starting to experience the new ‘alongside each other’ working style (SW1 opened in 2012, SW2 Cardiff 1 in 2012, SW2 Cardiff 2 in 2013, and SW Cardiff 3 in 2014 – the quantitative data collection started in late 2013). Therefore, the information about the date of joining would not have made much difference to the aggregate results. Secondly, both coworking communities represented a relatively stable population, there was little migration experienced between the two spaces (each had a different approach and target audience), and respondents taking part in data collection mostly reported long-term commitment to their home coworking community. Thirdly, the qualitative fieldwork (observation, participant observation, informal interviews) provided detailed information about many aspects of the everyday life of coworkers and supplemented information gathered during the quantitative fieldwork.

This study has investigated coworking spaces only in the urbanised areas of South Wales. At the time of conducting the primary research, coworking spaces in rural areas of South Wales were not much used by the local business community. Therefore, involving those spaces into the research would have been too early. Future research however might follow up whether these spaces started to become local hubs of business and community activities in less urbanised areas.

Similarly, involving key stakeholders of the Welsh ecosystem into the present research would have been too early; the effects of bigger scale government-university-business-coworking initiative partnerships on enterprise creation and development via coworking environments might be explored in the future. These would provide insights from different perspectives of how coworking spaces could be used as enterprise development tools for future development policy planning.
11.7 Avenues for Future Research

Through considering the limitations of this study, several branches of future research have emerged.

A potential avenue for further research might be exploring how exactly person-to-person interactions/activities, that form inside coworking spaces and within the personal network of their members, shape creative ideas, and impact performance and turnover. As this research study has found, even regular users of coworking spaces use different places to carry out different activities, thus, interactions that might lead to creative outcomes might occur inside and outside their home coworking organisation. For this reason, to be able to track and model the complex and interdependent dynamics of creative interactions between coworkers moving between different spaces, large-scale data-sets, created through wearable technology (i.e. badges with built-in microphones, GPS and motion sensors) could be used.

There are existing studies looking at individual level creativity by using personality profiles on regional basis regarding entrepreneurship. Exploring the personality profile of coworkers was beyond the scope of the present study. Nevertheless, it could be useful to apply something similar in the context of coworking spaces that could help identify coworker personality profiles and strengthen the result of this study (i.e. who the space is appropriate for and why).

The primary focus was on the Cardiff City Region as the region has significant start-up performance and has seen the emergence of various collaborative workspaces occupied by creative and technology entrepreneurs. Even though the only two existing coworking spaces located in Swansea were also involved in the research, they were not studied as in-depth as the coworking spaces located in the CCR. One potential area of future research would be to carry out a similar in-depth research in the TechHub Swansea, to explore the impact of a technology sector specific space on the life of Swansea’s technology community. Another future research could be to investigate coworking spaces in rural areas of South Wales; comparing and contrasting the characteristics of spaces and
their members to their urban ‘brothers’ might open interesting discussions on the use of coworking spaces in areas at various development stages.

Other future research could investigate whether businesses being based in coworking spaces has a significant impact on the entrepreneurial ecosystem of Wales. For example, do those businesses have bigger growth potential just because they are located in coworking spaces and are affected by the enabling (physical, social and facilitative) conditions? Guzman and Stern’s (2015) method provides an insight into how to estimate the probability of growth, that might easily be applied in the context of other countries.

Another potential avenue for future research might be to investigate the economic model of coworking spaces. The concept of the ‘economic model’ addresses issues around the structure, conduct and performance of firms in the market and considers new opportunities and new markets. It addresses both ‘who does what?’ and also ‘who gets what?’ To a degree, coworking individuals create and capture their own value, but of greater interest is the potential value created in collaboration and interaction. This in turn raises questions around such issues as, who retains the intellectual property: individuals, collaborators and/or the host coworking space itself? – this is something that further research might look at.

Moreover, additional qualitative work is considered as a potential avenue for future research, with other key actors within the City Region’s entrepreneurial ecosystem. The reason for not including key stakeholders in the present research was mostly the evolving nature of coworking - it was too early to explore the significant ecosystem acceleration affects enabled by coworking spaces.

The researcher would also be interested in exploring what role coworking spaces can play in support of innovation and graduate entrepreneurship in South Wales, including guidance on key requirements for their design and successful operation. In recent years many universities have started developing strategies encouraging graduate entrepreneurship. Many universities now run programmes on ‘entrepreneurship’ as part of their curriculum and have student entrepreneurship support services. However, it is still the case in South Wales that the skills of graduates are still predominantly related to their subject area. Many new graduates leaving university have an interest in starting a
new business, but often lack many of the key business skills required; have no business or support network in place; have no funding readily available; and often lack the confidence to start a new business. Therefore, one of the major challenges with regards to entrepreneurship in South Wales is to find out what innovation management model should be developed to further support these graduates’ entrepreneurial ambitions.

11.8 Final Words

This document represents the ‘tip of the iceberg’ in terms of the summary of all the research studies, practitioner and expert articles the researcher has read, all the interviews and conversations the researcher has had, and all the data that have been collected along the journey. It has been a long but a fantastic journey, sometimes hard and frustrating, and often exhilarating as it has shown how everything fits together, and how a contribution to the world is made - coworking spaces in theory and practice in the context of an economically challenged region. The researcher hopes that the next generation of researchers finds this study as interesting and useful as she has, and that it helps frame their thoughts as they pursue their passion about how coworking spaces work, are used, and support their tenants and others in the context of an economically challenged region.

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Appendices
Appendix 1: List of interview questions (coworking space provider)

1. How would you define coworking?
2. Why did you start running your coworking space?
3. What was your purpose when you opened your space? (Building community/business value/network opportunity, etc.)
4. How did you plan/design your space? (Based on own ideas/architect help)
5. In your opinion, does the design matter in order to facilitate collaboration/creativity/serendipity?
6. How much do you use ‘virtual spaces’ in order to maximise business/social value?
7. In your opinion, what are the minimum conditions for productive coworking?
8. In your opinion, what are the key components of a successful coworking space?
9. Do you think your coworking space is successful?
10. What are some critical changes that could help coworking spaces for coworkers?
11. How well do you know your coworkers?
12. In your opinion, what motivates/demotivates your coworkers?
13. Do you decide who can work in your space (selection by personality, field of work) or is your space self-organised by the core community?
14. Do you help the coworkers in networking by organising cultural/social/practical events?
15. What challenges do you think your space will face over the next 6 months to a year? Over the next 5 years?
Appendix 2: List of informal interview questions (coworker)

1. What is coworking in your opinion?
2. In your opinion, what are the minimum conditions for coworking?
3. Why did you end up working in a coworking space?
4. Where have you been working before you moved to a coworking space? (Home, another space, large company, coffee house, rented office)
5. What is your field of work?
6. Do you feel more productive/creative when you work in your coworking space?
7. What is the benefit of working in a coworking space?
8. What motivates/demotivates you in a coworking space?
9. How much do you collaborate with other coworkers?
10. Have you ever had a great business idea when collaborating with other coworkers?
    Have you had business/social value when you collaborated with other coworkers?
11. How much does the design of the physical space affect your work?
12. How much does the community affect your productivity?
13. What are the main advantages/disadvantages of the space that you currently use?
14. If you would have opportunity, would you be keen to design your own space?
15. Do you participate in any social/cultural/practical events organised by the space operators?
16. Do you bring clients to the meeting space?
17. In your opinion, what kind of changes could help your individual creativity in your current coworking space?
Appendix 3: Coworking questionnaire

Dear Participant,

The survey is part of my PhD research at Cardiff Metropolitan University that aims to address the question ‘How can coworking spaces improve the creativity and innovation of small companies including start-ups and freelancers?’

