

**The Adoption of Teleworking as an innovative work
practice by Small Business Enterprises in South
Wales**

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ABSTRACT

This thesis examines Teleworking as an innovative practice in small business enterprises in South Wales and how they have embraced and applied it as an innovation tool as arguably, innovation is at the heart of any successful organisation especially in the light of the nascent emerging pro-cost saving and “green” work environments that organisations have been embracing in an economy largely dominated by the conventional working pattern and style. In recent years there has been a shift in how organisations and businesses are run and a renaissance in the economic thinking of Welsh small business organisations perhaps due to the economic downturn and present government cuts and realities of the state of the economy which has resulted in a shift from the conventional ways work is carried out and the way innovation in the workplace is applied, to the open and flexible work pattern that still delivers great results and profits to organisations and a times at less cost. Organisations are more employee friendly and more compassionate to the needs of their staff because as any good employer knows, a key element for success, profitability, positive outcomes and business strength is based on employee fulfilment which in part comprises of providing the support and option for teleworking and flexible working as key recipes for organisational success.

These developments have prompted this research into whether the study into the benefits and barriers of teleworking has a significant role in the evolution of teleworking in the workplace environment and if it is in line with organisational innovation plans. This research is undertaken to underpin the importance of innovation with emphasis on teleworking adoption in small business organisations. In order to accomplish these tasks, the research uses a qualitative research approach which employed an online focus groups and in-depth interviews through questionnaires and interviews with various organisations, employees and employers and key policy makers in Wales and construct a framework that will provide understanding. The research concludes that teleworking is regarded to be important for the advancement of small business organisations in Wales. It is the first study to investigate and evaluate the practice of teleworking and how its innovative application framework affects small business organisations directly in Wales to help businesses succeed.



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This is to certify that, except where specific reference is made, the work described in this thesis is the result of the candidate's research. Neither this thesis, nor any part of it, has been presented, or is currently submitted, in candidature for any degree at any other University.

Signed

A handwritten signature in blue ink, written over a dotted line.

Candidate

Date

28th February 2014

Signed

A handwritten signature in blue ink, written over a dotted line.

Director of Studies

Date

28th February 2014

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CHAPTER 1

INTRODUCTION

CHAPTER 1 :

INTRODUCTION

1.1 Introduction

This chapter presents a synopsis of the ideas and issues, which form the basis of the thesis. Many of the subjects raised are dealt with in greater depth later in the thesis, but suffice at this juncture to give the reader a taste of what is to come.

The primary concern of this study is to emphasize the significance of innovation through teleworking. The proliferation of technology has changed our lives forever which is practically evident from the laptop computers we use to the mobile phones and digital gateways that our televisions and diverse computer gadgets such as iPhone and iPad tap into and this thesis investigates whether teleworking as a recent widely discussed and growing alternative form of work (DTI, 2003) contributes to innovation in public and private organisations. The study focuses on Welsh business organisations and the barriers and benefits of teleworking and different definitions of teleworking in order to have a comprehensive view of the teleworking concept in relation to its application in this research. The study adds to an existing body of literature on teleworking and specifically concerns itself with the adoption of teleworking as a workplace innovation with a view to comprehensively understanding the dynamics of teleworking in modern organisations, which will offer important implications for other researchers in future studies.

1.2 Teleworking Definitions

The definition of telework proposed by the European Commission reads as follows: *“Telework is a form of organising work, using information technology, in the context of an employment contract/relationship, where work, which could also be performed at the employer’s premises, is carried out away from those premises on a regular basis”* (Krzyskow, 2006). The function of technology is reinforced by the definition used in the Polish legislations labour code which defines *telework as “work done on a regular*

basis from the workplace, using means of electronic communication, i.e. technical solutions, including information technology devices and appropriate software tools, which enable individual communication over a distance while transferring data between information technology systems. A teleworker is a person who performs telework and passes the result of their work to the employer by means of electronic communication, especially by means of e-mail” (Krzyskow, 2007). The Australian Telework Advisory Committee (2005) adopted a working definition of telework to include work undertaken, either on a full-time, part-time or occasional basis, by an employee or self-employed person, which is performed away from the traditional office environment. Including from home, and which is enabled by ICT, such as mobile telephony or the internet. Australian Telework Advisory Committee (2006) research findings show that owing to the lack of a consistent definition of telework, it is difficult to assemble authoritative data when measuring the uptake of telework across industry sectors and between countries. Notwithstanding the difficulties in assembling comparable statistics, there is a surprising level of consistency in the conclusions of researchers who have studied telework, including the capacity of these arrangements to support business productivity and efficiency improvements, and their ability to broaden workforce participation. Daniels et al (2001) define mobile telework, which is referred to as multi-location or nomadic telework as a brand of work that usually involves travel and/or spending time on the customer’s work location with the teleworker probably utilising laptop computers and mobile phones to support their mobile work.

Mobile telework is classed as a form of working where those carrying out this work pattern work at a range of locations, spending a considerable amount of time away from home and office locations. In an analysis of Daniel’s definition of mobile teleworking, Hislop & Axtell (2007) suggest that the technology element of the definition leaves out jobs such as lorry driving, which involves considerable amounts of mobility however in some way necessitates minimal use to be made of information and communication technologies. Perez *et al* (2004) views teleworking as the organisation of work through the utilisation of communication and information technologies that

facilitate managers and employees to access their work activities from distant locations such as hotels, airports and other remote locations (mobile teleworking), managers and employees' homes (home-based teleworking) and branch offices set up solely for the intention of lightening the employees commute daily (telecentres or teleworking centres).

Niles' (1994) definition of teleworking concurs with the work of Perez *et al* (2004), by defining telework as working outside the conventional work place and communicating with it by way of telecommunications or computer-based technology. Sullivan & Lewis (2001) encapsulate most of the above definitions of telework in a brief definition which states that telework is work practice that takes place anywhere anytime. Salomon (1998) sees teleworking as a 'complex solution' and advocates a multidimensional approach to its study as such, rather than a purely technological one. It is not only the availability of technology that makes teleworking possible but the phenomenon has some inherent value that creates demand for it. This complexity can be attributed to teleworking affecting a variety of domains of life; namely: self-image, work, relationships with family members and others, spatial behaviour, firms and their organisational behaviour. Telework primarily can be seen as “a work arrangement in which employees perform their regular work at a site other than the ordinary workplace, supported by technological connections” (Fitzer, 1997).

1.3 Delimitation of Scope and key assumptions

Small Business Enterprises carrying out their business operations in Wales in the United Kingdom have been chosen as the context of this research. The focus on top organisations in Wales will not overshadow the thesis searchlight on innovation and the workplace environmental locations in Wales as stand-alone components and characteristics of the teleworking study. Understanding of such organisations may differ from that in other parts of the country. The study is limited to the examinations of how Wales's organisations currently perceive teleworking and what factors are influencing them as well as identifying barriers that might hinder the application of teleworking to these public and private organisations. The study provides an organisational view

point of teleworking as an innovation tool and also takes into account the employee perspective which gives this study the balance of different views and opinions with a view to highlighting and factors that influence the successful use of teleworking in Wales. Not forgetting the stakeholders and policymakers' viewpoints.

1.4 Overview

Researchers have claimed that Teleworking adoption and theories necessitate fresh advances to managing information, teams, process individuals and technologies (Davenport and Pearlson, 1998), in addition, telework has reconfigured the mind-set on how and where work can be carried out and executed, and this has made employers to have another look at how performance is judged in the supervision of employees (Bailey and Kurland, 2002). Telework remains of paramount interest to researchers in theoretical matters (Goodrich, 1990; Skyrme, 1994; Metzger and Von Glinow, 1998) and the same can be said of the interest it still generates in empirical research (Yap and Tang, 1990; Huws, 1993). The enormous potential and hydra headed implication of telework on society, individuals and organisations continue to attract the attention and interest of practitioners and academia. However, in spite of all the positive outcomes and implications of teleworking on organisations, employees and societies, in addition to advanced technological, social and semi-solid structures, teleworking has not delivered as anticipated (Shin et al, 1997). Teleworking which encompasses the use of new technologies has increasingly becoming widespread. Its acceptance as an everyday option in working life and not a bizarre and extraordinary way to earn a living, has become an everyday every week option in working life, a phenomena that opens up new business choices in relation to where, when and how to work. However, the fact that teleworking in its emergence has become common does not make it essentially trouble free. Workers used to the space, the banter, the traditional environment and the close employee-employer relations, manager and subordinate relations, can become disconcerted and perturbed in a remote work setting such as teleworking. For teleworking to succeed, new skills and new attitudes will have to be forged and developed especially for employees that have traditionally always worked in a close

office environment organisation as it takes some getting used to (Bertin and Denbigh, 1998). Denbigh (2003) says “*Teleworking is a part of a range of flexible work practices which are becoming widespread. Other new forms of work include flexitime, part-time working, job-sharing and career breaks. The umbrella term for many of these work practices is ‘work-life balance’.* *Teleworking is one of a number of ways for companies and self-employed people to manage the stressful changes in traffic congestion, property cost, skill shortages, and family duties affecting working life*”. The prevalence of teleworking is significant and continues to be enhanced and this is particularly true in the service sectors (Hunton, 2005, Phelan, 2002). The truth about teleworking is that as it expands and becomes more widely accepted, researchers, organisations and stakeholders will have to appreciate factors such as the environmental and organisational elements that will influence its failure or its success (Campbell and McDonald, 2007).

Detailed studies of the concept of teleworking have been presented (Huws, 1991, Julsrud, 1996) however this study has considered teleworking as an innovation tool in Wales especially in top public and private organisations. The research was undertaken in four stages. Stage one involved an assessment of the existing literature on teleworking and the features, definitions, concepts and models associated with it. Stage two investigated the innovation element in itself and in organisations and ultimately its application and theories. It’s input in making organisations a more functional environment in relation to teleworking. Stage three followed with a detailed look at the Wales economy and how it aligns with the key research themes, which leads to stage four where the questionnaire was designed and principal factors involved in the adoption of teleworking as an innovative tool were identified.

Teleworking practice in Wales is under the microscope in this thesis and this research draws on both the research carried out in chapter 6 and the teleworking and innovation literature and attempts to investigate the benefits and barriers, potentials, limitations and emerging issues associated with this type of work and its innovative effect in the workplace in small business enterprises. It continues to be a growing phenomenon with the inroads made

by technology and its ever expanding effect on businesses, individuals and work patterns. The age long approach to work which requires work to be carried out solely in an office within certain hours of the day, is no more applicable to a lot of jobs in recent times (Tietze, 2002). This buttresses the point made by Tietze and Musson (2002) which supports the fact that for many employees, work is no longer viewed as a place to go to earn a wage but now viewed as an “activity” that is carried out anytime anywhere.

1.5. Research Questions, Aim and Objectives

The research questions have been developed from the South Wales teleworking context and the literature review undertaken in chapters two, three and four, respectively. It appears that there has never been a major teleworking mapping in South Wales, benefits that support teleworking, barriers that affect teleworking and its smooth adoption as a workplace innovation. As a consequence, the research questions are designed to address the gaps identified. The research questions are structured in a logical sequence to facilitate a frequentative implementation. The research questions inform the hypotheses expressed in chapter five.

1.5.1 Research Aim

- The research aim is to develop a teleworking adoption framework through the analysis of contemporary barriers and benefits of the adoption of teleworking as an innovation tool for SBE’s in South Wales.

1.5.2 Thesis Objectives

- To gain an in-depth understanding of teleworking and its functionalities (R.O.1)
- To undertake an evaluation and assessment of small business enterprises in relation to teleworking and innovation practice, policy and programmes and perceived relevance in South Wales Small Business Enterprises, leading to a conceptual framework (R.O.2)

- To develop a framework that highlights the importance of the adoption factors involved in Small Business Enterprises in South Wales and highlight Teleworking as a successful innovation driver and tool (R.O.3)
- To demonstrate the practical application of the final teleworking adoption framework (R.O.4)

1.5.3 Research Questions:

- What constitutes teleworking and how is it defined and implemented in Small Business Enterprises in South Wales?
- How do Small Business Organisations in South Wales overcome the barriers to adopting teleworking?
- How do South Wales employers and employees manage their teleworking and innovation objectives?
- To what extent do teleworking practices as an innovative tool affect Small Business Enterprises in South Wales's performance?
- Can a final teleworking adoption framework be derived from the study?

Similarly, the thesis aim and objectives listed are representative of the teleworking framework and literature review. As with the research questions identified above, the aim and objectives identified are focused upon accomplishing a better understanding of the functions and outcomes of teleworking and innovation practices in South Wales.

1.6 Thesis Structure

The first stage of this research procedure was a review of relevant existing research. Given the nature of the topic under investigation, three main literature bases were explored, namely, teleworking, innovation and Wales's economy and organisational sectors. These literatures can be viewed in the following chapters of the literature base.

The literature review enabled the researcher to benefit from previous research which provided the basis for the investigation of the adoption of teleworking as an innovative tool in Welsh small business enterprises. The thesis is

contextualised in South Wales, in particular in a teleworking and innovation backdrop and review. The research consisted of two main stages. Firstly, a conceptual framework designed from the literature and bringing together a group of professionals and experts and asking them a set of questions to test the validity of the conceptual framework with the aim of understanding how they operate in their environment and how they perceive teleworking and its components. Another group of employers and employees that practice teleworking and are perceived as the “engine room” of their organisations were questioned to review the revised conceptual framework and their viewpoint will give a better understanding of their experience in regard to teleworking. The second stage of the research involved semi-structured interviews and a focus group with key policy makers to further elaborate on points already delivered in the questionnaire, and to identify the common themes involved.

Chapter two provides a general view of Wales and an understanding of the research setting and location to give a backdrop of the people, environment, economy and society in which the research took place. In general terms it includes the historical and geographical background and gives an overview of the economy. It pays particular attention to the demographic being researched. Chapter three discusses small business enterprises and showcases the different attributes and how they function and work to ensuring their success and longevity and contribution to economic growth and prosperity. Chapter four is about teleworking and discusses the importance of teleworking and its organisational, economical as well as social and personal viewpoints. It also considers the benefits, barriers, constraints and challenges of teleworking. The contemporary environmental element is also addressed as well as the technological elements of teleworking.

Chapter five focuses on the literature relating to innovation and begins with an investigation into the meaning of innovation. Its application and interpretation have over time been applied to a wide spectrum of contexts and deduced in diverse ways. The concepts of innovation such as the role of social innovation as well as hidden innovation in relation to the thesis themes will be explored. These sections of the literature review provide a deep structure to inform the

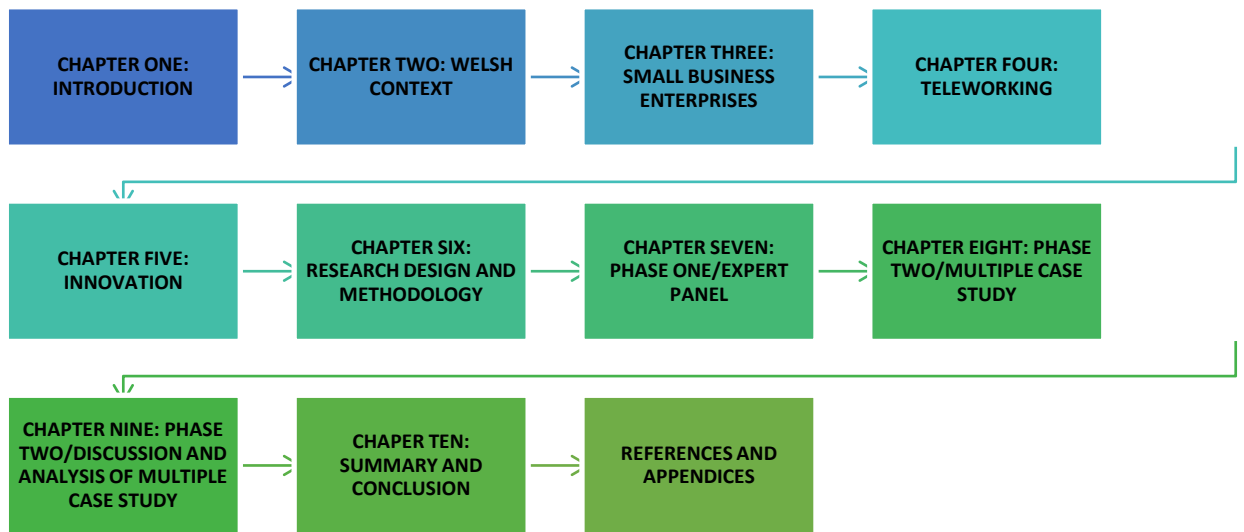
hypothesis of the thesis. The exploration of diverse innovation definitions will also be highlighted and how it has evolved to being a philosophy. It also considers innovation through explanation of different contributions to the workplace. The chapter concludes by showing the relationship between innovation and teleworking.

Chapter six's focal point is on the research design and methodology. It defines the philosophy of the research and methods explored for data collection. It also describes the research stages and the difficulties experienced in conducting the research. Chapter seven reports the phase one expert panel which highlights the initial stage of the research that involves issues concerning experts and how their expert input contributes to the adoption of teleworking debate in the thesis. Chapter eight is about in-depth interviews and the nature of how the studies were carried out, the location, type of employers and business owners who were interviewed and the dynamics and challenges encountered in the general delivery of this thesis stage. Chapter nine discusses the analysis of the in-depth interviews and discussion analysis which primarily involves the "engine room" of the organisation which are the business owners, employers and employees and highlights their personal experiences in the discussion of the thesis. The questions were designed to deal with issues that concern the employees, employers and business owners in relation to teleworking adoption and their feedback on their experiences.

Chapter ten, which is the final chapter includes and outlines the conclusions and recommendations, as well as defining problems facing teleworking in Wales. It also looks at its implication for policymakers, contribution to knowledge and limitations and identifies areas for future research.

The thesis has been arranged in ten chapters. The structure of the thesis is presented in Figure 1. This outlines all thesis related materials in the chapters.

Figure 1: Thesis structure



1.7 Conclusion

This chapter has laid the foundation for the thesis. It introduced the research question, objectives and hypotheses. The structure of the thesis was outlined to cover all areas related to the research where chapters seven, eight and nine exploring teleworking, innovation and Welsh economy and small business organisations and their composition highlighted in chapter six with research design and methodology, followed by chapter ten which highlighted the research findings, analysis, summary, conclusions and recommendations. On these foundations the thesis can proceed with detailed description of the research. The following chapter reviews the literature on Wales and the development of research and contextual framework in this field.

CHAPTER 2

WELSH CONTEXT

CHAPTER 2 :

WALES

2.1 Introduction

The framework of the study has a deep-seated function in enhancing and understanding of the key themes being investigated in this thesis. Wales, its people, economy and resurgent business climate has provided a fascinating study area to carry out research in this demographical location, therefore an exploration of the country has been undertaken to grasp a deeper understanding and in-depth knowledge of Wales and its economy. Understanding the context of this study will most definitely help in giving a clearer picture of the phenomenon of teleworking being investigated in this thesis. An examination and analysis of Wales and indeed, its geographical, population, historical and economic elements will be under review and taken into consideration when reviewing teleworking and innovation elements in the Wales demographic. By reviewing the above elements, a clearer picture will emerge to synergise all the components of the study. For the purpose of the study, the Telework Association assisted in the review of small business enterprises that this study contained in addition to the top 300 companies in Wales according to the Western mail/University of Glamorgan study (Walesonline, 2012) which were used as a major reference and contact point for the research thereby buttressing the need for an evaluation of Wales in this context. An economy that is open to technological infusion is arguably a more successful one with a better futuristic outlook.

2.2 The Welsh state

Over 3 million people live in Wales according to the projections of the 2011 census and this population grew from 2.81 people in 2001 (Welsh Assembly Government, 2010a). South Wales is the most populated region in Wales, especially in the Newport, Cardiff and Swansea cities perhaps due to their cosmopolitan nature and easier access to other parts of the UK. Positive net

migration has been greatly experienced by most Welsh local authorities, with the exception of Rhondda Cynon Taff, Caerphilly, Flintshire, Ceredigion and Blaenau Gwent (Welsh Assembly Government, 2010a). The Welsh Government and the UK Government have been responsible for government in Wales since 1999. There are five cities that exist in total in Wales and they are Cardiff, Newport, Swansea, Bangor Gwynedd and St Davids (Beckett, 2005), however on the 14th of March 2012, St Asaph in North Wales was bestowed city status as part of the Queens Diamond Jubilee celebrations (BBC, 2012), making it the sixth city in Wales. Cardiff is the capital with a population of 345,400; Swansea has 238,700; Newport has 145,800, (Office of National statistics ONS, 2011), Bangor Gwyned has 13,725, St Asaph with 3,491 (2001 census figures) and St David's is the smallest city in the UK with just 1,797 residents (Welsh Government, 2011).

Since 1996, Wales has been divided into 22 (twenty-two) single tier principal areas also known as local councils in Wales (Table 1 and Figure 2). They are responsible for the provision of amenities and services in their localities which include road services, education, social work, local government services and the environment (Local Government Wales Act, 1994).

They are:

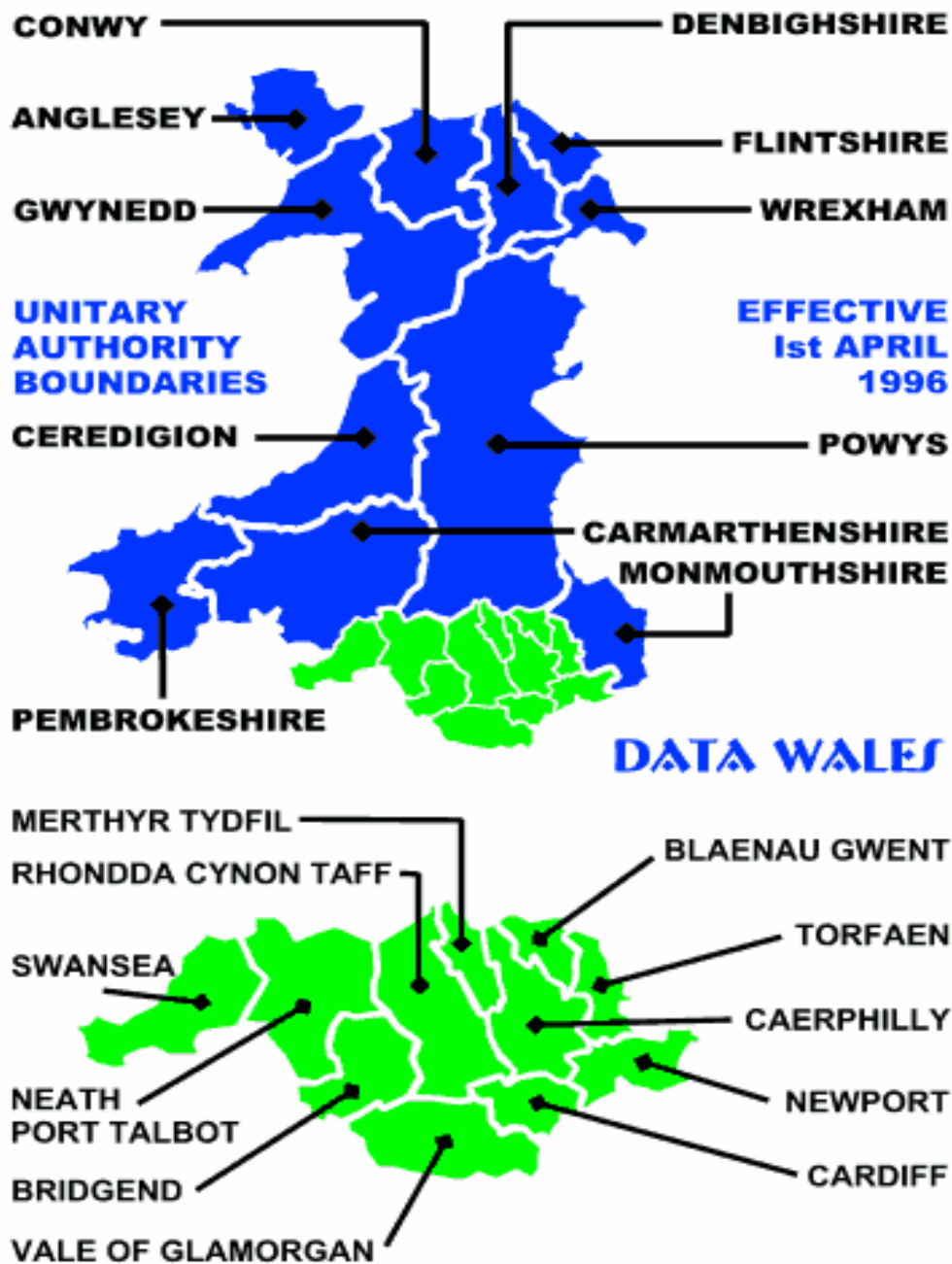
Table 1 - List of Welsh Principal Areas

Rank	Local Councils	in population	STYLE
	Wales		
1	<u>Cardiff</u>	345,400	City and County
2	<u>Swansea</u>	238,700	City and County
3	<u>Rhondda Cynon Taf</u>	234,400	County
4	Carmarthenshire	184,000	County
5	Caerphilly	178,800	County
6	Flintshire	152,700	County

7	<u>Newport</u>	145,800	City
8	<u>Neath Port Talbot</u>	139,900	County
9	<u>Bridgend</u>	139,400	County
10	<u>Wrexham</u>	135,100	County
11	Powys	133,100	County
12	<u>Vale of Glamorgan</u>	126,700	County
13	<u>Pembrokeshire</u>	122,600	County
14	<u>Gwynedd</u>	121,500	County
15	Conwy	115,300	County
16	<u>Denbighshire</u>	93,900	County
17	<u>Monmouthshire</u>	91,500	County
18	<u>Torfaen</u>	91,200	County
19	<u>Ceredigion</u>	75,300	County
20	Anglesey	69,900	County
21	<u>Blaenau Gwent</u>	69,800	County
22	<u>Merthyr Tydfil</u>	58,900	County

Source:http://en.wikipedia.org/wiki/List_of_Welsh_principal_areas_by_population, 2013

Figure 1 - The present Unitary Authorities



Source: <http://www.data-wales.co.uk/unimap.htm>, 2004

In the words of Garel Rhys (Professor of Economics, Cardiff Business School)
“Wales today is a product of its past, and Wales of the future is already being shaped by how we understand the present. Nineteenth-century Wales was essentially a village economy, transformed by dense clusters of coal and steel activity, sitting alongside the old agrarian tradition. There followed a further wave of restructuring with the introduction of more diversified manufacturing,

much of it inward investment from the rest of the UK and elsewhere, which widened the old narrow base and contributed to the growth of cities and towns, joined by new infrastructure. Towards the end of the twentieth century a new shift from manufacturing to the service industry, in common with the rest of the developed world is beginning to prevail, requiring still more adjustment by the Welsh people”(Bryan and Jones, 2000:26).