The purpose of this survey is mainly to broaden my understanding of the coworking movement, to get to know the coworking communities in South Wales and to learn how coworking reflects changing nature of work, collaboration, innovation, creativity, serendipity, as well as human relations.

You will be asked to give some general information e.g. your field of work and type of your professional activity; your feelings about how the coworking style has affected your productivity and creativity; and finally questions related to how the space itself and the services offered by the operators/managers can be developed in order to further improve your business and your ‘state of being’.

This questionnaire should only take **15 minutes** of your time. Participation is entirely voluntary. There will be no consequences if you decide not to participate. You can also withdraw at any time during the survey.

The information collected from you in this survey will remain strictly confidential. Only aggregate data will be analysed and reported.

If you want to find out more information about the project, please contact PhD student **Anita Fuzi** on the telephone number **074 63395539** or email: **afuzi@cardiffmet.ac.uk**.

Thank you very much for taking part in the research.  
Your support is highly appreciated.
1. Please name your current coworking space: ______________________________

2. Please give us the link of your (company) website: ________________________

3. What is your gender?
   □ Male                  □ Female

4. Which age group do you belong to?
   □ < 21  □ 21-26  □ 27-32  □ 33-38  □ 39-44  □ 45-50
   □ 50 <

5. What is your highest level of educational qualification?
   □ Doctorate
   □ Master’s degree/Postgraduate certificate/Postgraduate Diploma
   □ Bachelor degree/Graduate certificate/Graduate Diploma
   □ University/college qualification below a degree (e.g. HND, HNC, City and Guilds advanced certificate, nursing diploma, primary school teaching diploma)
   □ Upper secondary school qualification (e.g. Highers, A levels)
   □ Lower secondary school qualification (e.g. Standard Grade, Intermediates, O Grade, GCSE)
   □ Other: ___________________

6. Which sector do you belong to?
   □ Information and communication (e.g. telecommunication, information technology activities, publishing activities)
   □ Financial and insurance activities (e.g. trusts, funds, fund management activities)
   □ Professional, scientific and technical activities (e.g. legal, accounting, architectural, engineering, advertising, market research, management activities)
   □ Administrative and support service activities (e.g. tourism, travel/tour operator activities, leasing activities, business and office support)
   □ Arts, entertainment and recreation (e.g. photography, music, cultural activities)
   □ Other: ___________________
7. Which of the following best describes your occupation?
   □ Journalist/Publicist/Writer
   □ Photographer
   □ Audio engineer
   □ Software developer/designer
   □ Web-developer/designer
   □ Graphic-designer
   □ Fashion designer
   □ Architect/Town planner
   □ Legal adviser
   □ Financial adviser/consultant
   □ Accountant
   □ Management/Business consultant/adviser
   □ Marketing/PR adviser
   □ Media/Digital media consultant
   □ Market analyst
   □ Applied scientist (applied engineering, physics, mathematics, electronics, energy technology, biotechnology, medical technology, etc.)
   □ Musician/Actor/Entertainer/Art officer
   □ Crafts (e.g. furniture maker, music instrument maker)
   □ Other: ________________________

8. How would you describe your professional activity?
   □ Entrepreneur (i.e. mainly working on your own business)
   □ Freelancer (i.e. mainly working on bespoke projects)
   □ Employee of a company with 5 employees or less
   □ Employee of a company with 6 to 99 employees
   □ Employee of a company with 100 employees or more
   □ Other: ________________________

9. What kind of membership do you have?
   □ Free Day Pass
Appendices

☐ Pay As You Go Pass
☐ Part Time Associate
☐ Full Time Associate
☐ Office Membership
☐ Virtual Membership
☐ Mailbox Membership
☐ Other: ________________________

How much do you pay for your membership? __________

10. What kind of services do you have currently in your membership? (you can choose more than one option)
☐ Coffee/Tea/Biscuits
☐ Use of printer/scanner
☐ Registered business address
☐ Food
☐ Health/beauty treatments
☐ Transport to the space
☐ Nursery
☐ Reception/Secretary/Administrative team
☐ Mentoring/Professional support (accounting, legal services, etc.)
☐ Other: ______________________________

11. What kind of services would you like to have included in your membership for a reasonable fee? (you can choose more than one option)
☐ Coffee/Tea/Biscuits
☐ Food
☐ Health/beauty treatments
☐ Transport to the space
☐ Nursery
☐ Reception/Secretary/Administrative team
☐ Mentoring/Professional support (accounting, legal services, etc.)
12. Do you have your own reserved desk space?
   □ Yes □ No

13. How often do you use the space?
   □ Occasionally - less than one day each week
   □ One day a week
   □ A couple of days a week
   □ Most days each week
   □ Other: ________________________________

14. Would you come more often if the space was open 24/7?
   □ Yes □ No

15. What are your alternative work spaces when you are not using the coworking space?
    (you can choose more than one option)
   □ Home
   □ Coffee shop or similar
   □ Library
   □ Rented office
   □ Other: ________________________________

16. Where did you mostly work before you started using your current coworking space?
    (you can choose more than one option)
   □ At home
   □ In a traditional office
   □ No fixed location, always changing
   □ In a small shared office
   □ In a coffee shop
   □ In a library
   □ In a business centre
17. Why did you choose working in a coworking space (you can choose more than one option)?