In the early 18th century, Wales as well as the rest of Great Britain was known for its agricultural production as its main economic activity, even though manufacturing traditions in Wales go back about two hundred years or more. Swansea had taken its stage on the World map and was becoming the capital of the world’s copper trade. Merthyr Tydfil was overrun by the English ironmasters in search of the rich reserves of ironstone around the Merthyr Tydfil zone. The internationally famous Cyfartha and Dowlais works made Merthyr Tydfil in 1830 the greatest iron-producing region in the World because of its provision of track for the British railways and later for most of the transcontinental rail channels in America and Europe. The dominant traditional economic inheritance in 1945 Wales was namely, coal, iron and steel, agriculture, and their dependent transport and construction activity was what kept to the regional economy at the time vibrant. These sectors as well as the industries they supported were well in need of restructuring and revamping because of the decline in their economic outputs thereby causing a long-term dearth in employment in the region. An industrial structure of Wales had to be fashioned in order to stem the tide of decay and decline in the region and this was spearheaded by government action in Wales which facilitated the importation of new manufactures, these were mainly consumer goods that were to be dedicated to retail sale within the United Kingdom, with the key aim of diversification of the economy. The effect of the diversification became visible in the sharp change in the employment pattern in Wales where from the pre-World-War II days, two out of every five employed males worked in coal, tinsplate and steel, the change was compared to one in four in 1965 Wales (Wanhill, 1980). The Coalfield Communities Campaign (2001) opined that numerous villages and towns that developed and expanded in Wales were groomed for just one purpose – to service the only industry in their region – the coal industry and this is why, after the fall of the coal industry, no other

major industries have flourished as widely as the coal industry did in those areas. For a better understanding of this important point, a quote from Cato (2004:15) says:

“It is easy to see the former industrial areas of the UK as failures. The economy has failed to develop in the exciting new industries of information technology services. The local workers have failed to adapt to new employment opportunities. But this sort of judgement is unfair, in an area reliant on a single form of employment, as the pit villages where, the whole culture and style of life became adapted to fit that type of work, whether coal mining or steel-making. If you know you are going to find work in your local village your expectation is that you don’t have to travel to work. The local infrastructure and transport system respond to this. When jobs appear in the next valley or in Cardiff it takes a major cultural and institutional change it enables you to fill those jobs. Getting on your bike is a particularly unhelpful response to unemployment in such an area, for practical as well as cultural reasons. Similarly, if you know that you will earn your daily bread as all your male relatives have done, by using your muscle power, you see little reason to develop dexterity, sensitivity or intellectual skills. Such skills might be disadvantageous in your future workplace. In such a cultural setting it is not sufficient to build a factory that requires neat, disciplined, pernickety workers and expect people to appear to fill those posts. In most areas, but especially in single-employer areas, workers adapt to the employment available. The precise adaptation of miners in South Wales explains the huge success of their work during the Age of Coal, but it equally explains their failure now”.

An overdependence on natural-resource supported industries in Wales was the dearth of the region. Rural Welsh towns were practically more productive and optimally supplied with and by physical output and manpower, however, they had declining profit levels and reduced revenues despite the government subsidy they enjoyed. Their remote locations and poor accessibility sent transport costs soaring thereby causing great disparity in the workforce parallel including the level of abilities, flexibility and skills of Welsh industries in comparison with other industrial regions of the United Kingdom (Midmore and Hughes, 1996).

2.3 20th Century Wales

The first two decades of the of the 20th century enhanced the economic profile of Wales and witnessed an economic boom period however that was short lived as the Welsh economy and most particularly, the industries that put Wales on the World stage slumped. This situation caused untold hardship to the Welsh citizenry especially those in the affected areas. Some of the ripple effects of the economic decline were poverty and the lack of disposable income as was the case in the boom time and pervasive unemployment that eventually led to civil agitation and a call for a more devolved government (Morgan, 1982). The negative economic fortunes of Wales also caused a population decline as many people moved to other parts of the United Kingdom in search of work and to source their livelihood. However it was not all doom and gloom for Wales in the 20th century as the Second World War temporarily increased the demands on the goods and outputs of the ailing Welsh industries (Davies et al, 2008). Major changes in Wales occurred in the 20th century such as the declaration of Cardiff as the capital city in 1964 (BBC, 2003), and the appointment for the first time of a Welsh secretary of state to head the government's Welsh office to give Wales a stronger voice in the central government of the United Kingdom and this gave rise to nationalism and the call for devolution became louder becoming more of a front burner issue than it had ever been (Morgan, 1982). The establishment of industrial estates and economic zones especially in disadvantaged towns was also one of the highlights of 20th century Wales as it proved successful and improved the lives of the people in the region. This regional policy development improved upon the existing layout of Wales because of the enhancement of roads, transportation and better means of communication in different regions especially with the building of the "M4" motorway linking the Capital city of London to Wales directly (Davies, 2008). The Welsh Assembly Government on its website explains that Wales is classed as a country even though part of the Great Britain union attached by land with England (WAG, 2008). The Government of Wales Act 1998 gives Wales the power to develop and execute its own budget and determine its administration, distribution and how it is spent. The Act enabled the setting up of The

National Assembly for Wales which resulted from the referendum on the creation of an assembly for Wales in 1997 (Betsan, 2010).

2.4 21st Century Wales

Wales has come a long way in its metamorphosis to the 21st century and most significant of all is the upgrade and transformation of the National Assembly to make its own laws by Acts of Assembly. This singular move which was held through a referendum on the 3rd of March, 2011 empowers the Welsh Government to take better charge of its affairs and change the lives of the people by empowering them socially and economically through Acts of Parliament. The bureaucratic “bottle necks” of the past of seeking the consent of the UK parliament agreement to pass laws governing Wales is now a thing of the past (BBC, 2011). Some 51% of adults in Wales expressed that they are in good and excellent health compared to 21% that define their health as fair and poor. Additionally, 67% of children in the same survey conducted by the Welsh Assembly Government called the Welsh Health Survey were discovered to be in good general health (WAG, 2009). A country with healthy citizenry such as Wales has a bright future. The Office of National Statistics (2009:2) Labour force survey estimates for Wales is quoted as saying that *“The employment rate for those aged from 16 - 64 in Wales was 67.7 per cent, up 0.4 percentage points from the same period a year earlier. The UK average was 70.2 per cent, down 0.5 percentage points from the same period a year earlier”*.

The Welsh Government in its wisdom promulgated the Government of Wales Act 2006 under sub-section 79, which in summary states that ministers are under a duty when appointed and during their assembly life span, to establish a government backed scheme in the promotion and advancement of sustainable development as they perform their duties. These indicators are to be embedded in everything they do (WAG, 2006). Sustainable Development indicators are used by the Welsh Assembly Government to assess the level of progress made in almost all of the aspects and spheres of the Welsh economy and polity and comparing the recent economic progress with past outputs in order to have a

clear progression or retrogression distinction. The indicators are to highlight improvements in the economy, little or no change in the economy or a clear deterioration in the Welsh economy and are also used to measure the progression and the success of the Welsh Government's sustainable development scheme. Annually, the Welsh Government by law is required to produce an annual report on sustainable development and progress levels. This report is utilised by the local authorities, the assembly members and other quasi-governmental sustainability and environmental bodies that are to shadow the government's progress and to ultimately make the government accountable for its actions and decisions. Below is a summary (Table 2) of the recent major sustainable development indicators that will provide a better picture of the state of the Welsh economy primarily in comparison with the UK as its bench-mark. Progress since 2003, 2004, 2005 to 2011 is highlighted. In order to enhance a better understanding of the table, a set of 'traffic lights' were designed to indicate the positive or negative direction of items regarding the Welsh economy.

They are:



= Clear Improvement



= Little or no change












































= Clear deterioration
















































= Insufficient or no comparable data

Table 2 - Sustainable Development Indicators Wales 2011

		UK Framework Indicator	Progress since Reference year	Trafficlight for Comparable region
1.Economic Output	GVA		 2003	 UK
	GVA per head		 2003	 UK
2.Socialjustice			 2002/05	 N/A
3.Biodiversity Conservation	Priority species Status		 2002	 N/A
	Priority habitat Status		 2002	
4.Ecologicalfootprint			 2003	 N/A
5.Wellbeing			 2003/04	 N/A
6.Greenhousegasemissions			 2003	 UK
7.Waste	Waste arising by Sector		 2002-03	
	Waste arising by Disposal		 N/A	 UK
8.Household Waste	Waste arising		 2003-04	 UK
	Recycled or Composted		 2003-04	 UK

9.Mobility	Walking and Cycling		 2002/03	 GB
	Public transport Use		 2002/03	 GB
	Travel to work		 2002/03	 N/A
10.Bird Populations	Short term Changes		 2003	 UK
	Long term Changes		 N/A	 N/A
11.Ecological Impact so fair pollution	Acidity		 2002-04	 UK
	Nutrient nitrogen		 2002-04	 UK
12.Airquality	Urban		 2007	 UK
	Rural		 2003	 UK

13. River quality	Biological		 2003	 England
	Chemical		 2003	 England
14. Soil quality			 N/A	 N/A
15. Sustainable water resources Management			 2001-02	 N/A
16. Employment			 2003	 UK
17. Resource efficiency			 2005	 N/A
18. Electricity from renewable Sources			 2003	 UK
19. Health Inequality	Infant mortality		 2003	 E&W
	Life expectancy		 2002-04	 GB
20. Benefit dependency			 2003	 N/A
21. Housing			 N/A	 N/A
22. Accessibility	GP surgery & Shopping centre		 2005/06	 England
	Grocer & hospital		 2005/06	
23. Crime	Police recorded crime		 2003-04	 N/A
	British Crime Survey		 2004-05	 E&W
24. Education	Core subject Indicator		 2003	 N/A
	Level 2		 2003	 England
	Level 4		 2003	 N/A
25. Child poverty			 2002/05	 UK/GB
26. Pensioner poverty			 2002/05	 UK/GB
27. Workless households			 2003	 UK
28. Active community participation			 2003	 E&W
29. Welsh language			 2003	 N/A

Source: <http://wales.gov.uk/docs/statistics/2011/110830susdev11en.pdf> (2011)

Using Table: 2 as a guide, it is clear that a majority of the indicators highlighted, display an improvement in 2011 than in 2010. The Employment indicator has deteriorated in Wales which is due to the current downward state of the economy (WG, 2011).

2.5 Geography

According to the Welsh Government (2011), Wales measures 274km (170 miles) from north to south, and 96km (60 miles) from east to west, with a 1200km (750 mile) coastline. Some 20,779 km²(8,023 sq miles) is the total land surface of Wales and it is estimated the 80% of its land surface is dedicated to agricultural endeavours. According to the Welsh Government fact file, Wales has 41 Blue flag beaches, 3 National Parks, 6 UNESCO World Heritage sites and 3 Areas of Outstanding Natural Beauty.

2.6 Population

The Welsh population is continuously evolving in relation to its ethnic makeup, age structure and its continuously changing mobility (Welsh Government, 2011). The current Wales population from the 2009 census stands at just over 3 million. However, according to the projections of 2009, the population crossed the 3 million mark between mid-2009 and mid-2010. The Welsh statistical report (2011) showed that the number of births alive increased to 34,937 in 2009 from 32,325 in 2004 which showed that the natural change in Wales was positive (less deaths and more births) which was sustained for the fourth successive year with 2009 showing 3,300 more births than deaths. The number of deaths' occurring in Wales in 2009 was 31,006 which is a slight decrease on 2008 which was 32,066. The ethnic diversity of Wales is showcased by the fact that 10 per cent of all live births were to mothers born outside the UK in 2009, a rise in the percentage in 1998 which was just 5 per cent of births to mothers born outside the UK. Another indicator of the nascent Wales ethnic and cultural diversity is the fact that in 2008, 16.4 thousand people migrated into Wales while 15.9 thousand individuals migrated from Wales to destinations overseas. It is projected that the Wales population estimates will rise by 8 per cent from 2008 to 3.2 million in 2023 (Statistics for Wales, 2010). Around 1 in 20 of the UK population lives in

Wales, which has 1.3 million households and Wales has a population density of 143 people per km². The current life expectancy according to the 2011 estimates are 77.0 years for males and 81.4 years for females (Welsh Government, 2011).

2.7 The Welsh Gross Value Added Data

According to the Welsh Government statistics in 2011, the total GVA (Gross Value Added) in Wales was £45.5 billion (UK total £1,301 billion) up from £43.9 billion in 2009. GVA estimated per head in Wales in 2009 was £14,842 and currently about £15,145 compared to the UK average of £20,849. The biggest contributor to the Welsh economy remains manufacturing with £6.5 billion, while financial insurance and insurance account for £2.3 billion (Barry, 2011). Exports in the second quarter of 2011 amounted to £3.4 billion, with the leading industries being: energy (£1b), engineering (£911m) and metals (£483m) (Welsh Government, 2011). The GVA are broadly viewed and deemed as the main benchmark measure for a country or region's economic performance, wealth and growth. This section of the chapter will seek to explore the GVA data by the Wales Nomenclature of Territorial units for Statistics (NUTS) with a view to determining Wales and its sub-regions wealth and economic gains. According to the European Commission (2011) *“The NUTS classification (Nomenclature of territorial units for statistics) is a hierarchical system for dividing up the economic territory of the European Union for the purpose of: the collection, development and harmonisation of the EU regional statistics and the Socio-economic analyses of the regions.*

- *NUTS 1: major socio-economic regions*
- *NUTS 2: basic regions for the application of regional policies*
- *NUTS 3: small regions for specific diagnosis”.*

A bleak future for the Welsh Economy was revealed when data comparisons were undertaken between the Wales GVA (Welsh NUTS3 area) data and the UK GVA data. Between 1995 and 2004, it was hoped that Welsh economic growth would progress at a steady upward pace and align with the direction of the UK GVA average; however the result has been one of deviation from this progressive path. In 2004, the Welsh GVA was 78 per cent of the UK average

but in 1995, it was 84 per cent of the comparable figure of the UK statistics which displays a dip of 7.14 per cent (Welsh Assembly Government, 2010b). The reason for the focus on this time period is the fact that during the same time frame, across the European Union, there was a remarkable improvement in economic integration and growth (European Commission, 2006). An assessment of the Welsh economy with a microscopic view will reveal a dichotomous economic landscape because on the one hand, in some Welsh sub-regions, there was a visible reduction in the comparable GVA performance where a -22.1 per cent fall in GVA occurred in Bridgend, Neath and Port Talbot NUTS3 area in addition to the West Wales and Valleys NUTS2 area which was -12.2 per cent (Welsh Assembly Government, 2010b). On the other hand and on a positive note, +10.4 per cent, +6.6 per cent and +3.7 per cent growth in GVA figures were recorded in the NUTS3 areas of Cardiff and the Vale of Glamorgan, Monmouthshire and Newport, and Swansea respectively (Welsh Assembly Government, 2010b). These positive and negative outcomes in GVA evaluation and outcomes in sub-regions in Wales continue with West Wales and the Valley region NUTS2 area in 2004 having 83.6 per cent of the Welsh average GVA per capita data (Welsh Assembly Government, 2010b). East Wales showcasing growth in its NUTS2 area records in the GVA per capita data of 128.7 per cent of the Welsh average (Welsh Assembly Government, 2010b). An unbalanced trend seems to be emerging in this analysis of the sub-regions and their economic GVA assessment especially during the European growth phase between 1995 and 2004. Wales GVA increased in its per capita figures by 46.5 per cent, the Valleys and West Wales produced a 38.1 per cent GVA per capita growth, while East Wales GVA was 56 per cent showcasing the imbalance in the economic trends (Welsh Assembly Government, 2010b). The two fastest developing and growth driven sub-regions in Wales are Cardiff and the Vale of Glamorgan, and Newport and Monmouthshire which are members of the East Wales bloc and part of the NUTS3 areas which recorded upward GVA figures between 1995 and 2004 of 74.9 per cent and 68.6 per cent (Welsh Assembly Government, 2010b). One is tempted to deduce that the dichotomy and nature of the Welsh Economic figures and development is a “dual speed” economy because of its deep regional GVA variations.

Table 3 - GVA per head, Wales, by NUTS 1, 2 and 3 areas, 2011

NUTS levels	Gross Value Added (£ per head)	Per Capita GVA as a percentage of UK GVA
Wales (NUTS level1)	15,696	75.2
West Wales and the Valleys (NUTS level2)	13,573	65.0
Isle of Anglesey (NUTS level 3)	12,624	60.5
Gwynedd	14,379	68.9
Conwy and Denbighshire	13,116	62.8
South West Wales	13,097	62.7
Central Valleys	12,985	62.2
Gwent Valleys	11,626	55.7
Bridgend and Neath Port Talbot	15,440	74.0
Swansea	15,933	76.3
East Wales (NUTS level 2)	19,309	92.5
Monmouthshire and Newport (NUTS level 3)	20,355	97.5
Cardiff and Vale of Glamorgan	21,366	102.4
Flintshire and Wrexham	17,820	85.4
Powys	13 329	63.9

Source: National Assembly for Wales (2012)

There is still a gloomy picture painted from the Table 3 because of the depreciation and reduction in the GVA data between Wales and the UK. In 2006, the Welsh GVA was 78 per cent of the UK average and that has currently fallen to 75.2 per cent which is the lowest amongst the devolved

countries and English regions (Welsh Government, 2011). There are significant movements of note in the GVA data in Wales such as the West Wales and Valleys per capita GVA, which is 65.0 per cent, revealing a downward movement from 83.6 per cent in 2004. In 2006, East Wales showcased 126.4 per cent however it was fallen deeply to 92.5 per cent in 2011. The Gwent Valleys emerged as the worst performing location in the 2011 analysis with 55.7 per cent. The lowest levels of GVA per head in Wales were in the Gwent Valleys at 55.7 per cent and the Isle of Anglesey at 60.5 per cent of the UK average. These areas accounted for two of the five NUTS 3 regions throughout the UK with the lowest GVA per head relative to the UK average. The Gwent Valleys had the second lowest GVA per head in the UK in 2011 as compared to a UK average of £20,000 (Jones-Evans, 2011). Unfortunately, Wales has been the poorest nation and has continually held the lowest GVA position since 1998. Wales has become a victim in the battle of the regions as the UK has by far the greatest levels of inequality in the European Union and this is very obvious to see by the statistical differential levels – the GVA of central London is ten times greater and higher than the GVA of the Gwent Valleys (Barry, 2011). Some additional insight into the imbalance of the GVA figures in Wales can be attributed to the excess commuting from the Valleys of South Wales to the cities of Cardiff, Newport, and Swansea which has an impact on teleworking because as shown in the Table 4., the GVA data for Wales is analysed on the residency of the people, which differs from the NUTS levels 2 and 3 that are determined by workplace. The commute out of one sub-region to another is expected to affect the NUTS level 3 figures. Locations with increased levels of inward commuting are more than likely to have relatively lower levels of residency. (National Assembly for Wales, 2009). A balanced level of residency and inward and outward commuting will more likely yield positive per capita GVA data. The extent of the decline in comparable GVA performance is highlighted in Table 4.

Table 4- Gross Value Added, Wales and the UK, 1997 to 2011

Year	Wales (£ per head)	UK (£ per head)	Per Head GVA in Wales as a percentage of UK GVA
1997	9,809	12,557	78.1
1998	10,254	13,243	77.4
1999	10,630	13,816	76.9
2000	10,967	14,322	76.6
2001	11,448	15,000	76.3
2002	11,987	15,707	76.3
2003	12,680	16,685	76.0
2004	13,269	17,525	75.7
2005	13,805	18,306	75.4
2006	14,454	19,184	75.3
2007	15,097	20,190	74.8
2008	15,179	20,495	74.1
2009	14,794	20,048	73.8
2010	15,407	20,579	74.9
2011	15,696	20,873	75.2

Source: National Assembly for Wales (2012)

GVA per head in Wales in 2011 was the lowest of all the devolved countries and English regions and has been the lowest for the entire time period 1997 to 2011. In 2011, the South East had the largest rise in GVA per head at 2.2 per cent, this was closely trailed by Northern Ireland at 2.0 per cent and Wales at 1.9 per cent. The increase in GVA per head for the UK as a whole in 2011 was 1.4 per cent which showed an average annual growth rate in GVA per head over the period 1997 to 2011 for the UK was 3.7 per cent. Almost as per usual, London had the highest average annual growth in GVA per head (4.4 per cent) followed by Scotland and the South East (3.9 per cent). Wales had the joint fourth lowest average annual growth rate over this period, along with the East of England and the North West (3.4 per cent) (National Assembly for Wales, 2012). In 2006 and 2007, Wales experienced the lowest GVA per capita

growth amongst all the UK nations and regions (National Assembly for Wales, 2009). During the phase 1997 to 2011, GVA per head in Wales has enlarged comparative to the UK average on only two occasions, in 2010 and 2011. In 2010 and 2011 significant growth occurred in every NUTS1 region of the UK. In 2011, the rate of annual growth decreased in every NUTS1 region when compared with the rate of growth in 2010. The rate of annual growth reduced the most in Wales (from 4.1 per cent in 2010 to 1.9 per cent in 2011). In both London and the South East GVA per head in 2011 was well above the UK average, at the same time as all other regions were below the UK average (National Assembly for Wales, 2011).

There are diverse schools of thought on the reasons behind the imbalance in the Welsh GVA statistics especially in its sub-regions. The wide divide between the scope and magnitude of the industry-based GVA contribution in West Wales and the Valleys, and East Wales (NUTS2 areas) can be blamed as a contributing factor to this divide. Industries such as hunting, fishing, forestry, manufacturing and agriculture have over time made West Wales and the Valleys more reliant than East Wales for GVA indicators. A great amount of the total GVA in West Wales and Valleys was attributed to the service sector and the same can be said of East Wales (Welsh Assembly Government, 2010b). Financial intermediation industrial category was highlighted especially as it was flagged up as having a marked difference in its GVA contribution. Some 5.6 percent to total GVA in East Wales was what financial intermediation contributed. However in West Wales and the Valleys, 2.7 per cent was what financial intermediation accounted for (Welsh Assembly Government, 2010a). The industrial structures of East Wales and West Wales and the Valleys have both benefitted from the contribution of real estate, renting and business activities; however there are noteworthy variations that have emerged. A figure of 22 per cent of GVA in East Wales is supplied by the renting, real estate and business activities categories compared to the 13.9 per cent that the same category contribute to in West Wales. The continuous dependence by West Wales and the Valleys on health and social work, education and public administration for its GVA is also a reason explaining the differing Welsh GVA. This is highlighted in the statistical analysis of the

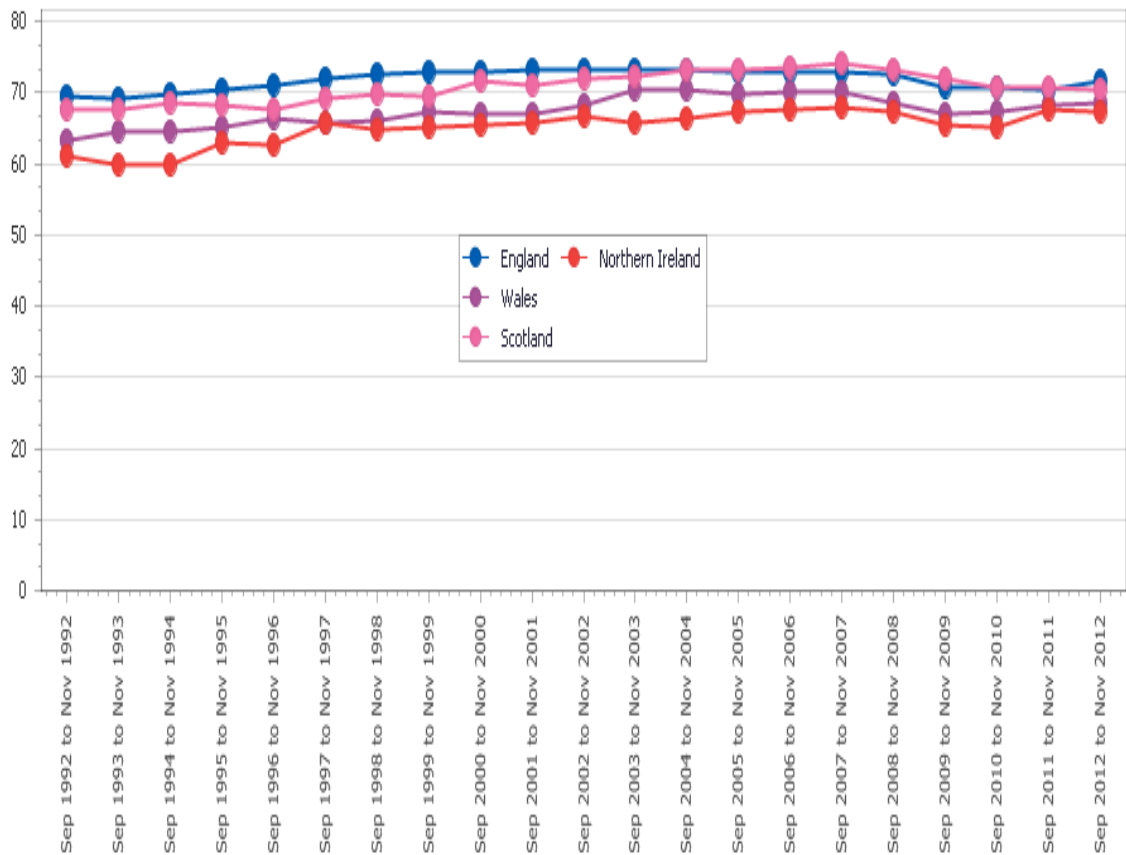
health and social work sector that accounted for 12.3 per cent of the GVA in West Wales and the Valleys and 8.9 per cent of the total GVA for the East Wales region (Welsh Assembly Government, 2009). It is evident that the dichotomy in the Welsh economy is greatly highlighted through the industrial developmental distributions and structures in Wales. The public sector is where most of the GVA in the West Wales and Valleys is generated and it is viewed as a more traditionally typical economy while the view on the East Wales sub region is the complete opposite as it is more of a private sector driven economy. The GVA in Wales in 2011 was £47.3 billion, an enhancement of 2.2 per cent on 2010. Total GVA for the United Kingdom increased by 2.4 per cent over the same period. The share of total UK GVA accounted for by Wales has remained stable at 3.5 per cent for the last four years. The GVA per head in Wales in 2011 was £15,696 or 75.2 per cent of the UK average (National Assembly for Wales, 2012), and these showcase the fact that Wales unfortunately still lags behind and remains the poorest nation in the UK, propping up the prosperity league. Over the last decade, GVA has progressively dropped behind the rest of the UK and, while the other devolved nations are also below the statistical average, they still in some way outperform Wales. The GVA figure for Wales in 1989 per head was 85.4% for the UK as a whole, however after the Welsh Assembly came into existence in 1999, it reduced to 77.4% (Blake, 2010) and currently 77.2% in 2011.. The strong words of Dylan Jones-Evans (2011) in his business for Wales's article reverberate strongly. He says and I quote, *“Wales remains the poorest part of the UK despite billions of pounds in additional European funding and a so-called devolution dividend. Not surprisingly, there remains the argument that the Welsh economy has suffered from long-term structural issues for decades especially in relation to manufacturing. Yet, the evidence suggests that the decline in this important industry, so critical for high value activities such as exporting, has actually declined at a faster rate in Wales since 1999 after actually growing during the early 1990s. There is also the issue of whether the Welsh Government could have done more or whether all the economic levers lie with the UK Government? Certainly, some will look enviously at the growth rate of the Scottish economy, which has expanded by 60 per cent whilst Wales has demonstrated the lowest growth of any of the four nations. Critics*