☐ I did not have my own office
☐ Coworking gives a cheap solution for everyday business
☐ Being tired of isolation at home
☐ Home working had a negative effect on my personal life
☐ Coffee shops are too noisy
☐ I was not productive in other places
☐ I wanted to expand my social/business network
☐ Interacting with likeminded people
☐ To be in a more creative environment
☐ Other: ______________________________

18. Why did you decide to work at this coworking space? (you can choose more than one option)

☐ A social or enjoyable atmosphere
☐ It is a community
☐ Interaction with others
☐ Good office infrastructure (internet, desk, etc.)
☐ Knowledge-sharing
☐ Good value for money
☐ A close distance to my home
☐ Random discoveries and opportunities
☐ Flexible work times
☐ Interdisciplinary work
☐ An easy-to-change workplace
☐ Good transport connections
☐ My company/client pays for it
Possibilities to work in groups
Other: _______________________________

Which of these is the most important? ______________________________

19. What adjectives would you use to describe coworking? (you can choose more than one option)
   - Friendly
   - Boring
   - Fun
   - Noisy
   - Creative
   - Restricted
   - Productive
   - Un-flexible
   - Inspiring
   - Closed
   - Collaborative
   - Flexible
   - Demotivating
   - Social
   - Motivating
   - Supportive
   - Open
   - Crowded
   - Other: _____________________________________

20. How many events hosted by the coworking space did you attend during the last 3 months?
   - None
   - 1-2
   - 3-4
20. How many members are you interested in joining with?

☐ 5-6
☐ 7 or more

21. What kind of events are you currently attending at your coworking space? (you can choose more than one option)

☐ Networking events
☐ Workshops
☐ Presentations/information sessions
☐ Social programs
☐ Other: ________________________

22. What kind of events would you like to attend at your coworking space (you can choose more than one option)?

☐ Networking events
☐ Workshops
☐ Presentations/information sessions
☐ Social programs
☐ Other: ________________________

23. How important are the followings on a scale 1 to 10?

Overall design

<table>
<thead>
<tr>
<th></th>
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<th>Extremely Important</th>
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</thead>
<tbody>
<tr>
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</tbody>
</table>

Meeting facilities

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</tbody>
</table>

Events:

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</tr>
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<tbody>
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</table>

Other members:

<table>
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<th>Extremely Important</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
24. Which of the following interactions with fellow coworkers do you have? (you can choose more than one option)

- [ ] Casual small talk
- [ ] Enjoying others’ company
- [ ] Sharing knowledge and advice
- [ ] Sharing contacts
- [ ] Moral support
- [ ] Brainstorming and sharing new ideas
- [ ] Feedback
- [ ] Sharing opportunities for new jobs and projects
- [ ] Quick help from fellow co-workers
- [ ] Common meals
- [ ] Working on common projects
- [ ] Working on/in a common company
- [ ] Other: ______________________

Which of these is the most important?

_________________________

25. How many new and helpful contacts did you make during the last three months?

- [ ] None
- [ ] 1-2
- [ ] 3-4
□ 5-6
□ 7 or more

26. Have you ever started a new project with other coworkers you met in your space?
□ Yes □ No

27. Have you/your business introduced any of the following as a direct result of you using coworking space? (you can choose more than one option)
□ Increased income
□ Decreased management/maintenance costs
□ Tax benefits
□ Better funding options
□ Introducing new products
□ Introducing new services
□ New distribution/business opportunities/marketing
□ Other: ________________________

28. Since you joined the coworking space, how have your creativity, motivation and productivity changed?

Your creativity:
| Much Worse | | | | | | | | Much Better |

Your motivation:
| Much Worse | | | | | | | | Much Better |

Your productivity:
| Much Worse | | | | | | | | Much Better |

29. Since you joined the co-working space, how much has your network grown?

Not At All  Very Significantly

30. How satisfied are you with the atmosphere and the workplace design?
<table>
<thead>
<tr>
<th>Extremely Dissatisfied</th>
<th>Extremely Satisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

31. Do you have the permission to modify the design of your own space?
   - [ ] Yes
   - [ ] No

32. Would you be interested in modifying the design of your own space?
   - [ ] Yes
   - [ ] No

33. What do you think is currently missing/what could be changed to improve the coworking experience? (you can choose more than one option)
   - [ ] More space for privacy/self-reflection
   - [ ] More space for collaboration (with coworkers)
   - [ ] More meeting space (with clients)
   - [ ] More spaces for play and/or socialising
   - [ ] Other: ____________________________

34. How long will you stay at your coworking space?
   - [ ] I’m not planning to leave
   - [ ] A minimum of a year
   - [ ] A minimum of three months
   - [ ] Only this month
   - [ ] Only this week
   - [ ] Only today
   - [ ] I don’t know

Thank you very much for taking part in the research.
Your support is highly appreciated.
Appendix 4: Non-member questionnaire

Location-independent and home-based business questionnaire

Dear Participant,

The survey is part of my PhD research at Cardiff Metropolitan University that aims to address the question ‘How can coworking spaces improve the creativity and innovation of small companies including start-ups and freelancers?’

The purpose of this survey is mainly to get to know the location-independent and home-based entrepreneur and freelancer communities in South Wales, to learn their workplace preferences, and opinion about the coworking phenomenon.

You will be asked to give some job-related questions such as field of work, type of professional activity, preferred and usual place(s) of work, and more personal ones such as motivation and reasons for becoming a freelancer/home worker, and your future plans.

This questionnaire should only take **15 minutes** of your time. Participation is entirely voluntary. There will be no consequences if you decide not to participate. You can also withdraw at any time during the survey.

The information collected from you in this survey will remain strictly confidential. Only aggregate data will be analysed and reported.

If you want to find out more information about the project, please contact PhD student **Anita Fuzi** on the telephone number **074 63395539** or email: **afuzi@cardiffmet.ac.uk**.

Thank you very much for taking part in the research.
Your support is highly appreciated.
1. Please name the place where you currently operate (i.e. home, shared office, Starbucks, etc.): ____________________________

2. Please give us the link of your (company) website: ______________________________

3. What is your gender?
   □ Male          □ Female

4. Which age group do you belong to?
   □ < 21  □ 21-26  □ 27-32  □ 33-38  □ 39-44  □ 45-50
   □ 50 <

5. What is your highest level of educational qualification?
   □ Doctorate
   □ Master’s degree/Postgraduate certificate/Postgraduate Diploma
   □ Bachelor degree/Graduate certificate/Graduate Diploma
   □ University/college qualification below a degree (e.g. HND, HNC, City and Guilds advanced certificate, nursing diploma, primary school teaching diploma)
   □ Upper secondary school qualification (e.g. Highers, A levels)
   □ Lower secondary school qualification (e.g. Standard Grade, Intermediates, O Grade, GCSE)
   □ Other: ___________________

6. Which sector do you belong to?
   □ Information and communication (e.g. telecommunication, information technology activities, publishing activities)
   □ Financial and insurance activities (e.g. trusts, funds, fund management activities)
   □ Professional, scientific and technical activities (e.g. legal, accounting, architectural, engineering, advertising, market research, management activities)
   □ Administrative and support service activities (e.g. tourism, travel/tour operator activities, leasing activities, business and office support)
   □ Arts, entertainment and recreation (e.g. photography, music, cultural activities)
   □ Other: ___________________
24. Which of the followings best describes your occupation?