may also argue that most of the effort of politicians and civil servants has been equivalent to shuffling deckchairs on the Titanic, bringing in a new economic document every few years rather than taking a long term view of how to truly transform the economy. From “A Winning Wales” in 2002, to “Wales: a Vibrant Economy” in 2005 to the “Economic Renewal Programme” in 2010, what we have seen is policymakers tinkering at the edges of economic development rather than coming up with a real vision for the future of the nation’s prosperity, one that truly changes the way that this economy is managed. Certainly, the lack of real and consistent strategy has had a major impact on the nation’s economic potential and, consequently, much of the billions of European Structural Funding, as well as the money available from the Welsh Government’s own funds, has been largely squandered, despite having the highest proportional spend of any region on economic development. Back in 2001, the then Assembly Government under the leadership of Rhodri Morgan set targets to increase Wales's GVA to 90 per cent of the average for the UK by 2010. Unfortunately, we have gone nowhere near that target with Wales’ prosperity just being 74 per cent of the UK average 2010. Rather than writing yet another grand document, what is now needed is real action to drive forward entrepreneurship, innovation, productivity, exporting and skills to ensure that, in the next decade, the Welsh economy can make some major strides towards closing the prosperity gap and finally get off the bottom of the UK economic league table”.

2.8 Welsh Employment

The Welsh employment statistics showcase employment rates that are below the national UK rate according to the chart and table below in Figure 3 and Table 5. This trend does not paint the Welsh economy in good light as a strong economy in the UK, because England and Scotland have stronger economies, showing stronger statistical figures.

Figure 2 - Employment rates by UK country and quarter



Source: Welsh Government (2012a)

Table 5 - Employment rates by UK country and quarter

Quarter	Employment Rate				
	UK	England	Wales	Scotland	North Ireland
Sep 2005 to Nov 2005	72.7	73.0	69.7	73.2	67.4
Sep 2006 to Nov 2006	72.7	72.9	70.0	73.6	67.7
Sep 2007 to Nov 2007	72.8	73.0	70.1	74.2	67.9

to Nov					
2007					
Sep 2008	72.3	72.5	68.7	73.2	67.3
to Nov					
2008					
Sep 2009	70.6	70.8	67.1	72.0	65.4
to Nov					
2009					
Sep 2010	70.5	70.8	67.3	70.7	65.2
to Nov					
2012					
Sep 2011	70.3	70.4	68.2	70.9	67.8
to Nov					
2011					
Sep 2012	71.4	71.8	68.6	70.6	67.2
to Nov					
2012					

Source: Welsh Government (2012a)

The Northern Ireland economy in the UK that has the weakest statistics on employment however, in the chart above; we see Northern Ireland employment statistics closing with the Welsh economy and possibly to overtake it if the employment rates do not improve. However, it is not all doom in Wales, as according to the Welsh Government (2012:13-14),

“After the loss of its traditional heavy industries in the last quarter of the last century, the Welsh economy settled on to a growth path that was slow relative to the rest of the UK, not to mention the more dynamic economies abroad. More recently we have been hit by the aftermath of the global financial crisis, the consequent recession and the deflationary policies that the UK Government has adopted to reduce government borrowing and the national debt. We therefore face the double challenge of recession and rising unemployment, grafted on a structural problem of slow growth and low rates of economic activity. In this situation, policies to stimulate and strengthen our

economy become more urgent. For the next few years the Government's policy is to put more emphasis on growth-promoting economic policy and on generating employment compared even with other desirable social objectives. Our investment in infrastructure must reflect that priority.

A key element of our vision for the future of the Welsh economy is a strong move towards sustainability. In moving towards a low-carbon economy we hope not only to make the economy more efficient and resistant to rising costs of fossil fuels but also to develop skills and techniques that will enable Wales to build new businesses and export that expertise around the world. Investment to support energy efficiency and the development of new energy sources is therefore an important part of the strategy. Energy efficiency through the refurbishment of housing and other estates and the introduction of energy standards for new buildings have an immediate impact on employment since these activities require many work hours. Investment in these areas therefore will have unusually large effects in employing complementary labour. In promoting economic development, the Government has identified sectors where Wales can develop and increase its competitive advantage. Working closely with business leaders in those sectors we are tackling any blockages to development through appropriate public policies. In some cases, that involves targeted infrastructure development.

Research has shown the importance "clusters" of economic activity have in driving economic growth. Moreover, experience in other countries has shown that clusters may be fostered by the identification and encouragement of 'growth poles'. Those observations underlie the policy of denoting zones where specific encouragement is given to businesses. The Enterprise Zones announced by the Welsh Government relate to the sectoral strategy associated with particular sectoral development. Infrastructure investment to promote growth and jobs must therefore ensure that the infrastructure requirements of Welsh Enterprise Zones are met.

The provision of next generation Broadband Connectivity throughout Wales will be one element of providing adequate infrastructure. Energy and transport networks must also be upgraded. We need to concentrate our

resources where we can add the most value, acting as an enabler of growth in the economy. The future application of funding for land reclamation activities will have a much stronger alignment with projects that meet specific economic development objectives or where there is a requirement for such funding to meet wider Welsh Government aims. An ambitious programme in these areas will tax the strained resources of the Welsh Government over the next decade. It is important, therefore, that we work as closely as possible with the private sector, local authorities and the third-sector of voluntary and co-operative enterprises to maximise their investments in areas of common interests. Only by a more extensive mobilisation of resources that are available to the Government can we hope to support the Welsh economy through the current difficulties and launch it on a faster growth path that will make Wales a prosperous place to live and work”.

2.9 Welsh Economic Expansion

Huggins and Johnston (2010) describe Wales as one of the least competitive economies in the United Kingdom. The Welsh economic climate has been fraught with one form of regional economic policy programme or the other from the 1980s to date. Using the reverse chronology method, the Welsh Development Agency in the mid-2000s, designed a programme called the ‘Innovative Works’ scheme which was part of the agency’s drive in designing a bespoke Welsh innovation policy. This initiative was supported by the Department of Enterprise and Innovation at the Welsh Assembly Government which was an arm set up to drive enterprise and economic growth. In 2003 and 2005, innovation strategy guidelines were released by the Welsh Assembly Government namely, ‘Innovation Action Plan’ and Wales: A Vibrant Economy’, all aimed at economic expansion and improvement of the Welsh economic climate (WAG, 2000a) (WAG, 2005). Another highly regarded regional development economic programme that has made an impact in 21st century Wales is the European Union Objective One Structural Funding which was worth £1.2 billion. This particular development policy initiative was criticised by Cook and Clifton (2005) claiming that EU funding at best was an

opportunity that failed to be fully exploited by the Welsh people and government and at worst a unique opportunity missed. The criticism that the funding was a victim of bureaucratic bottlenecks and administrative logjams and the flawed allocation dispensing system was further viewed by Cook and Clifton (2005) by being particularly slow and went further to list initiatives that have suffered similar fates and failed to berth and offload positive dividends with a failure to meet set targets due to being tangled in the bureaucratic maze. Initiatives such as Finance Wales, Entrepreneurship Action Plan and the Knowledge Exploitation Fund were programmes arguably in the aforementioned category. These programme failures were not without a defence as Cooke and Clifton (2005) identified that the government at the time was going through the devolution process in Wales and hence the focus was on the reorganisation of the administrative governmental functions and structures, which were some mitigating circumstances that contributed to the safe approach applied by the Welsh Assembly. In spite of the criticism, there are still existent functional and operational innovative schemes that can enhance innovative activity in the Welsh Economy, such as the Regional Innovative Grants System and the Innovation Wales initiative that have some public sector support in order to enhance their success. However the debate remains rife as to if it is sector or people focused or if it will turn out to be one of the failed economic initiatives. Welsh manufacturing industry suffered huge losses in the late 1990s to the mid 2000s. According to Cooke and Clifton (2005), there was an increase in public sector administration jobs as the manufacturing sector suffered losses because the UK government increased expenditure on education and health in Wales. This increased expenditure by the mother government, supported and maintained employment levels in the governmental and administrative sector even though in the real sector, such as the manufacturing sector, the heavy job shortfall was felt. This according to Cooke and Clifton (2005) caused a false sense of prosperity and safety and one of the adverse effects was Welsh dependence and reliance on public sector and administration funding. These in themselves will not increase or nurture innovation in the Welsh economy. The fear that a strong reliance on public sector funds and jobs making the private sector economically inactive is real in Wales, because a reliance on public sector funding and supporting the Welsh

economy will not augur well for the innovative and entrepreneurial spirit of the Welsh people not catered for in the public sector. The final area of review in the reverse chronology of the Welsh economic expansion initiatives beams its searchlight on Welsh Development Agency (WDA) which in the 1980s and 1990s was the “midwife” for the regional economic policies in Wales. According to Cooke and Clifton (2005), the WDA supported the construction of factory buildings to draw global investors and attract them to the Welsh country to make investments here especially after creating an enabling environment for them to function. Wales became a brand under the WDA’s watch and was sold to business organisations in North America, Asia and Europe that successfully opened up branches in Wales. This successful strategy devised by the WDA was termed by the phrase “field of dreams” because of its success in pulling investors to the factories built by the Welsh Government (Cooke and Clifton, 2005). The WDA even with all its success and as an agency creating prosperous communities and working for its people with a view to enhancing business start-ups, development and growth, was on the 1st of April 2006, merged with Welsh Tourist Board (WTB) and the National Council for Education and Training (ELWa) and they were transferred into the administration of the Welsh Assembly Government (WAG) (National Assembly for Wales, 2005). They have become part of the Ministry for Economic Development in the Welsh Assembly Government. However according to the conservative shadow minister of environment and sustainable development, Russel George, speaking during the merger announcement of the Environment Agency of Wales, the Countryside Council for Wales and Forestry Commission Wales, He reasoned that the prior union of the Welsh Development Agency and the Wales Tourist Board with the National Council for Education and Training had been unsuccessful and did not deliver its intended value and impact (Utility Week, 2011). Moving forward in an optimistic spirit using the words of John Griffiths, the Welsh minister for Environment and Sustainable Development, *“as part of our commitment to delivering Sustainable Development, the Welsh Government is determined to use its powers to create the conditions necessary for economic growth and the creation of long term sustainable job opportunities for the people of Wales. We work across Government portfolios to ensure that our*

policies are integrated and appropriate. The planning system is a devolved responsibility of the Welsh Government and is pivotal to ensuring that job creating opportunities are facilitated and that they are located in the most appropriate and sustainable places. I am determined to ensure that the planning system supports economic growth in Wales and is recognised as an integral element of sustainable development, which is the central organising principle of the Welsh Government”(Welsh Government, 2012).

2.10 Welsh Innovation Initiatives

Wales can be viewed as a country with innovation embedded in its developmental fabric. The highly acclaimed and referenced document by the Welsh Assembly Government, ‘A Winning Wales’ used the diagram below (Figure 4) to outline the prominent role of innovation in the Welsh country and its role in inspiring business growth and economic development in all parts of the country.