- Journalist/Publicist/Writer
- Photographer
- Audio engineer
- Software developer/designer
- Web-developer/designer
- Graphic-designer
- Fashion designer
- Architect/Town planner
- Legal adviser
- Financial adviser/consultant
- Accountant
- Management/Business consultant/adviser
- Marketing/PR adviser
- Media/Digital media consultant
- Market analyst
- Applied scientist (applied engineering, physics, mathematics, electronics, energy technology, biotechnology, medical technology, etc.)
- Musician/Actor/Entertainer/Art officer
- Crafts (e.g. furniture maker, music instrument maker)
- Other: ________________________

8. Which of the followings best describes your professional activity?

- Home-based entrepreneur (primarily running my business at home)
- Location-independent entrepreneur (working on my own business neither at home nor in a regular office)
- Location-independent freelancer (contractor, independent professional or sole trader, working on bespoke projects neither at home nor in a regular office)
- Home-based freelancer (contractor, independent professional or sole trader, working on bespoke projects mainly at home)
- Other: ________________________
9. If you work part-time, do you also work and get paid by another business? **If you work full-time, please jump to question 11.**
   □ Yes □ No

10. If so, how do you spend the rest of your usual work time?
   □ Self-employed activity
   □ Employee of a company
   □ University lecturer or researcher
   □ Student
   □ Voluntary work
   □ Running a business/entrepreneur
   □ Other: ___________________________

11. What was the reason you decided to be a location-independent or home-based freelancer/entrepreneur? (you can choose more than one option)
   □ To be your own boss
   □ To satisfy your creative impulse
   □ To obtain added income
   □ To work from home or wherever you want
   □ No need for an office
   □ Could not find suitable office space
   □ To work flexible hours
   □ To spend more time with your family
   □ To choose a career that is also your hobby
   □ To pick up holidays at will
   □ Could not find a suitable job as an employee
   □ Lower start-up costs
   □ Other: ___________________________

**Questions 12-18 apply to location-independent freelancers/entrepreneurs only. Home-based entrepreneurs/freelancers please jump to question 19.**
12. What are the greatest benefits of being a location-independent freelancer/entrepreneur? (you can choose more than one option)
   □ Flexible hours
   □ Working wherever you want
   □ Control over jobs and clients
   □ You are the boss
   □ You keep all the profits
   □ Better work-life balance and quality of life
   □ More productive
   □ More freedom
   □ Less stress
   □ Other: ________________________________

13. What are the dark sides of being a location-independent freelancer/entrepreneur? (you can choose more than one option)
   □ Not steady or reliable workloads
   □ Hard to distinguish between work and personal life
   □ Lot of legwork
   □ Lack of employer benefits
   □ Irregular income
   □ Too much competition
   □ Lack of recognition of a self-employed status
   □ Other: ________________________________

14. Why do you prefer working in your current place? (you can choose more than one option)
   □ A social and enjoyable atmosphere
   □ Good coffee and food
   □ Casual small talks with like-minded people
   □ An easy-to-change workplace
   □ Good transportation links to home
   □ Other: ________________________________
15. How often do you use the current place?
    □ A couple of hours a day
    □ One day a week
    □ A couple of days a week
    □ Most days each week
    □ Other: _____________________________________________

16. How many new and helpful contacts did you make during the last three months in your current place?
    □ None
    □ 1-2
    □ 3-4
    □ 5-6
    □ 7 or more

17. What are your alternative workspaces when you are not using your current place? (you can choose more than one option)
    □ Home
    □ Coffee shop or similar
    □ Library
    □ Rented office
    □ Small shared office
    □ Rented private office
    □ Business centre
    □ Coworking space, please name which one(s):
        ______________________________
    □ Company office
    □ My clients’ premises
    □ Other: _________________________

18. Which of these workspaces is the most beneficial for your business operation?
    _____________________________________________
Questions 19-20 apply to home workers (both entrepreneurs and freelancers) only. Location-independent freelancers/entrepreneurs please jump to question 21.

19. What are the greater benefits of working from home?
   - [ ] Flexible hours
   - [ ] Better work-life balance
   - [ ] More time with family
   - [ ] More productive
   - [ ] Avoid traffic
   - [ ] Less distractions
   - [ ] Quieter atmosphere
   - [ ] Less stressful environment
   - [ ] Other: ________________________________

20. What are the dark sides of being a home worker? (you can choose more than one option)
   - [ ] Not steady or reliable workloads
   - [ ] Hard to distinguish between work and personal life
   - [ ] Lack of employer benefits
   - [ ] Irregular income
   - [ ] Lack of recognition of a self-employed status
   - [ ] Lot of distractions
   - [ ] Isolation/lack of social interaction
   - [ ] Lack of competitive spirit
   - [ ] Lack of motivation
   - [ ] Other: ________________________________

Questions 21-31 apply to all.

21. Where do you hold meetings with clients and/or business partners?
   - [ ] Current place
   - [ ] Home
   - [ ] Coffee shop or similar
22. Have you ever been member of a coworking space?
  □ Yes          □ No

If so, why? ________________________________________________________________

Which one?
  _______________________________________________________________________

Why did you leave the co-working space? _______________________________

If you have not, why not? _______________________________________________

23. Have you considered joining a more formal coworking organisation?
  □ Yes          □ No

If so, why? ________________________________________________________________

If no, why not? ___________________________________________________________

24. What would you consider as most important if working in a coworking space? (you can choose more than one option)
  □ A social or enjoyable atmosphere
  □ It is a community
  □ Interaction with others
  □ Good office infrastructure (internet, desk, etc.)
  □ Knowledge-sharing
Appendices

- Good value for money
- A close distance to my home
- Random discoveries and opportunities
- Flexible work times
- Interdisciplinary work
- An easy-to-change workplace
- Good transport connections
- Possibilities to work in groups
- Other: _______________________________

25. Why wouldn’t you consider coworking space as your temporary or permanent workspace?
   - Boring
   - Noisy
   - Restricted
   - Un-flexible
   - Closed
   - Demotivating
   - Too social
   - Open
   - Crowded
   - Expensive
   - Other: _______________________________

26. Are you a member of any social or professional network?
   - No
   - Yes

   If yes, please name the organisation (e.g. Cardiff Start, FSB, Enterprise Nation):
   _______________________________________

27. How many events hosted by the network organisation did you attend during the last 3 months?
   - None

   _______________________________________

13-23
28. What kind of events are you currently attending? (you can choose more than one option)
   □ Networking events
   □ Workshops
   □ Presentations/information sessions
   □ Social programs
   □ Other: ________________________

29. How many new and helpful contacts did you make during the last three months in the events organised by any networking organisation?
   □ None
   □ 1-2
   □ 3-4
   □ 5-6
   □ 7 or more

30. Have you ever started a new project with other peers you met in social or professional events?
   □ Yes  □ No

31. What are your plans for the future?
   □ Keep working as a self-employed freelancer/home worker
   □ Broaden the scope of my self-employment
   □ Temporarily leave my current role
   □ Move my business to a more formal office environment
   □ Obtain a limited company status
   □ Find a job as an employee
   □ Other: ________________________
Thank you very much for taking part in the research. Your support is highly appreciated.
Appendix 5: Chi-Square tests regarding the demographic attributes of coworkers