Figure 3 - A Winning Wales and associated Action Plans, from Wales for Innovation



Source: Welsh Assembly Government (2003)

There have been different innovation initiatives designed for Wales and this section of the research will consider and evaluate some of them in order to understand the Welsh context in which this research is set with a view to highlighting the innovative vision and spirit of the Welsh Government. Networks are an integral part of innovation actions and aim in due course to develop the performance of businesses, by getting businesses to converse and exchange a bevy of ideas and to be conscious of significant initiatives and opportunities for their growth. Networks are viewed as a very important nest in which innovation seeks succor. Using two significant time frame years in Welsh innovation history which are 2005 and 2010 as a research focus highlighting when Innovation initiatives accelerated, a significant number of innovation networks set up in Wales are highlighted in the Figure 5 below:

Figure 4 - Innovation Networks in Wales in 2005



Source: www.wales4innovation.com, (2005)

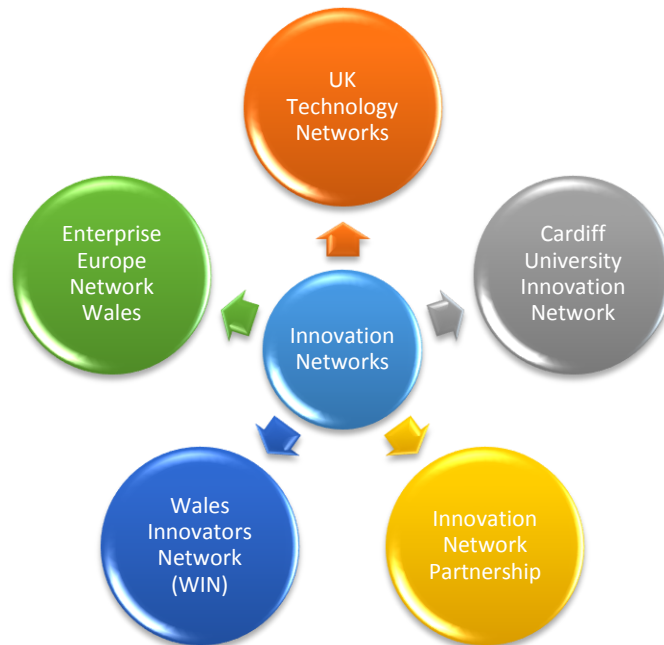
Table 6 - Percentage of enterprises who are innovation active, by Government Office Region and type of activity

Type of Activity	North east	North west	Yorkshire and the Humber	East midlands	West midlands	East of England	London	South east	South west	Wales	Scotland	North Ireland
Innovative activity	56.3	60.7	55.5	58.7	59.1	55.8	63.3	57.8	58.6	54.8	54.8	59.5
Product innovator	22.7	24.1	24.5	25.1	23.6	22.9	27.8	25.6	24.4	21.3	16.8	21.0
Process innovator	10.6	13.1	11.9	12.9	13.7	13.2	14.2	11.2	13.1	12.5	10.6	11.7
Abandoned innovation projects	2.5	2.8	3.2	2.9	4.5	5.2	4.0	3.1	3.3	2.5	2.7	3.1
On-going innovation projects	4.9	4.5	5.7	4.4	6.5	6.9	6.6	5.5	4.4	5.3	4.3	4.3
Activities related to innovation	53.0	57.1	50.0	55.5	57.3	53.5	59.9	52.6	55.6	53.1	53.2	56.0

Source: UK Innovation Survey (2009)

Table 6 above is an analysis that captures the UK innovation survey which compares the innovation activity in the UK regions and highlights Wales. Unfortunately, it showcases Wales's performance as being behind the strongest performers in the UK. Perhaps this is because the innovation process has not passed through all the sectors of the economy and with focus being paid on technology based ventures forgetting that there is a negative side to starving other sectors of the economy that may positively yield as much dividends as science and technology in the economy (TSBRC,2010).

Figure 5 - Innovation Networks in Wales 2010

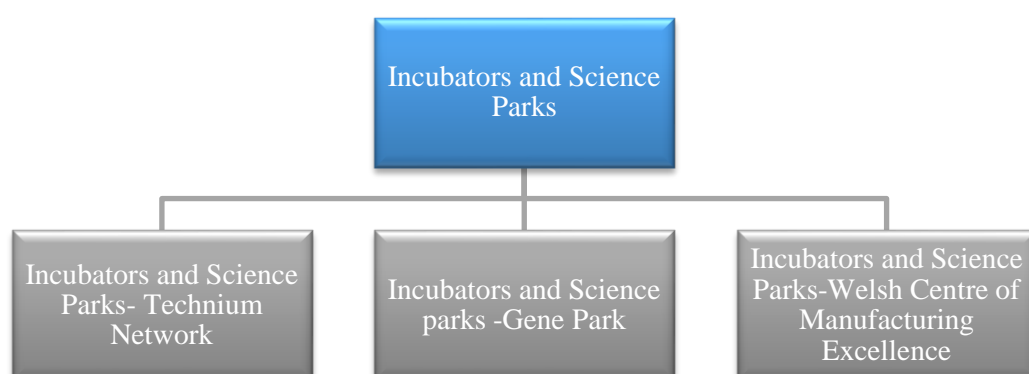


Source: Welsh Assembly Government programme information and publicity materials, (2010).

Figure 6 shows a noteworthy shift in the number of innovative networks as compared to Figure 5. A significant fall from 14 innovation networks to 5 networks is attributed to a number of issues. Innovation policy has evolved and a very important way of realizing the total in-depth economic impact of innovation is the commercialization and focus on Research and Development (R&D) activities and exploiting it to its full potential thereby causing a decrease in networks and also not promoting sectorised innovation but full cross sector innovation (TSBRC, 2010). Another reason for the reduction in networks is because of the Enterprise Europe Network Wales Initiative which is the home of all the European network initiatives. One of the very significant networks and arguably one of the oldest incorporated networks in Wales is called the Cardiff Innovation Network which was established in 1986 with its key aim to foster positive synergy between university and business. This network is highly significant because of its unique composition and nature which is its club membership network style and in tandem with its unique web-based online style. The services provided are the provision for the innovators that belong to the club to harness the business networking

opportunities that abound in addition to receiving support in the areas of finance, marketing, telephone calls and contacts, mail delivery, design and publishing. Another initiative called the IRE network (Innovating Regions in Europe) was initiated to create a forum for information sharing in the different regions with a view to expressing views and sharing unique business experiences that may help with the future implementation of innovation initiatives. There are also schemes like EUREKA that offer small business innovators the opportunity to exchange ideas with one another and The Innovation Relay Centre focused on innovative technology in developing businesses. The year 2005 was significant in Wales as it was when many innovation-focused programme were developed in Wales supported by the public sector to build the deep rooted Welsh innovation culture. The European Union and the Welsh Government collaborated in developing the public development policies in innovation. It was during this time frame that initiatives such as the Communities First project, Technium Network and the Innovation Network Partnership were designed and brought to the fore. The Technium network was designed to be a technology driven initiative with a view to build a bridge to enhance the cross sector meeting of academia and business and to foster better relationships for innovation to thrive.

Figure 6 - Incubators and Science Parks in 2005

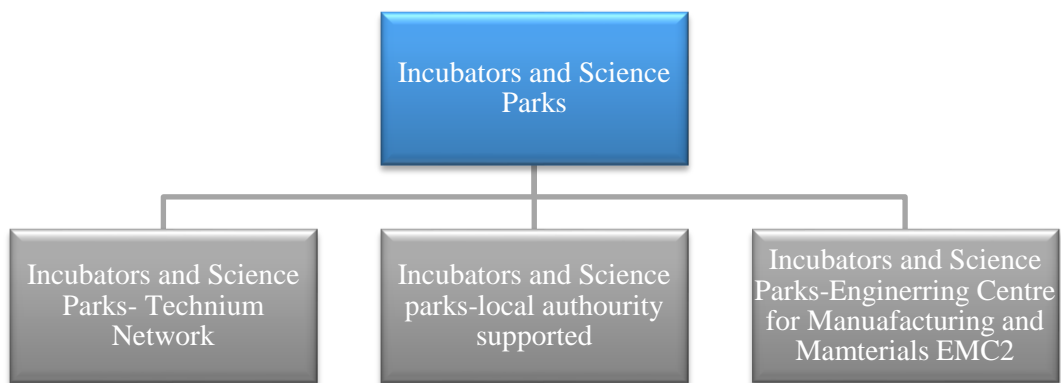


Source: www.wales4innovation.com , (2005).

The Welsh Assembly Government designed a programme called the incubator and science park programme with the Technium Network as a unique and distinct component of the programme highlighted in Figure 7. This was

focused on developing and enhancing better interaction between the business and the academic sides of the economy thereby building a positive bridge to cement the two relationships. The Technium is home to Innovation managers, members of the Innovation and Technology group of the WDA and representatives from Know-How Wales.

Figure 7 - Incubators and Science Parks 2010

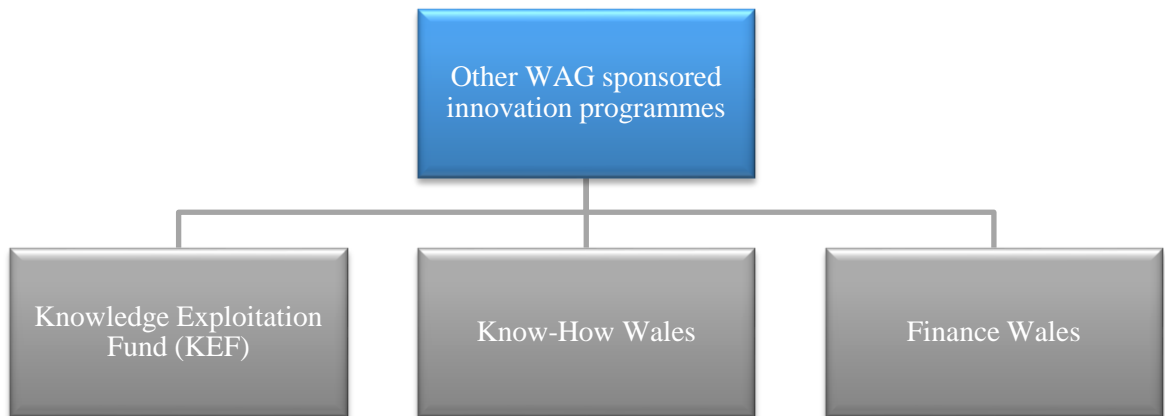


Source: Welsh Assembly Government programme information and publicity materials, 2010

There are many content similarities in the incubator structure in Figures 7 and 8, however in Figure 8 the addition of the Engineering Centre for Manufacturing and Materials (EMC2), which is a laboratory space solely dedicated to the research and development of manufacturing and materials, is highlighted and is currently still as an active incubator service with the Technium Network. In addition to the successful incubator programmes mentioned, the Welsh Assembly Government has designed and sponsored initiatives that have progressed innovation levels to new heights and advanced the spread of innovative activity in Wales. Using two significant years in Welsh innovation history which are 2005 and 2010 as a research focus,

highlighting when Innovation initiatives advanced, the figures below showcase the initiatives.

Figure 8- Welsh Assembly Government (WAG) Innovation Sponsored Initiatives in 2005

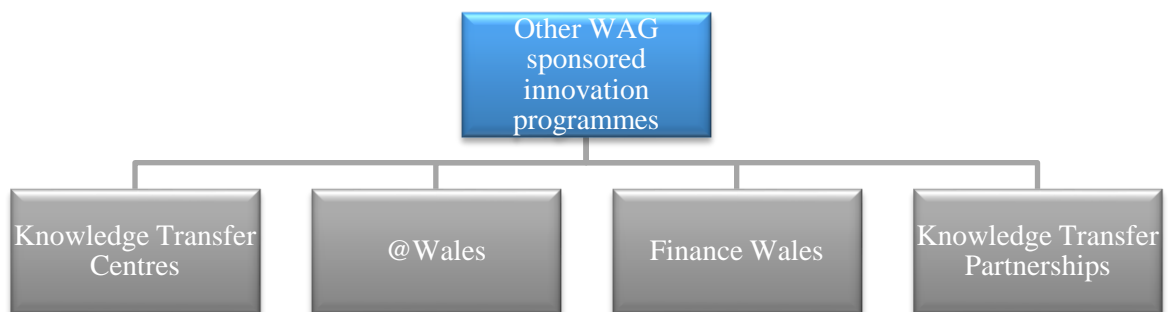


Source: www.wales4innovation.com (2005)

A brief review of each of the sections in Figure 9 looks at Know-How Wales, which is a programme focused on the enhancement and construction of collaborative university and business projects which was aimed at Welsh based businesses to improve their performance. Finance Wales is a one stop shop that provides the bridge that brings together private funds and EU funds in order to offer start-up businesses and SMEs the necessary business funds. The Knowledge Exploitation Fund was established to accelerate the financial assistance given to knowledge-based businesses focusing on university based research. The gap between academic research and industry experience was the gap to be bridged with the application of this fund to higher education and further education institutions. However, these initiatives have not been without strong criticism especially from Cooke (2004) who opines that, Finance Wales has not performed as well as it should because of its

disinclined and reluctant risk adverse approach and its flawed administrative abilities which contributed to its underperformance. Cooke (2004) strongly feels that the initiatives even though noble and highly praised, achieved partial achievements which were limited and fell short of what the Welsh Assembly Government had in mind at their inception.