Relationship between Age – Space variables

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<th>Age_two_group</th>
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<td>31,4%</td>
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<td>56,2%</td>
</tr>
<tr>
<td>Total Count</td>
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<td>35</td>
<td>89</td>
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<tr>
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<tr>
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<tr>
<td>% of Total</td>
<td></td>
<td>60,7%</td>
<td>39,3%</td>
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</table>

Chi-Square Tests

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<tr>
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<th>Asymptotic Significance (2-sided)</th>
<th>Exact Sig. (2-sided)</th>
<th>Exact Sig. (1-sided)</th>
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<td>Fisher’s Exact Test</td>
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<td>,059</td>
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<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. 0 cells (0%) have expected count less than 5. The minimum expected count is 15,34.
b. Computed only for a 2x2 table
### Relationship between Sector – Space variables

#### Space * ICT_and_rest Crosstabulation

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<th>Rest</th>
<th>Total</th>
</tr>
</thead>
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<td>% within Space</td>
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<td>% within ICT_and_rest</td>
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<td>100.0%</td>
<td>100.0%</td>
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<tr>
<td>% of Total</td>
<td>48.3%</td>
<td>51.7%</td>
<td>100.0%</td>
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#### Chi-Square Tests

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<th>Value</th>
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a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.28.
Appendix 6: Rankings of the importance of the enabling/environmental factors comparing SW1 against SW2

ANOVA

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<th>Sig.</th>
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<td>1</td>
<td>26,366</td>
<td>7,532</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>259,042</td>
<td>74</td>
<td>3,501</td>
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<tr>
<td></td>
<td>Total</td>
<td>285,408</td>
<td>75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How important is the whole community?</td>
<td>Between Groups</td>
<td>51,331</td>
<td>1</td>
<td>51,331</td>
<td>17,152</td>
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<td>Within Groups</td>
<td>221,458</td>
<td>74</td>
<td>2,993</td>
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<td>Total</td>
<td>272,789</td>
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<tr>
<td>How important is the opportunity to network?</td>
<td>Between Groups</td>
<td>71,939</td>
<td>1</td>
<td>71,939</td>
<td>21,125</td>
</tr>
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<td></td>
<td>Within Groups</td>
<td>251,995</td>
<td>74</td>
<td>3,405</td>
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<tr>
<td></td>
<td>Total</td>
<td>323,934</td>
<td>75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How important is the atmosphere?</td>
<td>Between Groups</td>
<td>6,739</td>
<td>1</td>
<td>6,739</td>
<td>4,176</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>119,418</td>
<td>74</td>
<td>1,614</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>-------</td>
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<td></td>
</tr>
<tr>
<td>Total</td>
<td>126,158</td>
<td>75</td>
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</table>
Appendix 7: Comparing members belonging to ICT sectors against those belonging to non-ICT sectors

### ANOVA

<table>
<thead>
<tr>
<th>Question</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>How important is the overall design of the space?</td>
<td></td>
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<tr>
<td>Between Groups</td>
<td>11,486</td>
<td>1</td>
<td>11,486</td>
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<td>Within Groups</td>
<td>252,716</td>
<td>87</td>
<td>2,905</td>
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<td></td>
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<tr>
<td>Total</td>
<td>264,202</td>
<td>88</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How important are the meeting facilities?</td>
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<td></td>
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<tr>
<td>Between Groups</td>
<td>2,791</td>
<td>1</td>
<td>2,791</td>
<td>.752</td>
<td>.388</td>
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<tr>
<td>Within Groups</td>
<td>322,827</td>
<td>87</td>
<td>3,711</td>
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<td></td>
</tr>
<tr>
<td>Total</td>
<td>325,618</td>
<td>88</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How important are the events?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>21,889</td>
<td>1</td>
<td>21,889</td>
<td>3,772</td>
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<td>Within Groups</td>
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<td></td>
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<td>How important are the other members?</td>
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<td></td>
</tr>
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<td>1</td>
<td>11,086</td>
<td>3,159</td>
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<tr>
<td>Within Groups</td>
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<td>87</td>
<td>3,509</td>
<td></td>
<td></td>
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<tr>
<td>Total</td>
<td>316,360</td>
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<td></td>
</tr>
<tr>
<td>How important is the whole community?</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>8,207</td>
<td>1</td>
<td>8,207</td>
<td>2,465</td>
<td>.120</td>
</tr>
<tr>
<td>Within Groups</td>
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<td>87</td>
<td>3,330</td>
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<td>Total</td>
<td>297,888</td>
<td>88</td>
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</tr>
<tr>
<td>How important is the opportunity to network?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>13,612</td>
<td>1</td>
<td>13,612</td>
<td>3,134</td>
<td>.080</td>
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<tr>
<td>Within Groups</td>
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<td>87</td>
<td>4,343</td>
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<td></td>
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<tr>
<td>Total</td>
<td>391,438</td>
<td>88</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>How important is the atmosphere?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>11,341</td>
<td>1</td>
<td>11,341</td>
<td>7,692</td>
<td>.007</td>
</tr>
<tr>
<td>Within Groups</td>
<td>128,277</td>
<td>87</td>
<td>1,474</td>
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<td></td>
</tr>
<tr>
<td>Total</td>
<td>139,618</td>
<td>88</td>
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</table>
Appendix 8: Ranking of change in performance outcomes comparing SW1 against SW2

<table>
<thead>
<tr>
<th>Since you joined the coworking space, how has your creativity changed?</th>
<th>ANOVA</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>4,670</td>
<td>1</td>
<td>4,670</td>
<td>2,248</td>
<td>.138</td>
<td></td>
</tr>
<tr>
<td>Within Groups</td>
<td>151,677</td>
<td>73</td>
<td>2,078</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>156,347</td>
<td>74</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Since you joined the coworking space, how has your motivation changed?</th>
<th>ANOVA</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>6,833</td>
<td>1</td>
<td>6,833</td>
<td>3,409</td>
<td>.069</td>
<td></td>
</tr>
<tr>
<td>Within Groups</td>
<td>146,314</td>
<td>73</td>
<td>2,004</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>153,147</td>
<td>74</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Since you joined the coworking space, how has your productivity changed?</th>
<th>ANOVA</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>9,665</td>
<td>1</td>
<td>9,665</td>
<td>4,590</td>
<td>.035</td>
<td></td>
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<tr>
<td>Within Groups</td>
<td>153,721</td>
<td>73</td>
<td>2,106</td>
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<td></td>
</tr>
<tr>
<td>Total</td>
<td>163,387</td>
<td>74</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Since you joined the co-working space, how much has your network grown?</th>
<th>ANOVA</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>6,935</td>
<td>1</td>
<td>6,935</td>
<td>2,405</td>
<td>.125</td>
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<td>Within Groups</td>
<td>210,452</td>
<td>73</td>
<td>2,883</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>217,387</td>
<td>74</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</table>
Appendix 9: Rankings of the change in performance outcomes comparing female members against male members

<table>
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<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Since you joined the coworking space, how has your creativity changed?</td>
<td>Between Groups</td>
<td>2,900</td>
<td>1</td>
<td>2,900</td>
<td>1,365</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>182,691</td>
<td>86</td>
<td>2,124</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>185,591</td>
<td>87</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Since you joined the coworking space, how has your motivation changed?</td>
<td>Between Groups</td>
<td>4,080</td>
<td>1</td>
<td>4,080</td>
<td>1,917</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>183,011</td>
<td>86</td>
<td>2,128</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>187,091</td>
<td>87</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Since you joined the coworking space, how has your productivity changed?</td>
<td>Between Groups</td>
<td>11,821</td>
<td>1</td>
<td>11,821</td>
<td>5,800</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>175,270</td>
<td>86</td>
<td>2,038</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>187,091</td>
<td>87</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Since you joined the co-working space, how much has your network grown?</td>
<td>Between Groups</td>
<td>1,086</td>
<td>1</td>
<td>1,086</td>
<td>.384</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>243,277</td>
<td>86</td>
<td>2,829</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>244,364</td>
<td>87</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Appendix 10: Rankings of the change in performance outcomes comparing members belonging to ICT sectors against those belonging to non-ICT sectors

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Since you joined the coworking space, how has your creativity changed?</td>
<td>Between Groups</td>
<td>7,184</td>
<td>1</td>
<td>7,184</td>
<td>3,463</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>178,407</td>
<td>86</td>
<td>2,075</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>185,591</td>
<td>87</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Since you joined the coworking space, how has your motivation changed?</td>
<td>Between Groups</td>
<td>9,147</td>
<td>1</td>
<td>9,147</td>
<td>4,421</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>177,944</td>
<td>86</td>
<td>2,069</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>187,091</td>
<td>87</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Since you joined the coworking space, how has your productivity changed?</td>
<td>Between Groups</td>
<td>9,147</td>
<td>1</td>
<td>9,147</td>
<td>4,421</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>177,944</td>
<td>86</td>
<td>2,069</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>187,091</td>
<td>87</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Since you joined the co-working space, how much has your network grown?</td>
<td>Between Groups</td>
<td>.158</td>
<td>1</td>
<td>.158</td>
<td>.056</td>
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<tr>
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<td>Within Groups</td>
<td>244,206</td>
<td>86</td>
<td>2,840</td>
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<tr>
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<td>Total</td>
<td>244,364</td>
<td>87</td>
<td></td>
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</table>
Appendix 11: Chi-Square tests regarding age and business outcomes

Two age groups – introducing new services

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<tr>
<th>Age_two_group</th>
<th>Introducing new_services</th>
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<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>yes</td>
<td>no</td>
<td>Total</td>
</tr>
<tr>
<td>&lt;33 Age_two_group</td>
<td>20</td>
<td>34</td>
<td>54</td>
</tr>
<tr>
<td>% within Age_two_group</td>
<td>37,0%</td>
<td>63,0%</td>
<td>100,0%</td>
</tr>
<tr>
<td>% within Introducing_new_services</td>
<td>74,1%</td>
<td>54,8%</td>
<td>60,7%</td>
</tr>
<tr>
<td>% of Total</td>
<td>22,5%</td>
<td>38,2%</td>
<td>60,7%</td>
</tr>
<tr>
<td>&gt;33</td>
<td>7</td>
<td>28</td>
<td>35</td>
</tr>
<tr>
<td>% within Age_two_group</td>
<td>20,0%</td>
<td>80,0%</td>
<td>100,0%</td>
</tr>
<tr>
<td>% within Introducing_new_services</td>
<td>25,9%</td>
<td>45,2%</td>
<td>39,3%</td>
</tr>
<tr>
<td>% of Total</td>
<td>7,9%</td>
<td>31,5%</td>
<td>39,3%</td>
</tr>
<tr>
<td>Total</td>
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<td>62</td>
<td>89</td>
</tr>
<tr>
<td>% within Age_two_group</td>
<td>30,3%</td>
<td>69,7%</td>
<td>100,0%</td>
</tr>
<tr>
<td>% within Introducing_new_services</td>
<td>100,0%</td>
<td>100,0%</td>
<td>100,0%</td>
</tr>
<tr>
<td>% of Total</td>
<td>30,3%</td>
<td>69,7%</td>
<td>100,0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chi-Square Tests</th>
<th>Value</th>
<th>df</th>
<th>Asymptotic Significance (2-sided)</th>
<th>Exact Sig. (2-sided)</th>
<th>Exact Sig. (1-sided)</th>
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</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
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<td>.088</td>
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<td>Continuity Correctionb</td>
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</tr>
<tr>
<td>Likelihood Ratio</td>
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<td></td>
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<tr>
<td>Fisher’s Exact Test</td>
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<td></td>
<td></td>
<td>,103</td>
<td>,069</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
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<td>.089</td>
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</tr>
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<td></td>
<td></td>
<td></td>
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</tbody>
</table>

a. 0 cells (0,0%) have expected count less than 5. The minimum expected count is 10,62.
b. Computed only for a 2x2 table.
All age groups – innovative outcomes (merged variable: either new service or product, or any, or both)