Figure 9 - Welsh Assembly Government (WAG) Innovation Sponsored Initiatives (2010)



Source: Welsh Assembly Government programme information and publicity materials, (2010)

Figures 9 and Figure 10 have showcased the different initiatives developed by the Welsh Assembly Government for the promotion and support of innovation in Wales and put side by side they exemplify the vibrant environment that innovation policy has thrived in Wales. The Welsh Assembly Government continues to develop programmes that will advance innovation in spite of the criticisms of past programmes. Initiatives such as the Knowledge Transfer Partnerships and the Knowledge Transfer Centres were established to reinforce the knowledge transfer purpose in Wales. It is hoped that in 2015 when fresh initiatives designed by the Welsh Government will be reviewed in the same way the 2005 and 2010 programmes were, there will be success

stories and positive reports of the way that initiatives have impacted on the Welsh innovation environment.

2.11 Performance driven innovation in Wales

Welsh innovation performance can be viewed in two ways, namely the intangible and tangible outcomes of innovative activity. The intangible outcomes of innovative activity are viewed as harder to measure because of their nature which is mainly based on innovative developments in the culture of an organisation or the way its management handles the resources in the firm using intangible or immeasurable ways. On the other hand, the tangible outcomes of innovative activity can be measured and evaluated by visible elements such as a new process designed or a new product manufactured or the patent applications applied for and the financial expenditure on research and development in an organisation (Ahmed and Shephard, 2010).

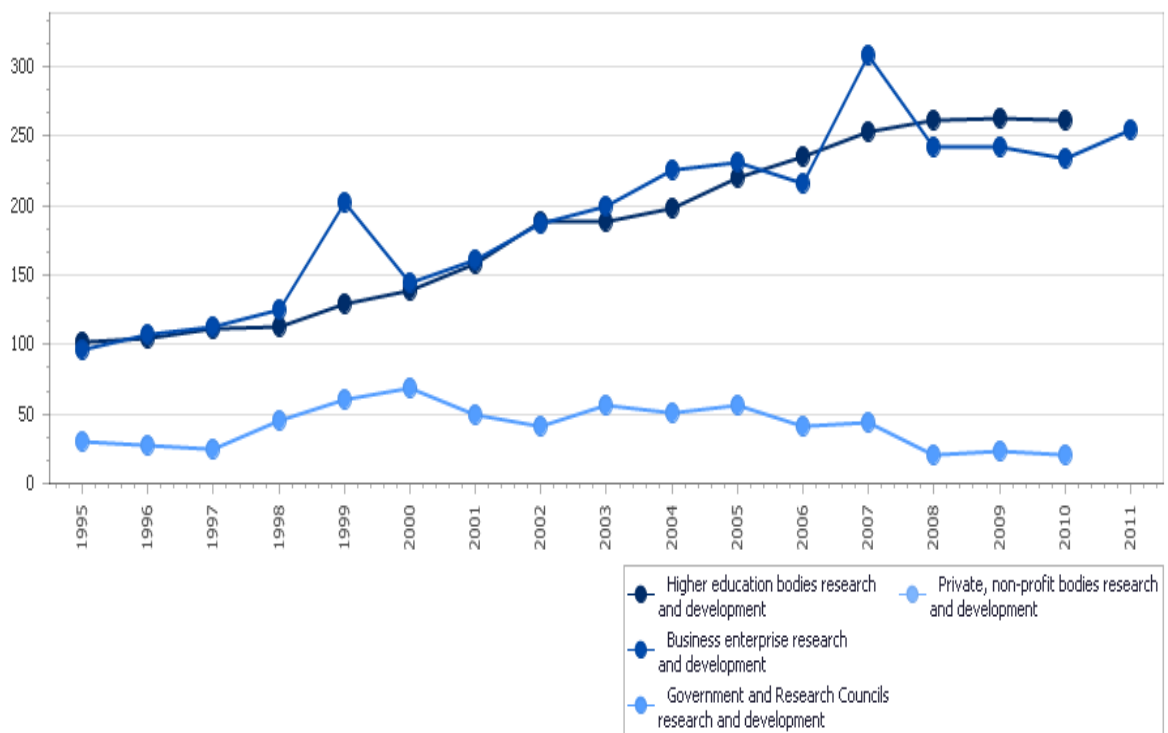
Table7 - Total expenditure on research and development 2010

	Higher Education research and development	Business Enterprise Research and development	Government and research councils and research development	Private, non-profit bodies research and development	Total expenditures on research and development
	£m	£m	£m	£m	£m
United Kingdom	7,130	16,053	2,512	653	26,362
England	5,741	14,873	2,172	-	22,790
Wales	262	234	21	-	527
Scotland	968	622	300	-	1,890
Northern Ireland	159	324	19	-	502

Source: Welsh Government (2012d)

Table 7. showcases that Wales is almost at the bottom in comparison with other regions of the United Kingdom in the expenditure table on research and development which gives rise to the argument that more funding should be allocated to this area for Wales to compete with other regions of the United Kingdom and indeed with the rest of the World in the measurement of innovation. Some £262million has been allocated to Higher Education research and development in Wales which is completely dwarfed by the £5,741million by England and £968 million allocated to the same sector by these regions. For Wales to compete in the development of innovation and to improve its performance, a critical and urgent action plan needs to be developed to stem this tide.

Figure 11 - Research and development expenditure in Wales by expenditure type and year 1995-2011



Source: Welsh Government (2012e)

One of the important indicators in figure 11 is the prominent role of higher education bodies for research and development and the diminishing role of the private sector in the advancement of research and development which is the bedrock for innovation to thrive. Even though higher education institutions take a prominent position in Figure 11 in Wales, Table 7 showcases the grim reality that when compared to other regions, Wales has a long way to go in research and development. This is also the view of the Office of National Statistics (2011), when Wales is paired with other regions and figures for research and development and business enterprise are collated, Wales is given a wide negative gap in relation to other regions with the one exception of Northern Ireland.

2.12 Conclusion

The Welsh context of this research has given an insight into the development and challenges faced by Wales in its quest to be counted as an innovation led country. Most of the initiatives are laudable and were designed with great intention. However according to Cooke et al (2005) innovative activity should more often than not, be evaluated by applying these three indicators; the evaluation of the number of new products and processes brought into the market especially in a contemporary timeframe. The second point is to show the amount of sales accounted for by new to market (product cycle and sale) products and processes; and finally the appraisal of the number of quality standards granted to a business organisation. However, the work of Halkett (2008) offers the argument that finds fault with measurement of the innovative activity in the UK. His viewpoint is one that criticises the performance indicators that are applied typically to evaluate real levels of innovative activity in the UK and he feels it should be revised as they are not as widespread and comprehensive. Rutten and Boekema (2007) critique the low investment and interest in educational development in Wales as a reason for low innovation and development interests. Wales is classed as one of the regions in the United Kingdom with the smallest scores in the percentage of working age population with a much advanced educational qualification and this has an adverse effect on Wales and its ability to be innovative as education and capacity building and development are integral

dynamics needed in assisting the region and its people to be innovative. Investment in education has never been seen as a bad investment anywhere in the World. This is what Wales needs in addition to the selection and the recruitment of qualified staff and personnel in organisations in Wales with the right skill set and drive and forward thinking organisations deciding to dedicate a percentage of their profits and earnings to the direct development of Research and Development and this will not only make the organisations more innovative but also translate to lifting the innovation levels of Wales (Bessant and Tidd, 2007). Table 7 highlights the low interest in the private and non-profit sector in research and development and although modern economies are seeing a shift from public to private sector driven initiatives in Wales this is not the case according to low scores. This does not apply just to Wales but also to other regions in the UK and a possible explanation could be the intangible nature of measuring the research and development component of innovation. Wales needs to change its categorisation as poor and less economically favoured by the European Union as it has had this label for a long time. Most of its policy has been focused on technological innovation initiatives rather than being spread across sectors as innovation is not restricted to only technological developments. Most of the technological initiatives were aimed at creating competition in Wales to enhance research and development, however most of the poor regions in Wales still remain uninspired by these initiatives and comparatively uncompetitive in their approach to innovation (Rutten and Boekema, 2007). Hope remains for a creative and driven innovation policy initiative that will answer all the questions and challenges faced in past years and cut across all the regions and sectors of the Welsh economy. The next chapter highlights small business enterprises and how they flow as a function of innovation and the adoption of teleworking in the thesis.

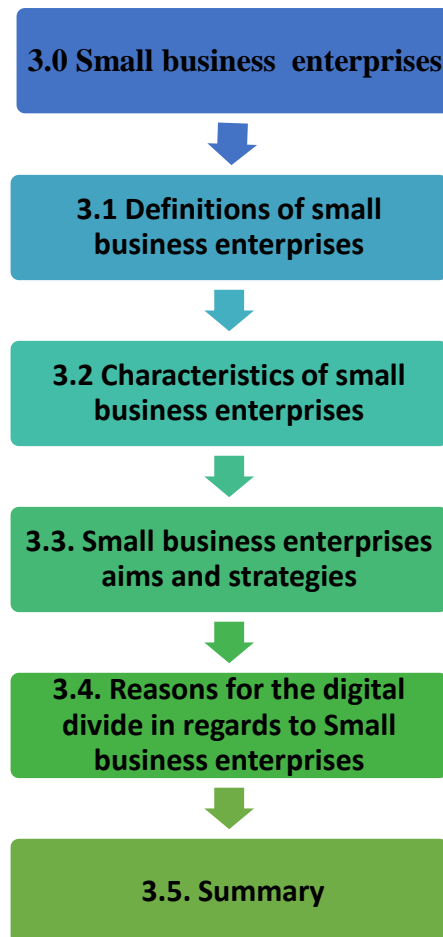
CHAPTER 3
SMALL BUSINESS
ENTERPRISES

CHAPTER 3 :

SMALL BUSINESS ENTERPRISES

3.0 Small business enterprises

This chapter reviews the literature on the definitions for small and medium enterprises, especially small business enterprises, the characteristics, aims, strategies and importance of small business enterprises and their economic importance in relation to teleworking adoption. The structure of discussions in this chapter follows.



Small business enterprises play an important role in economic development and their contribution to the economy and ability to create more employment opportunities is widely recognised. SMEs are drivers of economic growth and innovation (Kotelnikov, 2007). Kazni and Farooque (2000) reason that SMEs play a very important role in the overall production in an economy and this viewpoint is supported by Stephenson and Arinaitwe (2006) who noted that the potential growth of SMEs are important to social and economic development.

3.1. Definitions of small business enterprises

There are numerous definitions of SMEs and they vary from region to region. Many academics believe that small and medium enterprises consist of a business that has few employees, a low turnover, and a less formal structure that is usually managed by one person or a couple of people, who are the business owners (Bridge et al, 2009). Bridge et al. (2009) are of the opinion that the definitions of small and medium businesses vary widely as some define small and medium enterprises based on the size of the business itself, the number of employees or sales turnover. The reality is that there is absolutely no universally adopted definition of what is referred to as SMEs. Below are a few definitions of small and medium enterprises based on the perspective of different regions and countries.

Definition 1: Wales Perspective

“We define a small company as one with fewer than 50 employees and a medium company as one with between 51-250 employees (NAW, 2014) (Table 8). An enterprise is considered to be any entity engaged in economic activity, irrespective of its legal form. This includes, in particular, self-employed persons and family businesses engaged in craft or other activities, and partnerships or associations regularly engaged in an economic activity. The definition of small and medium sized enterprises (SMEs) is set out by the European Commission. Compliance with the definition is compulsory when it comes to State Aid allowing SMEs to benefit from preferential treatment over other enterprises, when such treatment is authorised by Community

regulations. The definition sets out thresholds for three specific criteria: Headcount, turnover and balance sheet total. To qualify as a small or medium size enterprise, the enterprise must respect the staff headcount threshold and either the turnover or the balance sheet total threshold. It does not need to satisfy both and may exceed one of them without losing its status” (Welsh Government, 2009).

Table 8 - SME Thresholds

Enterprise category	Headcount	Turnover	Or Balance sheet total (fixed asset plus current asset)
Medium sized	<250	Not exceeding €50million	Not exceeding €43million
Small	<50	Not exceeding €10million	Not exceeding €10million

Definition 2: Other perspectives

“The National Association of Small and Medium Scale Enterprises (NASME) defines small scale enterprises as a business with less than fifty (50) employees employed by a firm with an annual turnover of NGN100million” (Lal,2007).

Table 9 summarizes the most common definition of SBEs used in some regions around the World.

Table 9 - Criteria of defining SBEs adapted in some countries.