### Age_all_group * Innovative_outcome Crosstabulation

<table>
<thead>
<tr>
<th>Age_all_group</th>
<th>Innovative_outcome</th>
<th>Total</th>
</tr>
</thead>
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<td></td>
<td>any</td>
<td>none</td>
</tr>
<tr>
<td>&lt;21</td>
<td>Count</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>% within Age_all_group</td>
<td>0,0%</td>
</tr>
<tr>
<td></td>
<td>% within Innovative_outcome</td>
<td>0,0%</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>0,0%</td>
</tr>
<tr>
<td>21-26</td>
<td>Count</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>% within Age_all_group</td>
<td>50,0%</td>
</tr>
<tr>
<td></td>
<td>% within Innovative_outcome</td>
<td>55,9%</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>21,3%</td>
</tr>
<tr>
<td>27-32</td>
<td>Count</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>% within Age_all_group</td>
<td>30,8%</td>
</tr>
<tr>
<td></td>
<td>% within Innovative_outcome</td>
<td>11,8%</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>4,5%</td>
</tr>
<tr>
<td>33-38</td>
<td>Count</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>% within Age_all_group</td>
<td>18,2%</td>
</tr>
<tr>
<td></td>
<td>% within Innovative_outcome</td>
<td>5,9%</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>2,2%</td>
</tr>
<tr>
<td>39-44</td>
<td>Count</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>% within Age_all_group</td>
<td>52,9%</td>
</tr>
<tr>
<td></td>
<td>% within Innovative_outcome</td>
<td>26,5%</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>10,1%</td>
</tr>
<tr>
<td>45-50</td>
<td>Count</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>% within Age_all_group</td>
<td>0,0%</td>
</tr>
<tr>
<td></td>
<td>% within Innovative_outcome</td>
<td>0,0%</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>0,0%</td>
</tr>
<tr>
<td>50&lt;</td>
<td>Count</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>% within Age_all_group</td>
<td>0,0%</td>
</tr>
<tr>
<td></td>
<td>% within</td>
<td>% of Total</td>
</tr>
<tr>
<td>------------------</td>
<td>-----------------</td>
<td>------------------</td>
</tr>
<tr>
<td>Innovative_outcome</td>
<td>0,0%</td>
<td>1,8%</td>
</tr>
<tr>
<td>% of Total</td>
<td>0,0%</td>
<td>1,1%</td>
</tr>
<tr>
<td>Total</td>
<td>Count</td>
<td>34</td>
</tr>
<tr>
<td>% within Age_all_group</td>
<td>38,2%</td>
<td>61,8%</td>
</tr>
<tr>
<td>% within</td>
<td>100,0%</td>
<td>100,0%</td>
</tr>
<tr>
<td>Innovative_outcome</td>
<td>% of Total</td>
<td>38,2%</td>
</tr>
</tbody>
</table>

### Chi-Square Tests

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>df</th>
<th>Asymptotic Significance (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>12,158a</td>
<td>6</td>
<td>.059</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>15,711</td>
<td>6</td>
<td>.015</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>1,315</td>
<td>1</td>
<td>.251</td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>89</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. 8 cells (57,1%) have expected count less than 5. The minimum expected count is .38.
### Appendix 12: Chi-Square test regarding age groups and better funding opportunities

#### Crosstab

<table>
<thead>
<tr>
<th>Age_two_group</th>
<th>Count</th>
<th>Better_funding_opportunities</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;33</td>
<td></td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td></td>
<td>23</td>
<td>23</td>
<td>31</td>
</tr>
<tr>
<td>% within Age_two_group</td>
<td>42,6%</td>
<td>57,4%</td>
<td>100,0%</td>
</tr>
<tr>
<td>% within Better_funding_opportunities</td>
<td>82,1%</td>
<td>50,8%</td>
<td>60,7%</td>
</tr>
<tr>
<td>% of Total</td>
<td>25,8%</td>
<td>34,8%</td>
<td>60,7%</td>
</tr>
<tr>
<td>&gt;33</td>
<td>5</td>
<td>5</td>
<td>30</td>
</tr>
<tr>
<td>% within Age_two_group</td>
<td>14,3%</td>
<td>85,7%</td>
<td>100,0%</td>
</tr>
<tr>
<td>% within Better_funding_opportunities</td>
<td>17,9%</td>
<td>49,2%</td>
<td>39,3%</td>
</tr>
<tr>
<td>% of Total</td>
<td>5,6%</td>
<td>33,7%</td>
<td>39,3%</td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>28</td>
<td>61</td>
</tr>
<tr>
<td>% within Age_two_group</td>
<td>31,5%</td>
<td>68,5%</td>
<td>100,0%</td>
</tr>
<tr>
<td>% within Better_funding_opportunities</td>
<td>100,0%</td>
<td>100,0%</td>
<td>100,0%</td>
</tr>
<tr>
<td>% of Total</td>
<td>31,5%</td>
<td>68,5%</td>
<td>100,0%</td>
</tr>
</tbody>
</table>

#### Chi-Square Tests

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>df</th>
<th>Asymptotic Significance (2-sided)</th>
<th>Exact Sig. (2-sided)</th>
<th>Exact Sig. (1-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>7,891a</td>
<td>1</td>
<td>,005</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuity Correctionb</td>
<td>6,633</td>
<td>1</td>
<td>,010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>8,469</td>
<td>1</td>
<td>,004</td>
<td>,005</td>
<td>,004</td>
</tr>
<tr>
<td>Fisher’s Exact Test</td>
<td>7,803</td>
<td>1</td>
<td>,005</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. 0 cells (0%) have expected count less than 5. The minimum expected count is 11,01.
b. Computed only for a 2x2 table
Appendix 13: Chi-Square test regarding professional activity and increased level of income

<table>
<thead>
<tr>
<th></th>
<th>Increased income</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>yes</td>
<td>no</td>
<td>Total</td>
</tr>
<tr>
<td>Employee, Non-employee</td>
<td>19</td>
<td>22</td>
<td>41</td>
</tr>
<tr>
<td>% within</td>
<td>46,3%</td>
<td>53,7%</td>
<td>100,0%</td>
</tr>
<tr>
<td>Employee, Non-employee</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within</td>
<td>70,4%</td>
<td>35,5%</td>
<td>46,1%</td>
</tr>
<tr>
<td>Increased income</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of Total</td>
<td>21,3%</td>
<td>24,7%</td>
<td>46,1%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Count</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee, Non-employee</td>
<td>8</td>
<td>40</td>
<td>48</td>
</tr>
<tr>
<td>% within</td>
<td>16,7%</td>
<td>83,3%</td>
<td>100,0%</td>
</tr>
<tr>
<td>Employee, Non-employee</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within</td>
<td>29,6%</td>
<td>64,5%</td>
<td>53,9%</td>
</tr>
<tr>
<td>Increased income</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of Total</td>
<td>9,0%</td>
<td>44,9%</td>
<td>53,9%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Count</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>27</td>
<td>62</td>
<td>89</td>
</tr>
<tr>
<td>% within</td>
<td>30,3%</td>
<td>69,7%</td>
<td>100,0%</td>
</tr>
<tr>
<td>Employee, Non-employee</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within</td>
<td>100,0%</td>
<td>100,0%</td>
<td>100,0%</td>
</tr>
<tr>
<td>Increased income</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of Total</td>
<td>30,3%</td>
<td>69,7%</td>
<td>100,0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>df</th>
<th>Asymptotic Significance (2-sided)</th>
<th>Exact Sig. (2-sided)</th>
<th>Exact Sig. (1-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>9,214a</td>
<td>1</td>
<td>.002</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuity Correctionb</td>
<td>7,863</td>
<td>1</td>
<td>.005</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>9,365</td>
<td>1</td>
<td>.002</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fisher’s Exact Test</td>
<td></td>
<td></td>
<td>.003</td>
<td>.002</td>
<td></td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>9,110</td>
<td>1</td>
<td>.003</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>89</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. 0 cells (0%) have expected count less than 5. The minimum expected count is 12.44.
b. Computed only for a 2x2 table
Appendix 14: Chi-Square test regarding the space and better funding opportunities

<table>
<thead>
<tr>
<th>Space * Better_funding_opportunities Crosstabulation</th>
<th>Better_funding_opportunities</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>Space SW1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>15</td>
<td>11</td>
</tr>
<tr>
<td>% within Space</td>
<td>57,7%</td>
<td>42,3%</td>
</tr>
<tr>
<td>% within Better_funding_opportunities</td>
<td>53,6%</td>
<td>18,0%</td>
</tr>
<tr>
<td>% of Total</td>
<td>16,9%</td>
<td>12,4%</td>
</tr>
<tr>
<td>SW2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>10</td>
<td>40</td>
</tr>
<tr>
<td>% within Space</td>
<td>20,0%</td>
<td>80,0%</td>
</tr>
<tr>
<td>% within Better_funding_opportunities</td>
<td>35,7%</td>
<td>65,6%</td>
</tr>
<tr>
<td>% of Total</td>
<td>11,2%</td>
<td>44,9%</td>
</tr>
<tr>
<td>SW5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>% within Space</td>
<td>23,1%</td>
<td>76,9%</td>
</tr>
<tr>
<td>% within Better_funding_opportunities</td>
<td>10,7%</td>
<td>16,4%</td>
</tr>
<tr>
<td>% of Total</td>
<td>3,4%</td>
<td>11,2%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>28</td>
<td>61</td>
</tr>
<tr>
<td>% within Space</td>
<td>31,5%</td>
<td>68,5%</td>
</tr>
<tr>
<td>% within Better_funding_opportunities</td>
<td>100,0%</td>
<td>100,0%</td>
</tr>
<tr>
<td>% of Total</td>
<td>31,5%</td>
<td>68,5%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chi-Square Tests</th>
<th>Value</th>
<th>df</th>
<th>Asymptotic Significance (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>11,766a</td>
<td>2</td>
<td>.003</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>11,336</td>
<td>2</td>
<td>.003</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>7,733</td>
<td>1</td>
<td>.005</td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>89</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. 1 cells (16,7%) have expected count less than 5. The minimum expected count is 4,09.
Appendix 15: Chi-Square test regarding introducing a new product and level of collaboration

<table>
<thead>
<tr>
<th>Crosstab</th>
<th>New project</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>yes</td>
<td>no</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>Introducing_new_products</td>
<td>yes</td>
<td>Count</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>% within</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Introducing_new_products</td>
<td>60,0%</td>
<td>40,0%</td>
<td>100,0%</td>
</tr>
<tr>
<td></td>
<td>% within New_project</td>
<td>26,5%</td>
<td>10,9%</td>
<td>16,9%</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>10,1%</td>
<td>6,7%</td>
<td>16,9%</td>
</tr>
<tr>
<td>Introducing_new_products</td>
<td>no</td>
<td>Count</td>
<td>25</td>
<td>49</td>
</tr>
<tr>
<td></td>
<td>% within</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Introducing_new_products</td>
<td>33,8%</td>
<td>66,2%</td>
<td>100,0%</td>
</tr>
<tr>
<td></td>
<td>% within New_project</td>
<td>73,5%</td>
<td>89,1%</td>
<td>83,1%</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>28,1%</td>
<td>55,1%</td>
<td>83,1%</td>
</tr>
<tr>
<td>Introducing_new_products</td>
<td>Total</td>
<td>Count</td>
<td>34</td>
<td>55</td>
</tr>
<tr>
<td></td>
<td>% within</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Introducing_new_products</td>
<td>38,2%</td>
<td>61,8%</td>
<td>100,0%</td>
</tr>
<tr>
<td></td>
<td>% within New_project</td>
<td>100,0%</td>
<td>100,0%</td>
<td>100,0%</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>38,2%</td>
<td>61,8%</td>
<td>100,0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chi-Square Tests</th>
<th>Value</th>
<th>df</th>
<th>Asymptotic Significance (2-sided)</th>
<th>Exact Sig. (2-sided)</th>
<th>Exact Sig. (1-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>3,631a</td>
<td>1</td>
<td>.057</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuity Correctionb</td>
<td>2,605</td>
<td>1</td>
<td>.107</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>3,528</td>
<td>1</td>
<td>.060</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fisher’s Exact Test</td>
<td>3,590</td>
<td>1</td>
<td>.058</td>
<td>.080</td>
<td>.055</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>89</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. 0 cells (0,0%) have expected count less than 5. The minimum expected count is 5,73.
b. Computed only for a 2x2 table
Appendix 16: Chi-Square test regarding age of members and non-users

<table>
<thead>
<tr>
<th>Member * Age_two_group Crosstabulation</th>
<th>Age_two_group</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt;33</td>
<td>33&lt;</td>
</tr>
<tr>
<td>Member yes</td>
<td>54</td>
<td>35</td>
</tr>
<tr>
<td>% within Member</td>
<td>60,7%</td>
<td>39,3%</td>
</tr>
<tr>
<td>% within Age_two_group</td>
<td>71,1%</td>
<td>53,0%</td>
</tr>
<tr>
<td>% of Total</td>
<td>38,0%</td>
<td>24,6%</td>
</tr>
<tr>
<td>no</td>
<td>22</td>
<td>31</td>
</tr>
<tr>
<td>% within Member</td>
<td>41,5%</td>
<td>58,5%</td>
</tr>
<tr>
<td>% within Age_two_group</td>
<td>28,9%</td>
<td>47,0%</td>
</tr>
<tr>
<td>% of Total</td>
<td>15,5%</td>
<td>21,8%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total</th>
<th>Count</th>
<th>76</th>
<th>66</th>
<th>142</th>
</tr>
</thead>
<tbody>
<tr>
<td>% within Member</td>
<td>53,5%</td>
<td>46,5%</td>
<td>100,0%</td>
<td></td>
</tr>
<tr>
<td>% within Age_two_group</td>
<td>100,0%</td>
<td>100,0%</td>
<td>100,0%</td>
<td></td>
</tr>
<tr>
<td>% of Total</td>
<td>53,5%</td>
<td>46,5%</td>
<td>100,0%</td>
<td></td>
</tr>
</tbody>
</table>

Chi-Square Tests

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
<th>df</th>
<th>Asymptotic Significance (2-sided)</th>
<th>Exact Sig. (2-sided)</th>
<th>Exact Sig. (1-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>4.905a</td>
<td>1</td>
<td>.027</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuity Correctionb</td>
<td>4.164</td>
<td>1</td>
<td>.041</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>4.918</td>
<td>1</td>
<td>.027</td>
<td></td>
<td>.037</td>
</tr>
<tr>
<td>Fisher’s Exact Test</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.021</td>
</tr>
<tr>
<td>Linear-by-Linear</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Association</td>
<td>4.870</td>
<td>1</td>
<td>.027</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>142</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. 0 cells (0,0%) have expected count less than 5. The minimum expected count is 24,63.
b. Computed only for a 2x2 table