Country	No. Of employees	Other criteria
European Union	Under 50	Annual turnover/annual balance sheet total does not exceed EUR10 million. (European Union, 2012)
Canada	Under 500 in	Annual sales less than

	manufacturing and 50 in services	\$5million (Statistics Canada, 2008)
Australia	5 or more, but less than 20 persons.	<ul style="list-style-type: none"> • Independent ownership and operations • Close control by owners/managers who also contribute most, if not all the operating capital; • Principal making decision-making by the owners/managers. (Australian Bureau of Statistics,2009)
India	None	Total investment not more than 10million Indian rupees in manufacturing industries and 1 million in services industries (The Office of Development Commissioner (MSME), 2012).
United Kingdom (UK)	Not more than 50 employees	According to the UK's Companies Act 2006 a small company is defined as one that does not have a turnover of more than £6.5million, a balance sheet total of more than £3.26 million and not more than 50 employees.

The Bolton Report (1972) indicated that a definition of SBEs is based on three criteria, which are:

- Small market share
- Managed by owners in their personalised/own way,
- Works as an independent business; does not act as part of a larger enterprise.

Bridge et al. (2003) stressed that most of the definitions of small business are based entirely on a quantitative perspective rather than considering the qualitative perspective. Bridge et al. (2003) highlighted a number of qualitative characteristics that should be included in defining 'small business'. The definition of a small business should attempt to include at least two of the following four characteristics:

- Independent management. Typically, the owner is also a manager of the business;
- Capital and ownership are owned by an individual or small group;
- The location of the business is usually in the local area, with the owner and the employees living in one home community. Nevertheless, it is not necessary that the products/services are aimed at the local market only; and
- The size of the business is relatively small compared to a large business.

The measure can be in terms of sales volume, number of employees or other significant comparisons (Bridge, et al., 2009).

The definition of SBE that will be used in this study is the UK definition: According to the UK's Companies Act 2006 **a small company is defined as one that does not have a turnover of more than £6.5million, a balance sheet total of more than £3.26 million and not more than 50 employees.** Any business that has a relatively small market share, and is managed by the owner or part owner in a personalized way is classed as a small business enterprise.

The definition, which applies to SBEs in certain countries, also refers to small and medium-sized enterprises (SMEs), as the definition varies from country to country. Thus, the terms of SBEs and small and medium-sized enterprises (SMEs) will be used interchangeably in this study as relevant to the definition of SBEs.

3.2 Characteristics of small business enterprises

“The differences in administrative structure of the very small and the very large firms are so great that in many ways it is hard to see that the two species are of the same genus.....We cannot define a caterpillar and then use the same definition for the butterfly.” Dame Edith Penrose (1959) cited in Bridge, et al. (2009)

Small business enterprises (SBEs) constitute a heterogeneous group in size and nature with complex interrelationships involving owners, family, employees, business networks and external contexts (Kuwayama, 2001; Parker & Castleman, 2007). Smaller businesses have a simpler organizational structure, fewer capabilities and resources, and are more liable to internal and external constraints (Al-Qirim, 2004). SBEs often have limited administrative innovation (Lee, 2004). Lee added that SBEs are normally operated by fewer employees and are directly managed by an owner-manager. In terms of organisational structure, the SBE organisational structure is very flat, with centralised decision making and the owner-manager is the focus for any innovation of the product and the expansion of the market activities. SBEs are less concentrated on administrative innovation (Lee, 2004).

The research findings by Kaloo (2010) indicated the features of small business enterprises, which are:

- The management functions performed by small and large enterprises are the same in name and objective only, inasmuch as in small enterprises the owner typically also becomes a manager and performs all the management functions. In contrast, for large enterprises, the

same management functions are performed by a specific person-in-charge, such as a specialist or coordinator.

- Qualified managers have better academic qualifications and are less likely to be owners/managers of small enterprises. The findings revealed that qualified managers have an option to work with large enterprises, avoid the risks, have organised working hours, but lack the prestige and public recognition that is typically associated with the owners/managers of small enterprises.
- The impetus is associated with many sources, such as culture, necessity, and talent. It is noted that only entrepreneurs who can draw on a high degree of commitment, perseverance, flexibility, resourcefulness and tolerance for adversity can succeed in managing a small enterprise.

Wasuntiwongse (1999) highlighted the reasons why entrepreneurs initiate the start up of small businesses:

- **To operate and have the business on their own.** These entrepreneurs have had previous experience working as an employee in a small business. They have learned and developed the skills from their earlier employment.
- **To create a career for entrepreneurs.** Entrepreneurs seek no career other than self-employment. Most of their ways of thinking are very influenced by the tradition of self employment among family members or society.
- **To earn a living.** Entrepreneurs started the business as they had no other choice of employment. They may have been forced to resign from previous employment or do not have adequate training (such as housewives) to gain employment for themselves.

Kuwayama (2001) identified several characteristics of small businesses which are:

- Small businesses encounter difficulties in obtaining and processing the information concerning their business strategies and policies.

- They typically operate independently from larger businesses
- Small businesses normally operate in a small market or primary market
- Small businesses are controlled by the owner/managers that contribute all or almost all of their capital.
- As the small businesses are usually independently owned/operated in an individual way, all the decision-making depends on the owner/managers.

Production operations for small businesses are generally simple, labour intensive and mainly use traditional technologies, while operational activities depend more on skilled workers than on the entrepreneur's own operational skill (Wasuntiwongse, 1999). Turner (2003), in her study of small businesses in Makasar, Indonesia, found that small businesses often avoid any type of formal registration from authorised bodies. Turner (2003) also added that small businesses are often exposed to risk or harassment from corrupt institutions. Small businesses in Wales can be compared to a large extent to small business in some developing countries especially when they face difficulties in penetrating international markets (McIntrye & Dallago, 2003). Kuwayama (2001) contended that small businesses use obsolete management methods, which are hard for them to adapt to a new competitive environment and they also face the problem of gaining access to qualified human resources. Thus, they encounter difficulties obtaining and processing the information necessary to define their objectives and strategies (Kuwayama, 2001). According to Matambalya & Wold (2001), most small businesses suffer from a limited market due to the obstacle of poor infrastructure, which leads to relatively isolated markets with limited demands.

There are significant differences in terms of the internal and external challenges facing entrepreneurship with focus on small business enterprises in developing countries that can still be found in Wales regardless of its developed country status. Such components listed as, financial resources, laws and regulations, characteristics of locations, characteristics of employees and taxes and government (Stephenson & Arinaitwe, 2006). Karamasios (2008) listed some important characteristics of SBEs, which are:

- They have limited resources

- They comprise basic technology needs
- The businesses are run informally
- Most of them rely on family labour
- The business start up or capital is mainly from family sources or the owners
- They often lack managerial and competency skills

Most of the above mentioned characteristics are found in business in Wales according to the Federation of Small Businesses in Wales (2009). Most small businesses are unprepared and struggling to adapt to the complex demands of the information economy, as they lack sources to take full advantage of the opportunities to begin their transition to the information economy (Chacko & Harris, 2006). Chacko & Harris (2006) added that SBEs in urban areas benefit more than rural areas in terms of infrastructure, applications and services, whereas SBEs in rural areas face similar problems to those found in developing countries (such as a lack of internet communications services) due to restricted access in some remote areas (Burgess, 2002). For example, limitations of transport infrastructure, (such as airports) make it difficult for SBEs to transport goods and link to outside markets (Henderson, 2002).

Small business enterprises (SBEs) need access to a range of financial resources to support their business sustainability and growth (Hussain, Millman & Matlay, 2006). SBEs face difficulties in accessing adequate financial resources, which creates an obstacle to them for business start-up, growth as well as the adoption of fresh technology in their businesses (Murelli & Okot-Uma, 2002; Payne, 2002).

As small business enterprises have unique business characteristics that make them different from large enterprises, the next section presents the differences between these two types of enterprise.

3.2.1 Differences between small and large businesses

Small businesses differ from large businesses not just in terms of size but also in other aspects, such as organisational activities, operations, and management structure. Schaper, Volery, Weber, & Lewis (2011) summarized the major differences as follows:

- *More female owner/managers*; there are more female owned small businesses compared to larger businesses or corporations.
- *Fewer qualifications*: in general, fewer small business owner/managers hold formal tertiary or technical degrees or diplomas – either in their business area or in a particular area of expertise – compared to executives in larger businesses.
- *Fewer union employees*: the employment relationships and job contracts are dealt with directly between the employer and the staff due to the informal nature of the workplace rather than through the agency of a trade union.
- *Fewer hours of operation per week*: although many perceive or expect small businesses to operate longer business hours than large ones, in some countries (such as Australia), the number of part-time, home-based operations skew the results towards a low average number of operating hours.
- *Less likely to use formal management improvement and planning techniques*: larger businesses often adopt many systems and procedures to enhance the firm's performance, whereas small businesses are less likely to adopt these kinds of system.
- *Less likely to access government assistance*: the assistance from government tends to be limited although they often provide specific assistance to small businesses.
- *Less likely to export*: small businesses tend to focus on local markets rather than international markets.
- *Less financing*: most of the financing for the business comes from the owners.
- *Less likely to want to grow bigger*: many small business owners have a goal to succeed in the business but not to constantly expand, which differentiates the genuine growth-oriented entrepreneurs from conventional entrepreneurs.
- *More likely to fail*: one of the fundamental characteristics of small businesses is the high failure rate (Storey, 1994). Even though the

overall level of business that exists is quite low, there is no clear link between a firm size and business exit rates.

- *Difference in managerial perspectives:* the business decisions of small businesses heavily depend on the owner/managers. The approach of small businesses in respect of the operation of the business is different from larger businesses in terms of innovative activities, perceived risks and other related matters.

Small businesses are typically riddled with challenges because of the issues surrounding them especially in an environment such as Wales. The next section will discuss the business aims and strategies of small business enterprises.

3.3. Small business enterprises aims and strategies

As noted in the previous literature, SBEs often lack appropriate business strategies to support their business growth. This section will discuss the business aims and strategies, particularly for SBEs in planning their business direction.

Strategic planning is related to long-term business goals, the implementation of goals, and the allocation of resources in realizing the goals (O'Regan & Ghobadian, 2004; Stonehouse & Pemberton, 2002). According to Wang et al. (2007) strategic planning leads to better business performance. However, SBEs are typically lacking in strategic planning and long-term vision (Mazzarol, 2004). Thus, SBEs may not achieve their complete planning goals and full performance and the survival of their business might be placed at risk when they neglect strategic planning for their potential growth (Berry, 1998). The next section will discuss the business strategies commonly used by SBEs.

3.3.1 Growth Strategy

Previously, many businesses obtained the way to growth by separately developing and managing a business portfolio. However, recently that strategy is no longer suitable for the changing environment in respect of the economic pressure that does not encourage large capital expenditure (Irvin, Pedro, &

Gennaro, 2003). Irvin et al. (2003) added that such businesses need to stimulate growth by searching for synergies between previously different sections of their business. Instead of buying new business opportunities and market channels, Irvin et al (2003) suggested that businesses develop new opportunities from inside the former business, and transform the less performing sections of the business into synergistic businesses.

In addition, the growth of small business enterprises often relies on the entrepreneur's choice of strategies (Hambrick & Mason, 1984); the ability to overcome the obstacles to growth (Barber, Metcalfe, & Porteous, 1989); the ability to construct structural adaptation for organisational growth (Hambrick & Crozier, 1985); or construct the structural characteristics, particularly in the external environment (Aldrich & Fiol, 1984; Eishenhardt & Schoonhoven, 1990). According to O'Gorman (2001), the growth of businesses is determined by the innovative success strategies of the business itself, which is dependent on the choice of strategies made by the owner/managers. Storey (2006) highlighted three components that are associated with the growth of the firm – characteristics of the entrepreneur; characteristics of the organisation; and types of innovative strategy related to growth. In relation to Storey's key elements, Smallbone, Leigh & North (1995) listed the area of strategies and actions that need to be concentrated on, which are:

- Products and markets
- Production process
- Employment of labour
- Changes in ownership
- Changes in organisation and management

Healthy businesses have an opportunity for excessive growth if the resources are sufficient (Hillbrand, 2006). Hillbrand, in his findings from European studies, indicated that almost 25 percent of SMEs show high potential growth, which is a considerable portion compared with larger businesses. Nevertheless, only 10 percent of SMEs are able to achieve their business goal, as measured through employment and turnover (Commission, 1999). Burke &

Jarrat (2004), based on empirical study of SMEs in Australia, described the strategy as an explicit plan and an implicit pattern of behaviour. Entrepreneur's attitudes and their decisions pertaining to growth, influence the growth of small businesses (Julien, 2000, p.5) cited in Hillbrand (2006) pointed out that, "the biggest obstacles to rapid growth that small businesses face is their inability to change, even if the market grows rapidly. As a rule, management will continue to behave as if the enterprise were still small". Hillbrand (2006) also argued that the growth planning by owner/managers of the businesses is often influenced by environmental situations.

Hillbrand (2006) proposed an approach (Growth Scorecard, 2006) that enables managers to determine the tight strategy planning and help them avoid unintended effects, such as incurring a complexity mismatch between the business environment and the managerial capabilities. Gundry & Welsch (2001) suggested that the key strategic success factors perceived by high-growth oriented entrepreneurs are the reputation of their business, a strong focus on quality products or services, available cash to grow the business and effective leadership.

A study by Hashi & Krasniqi (2011), on the similarities and differences in the growth patterns among two groups of SMEs in two areas at different stages of transition (three advanced transition economies, Poland, Hungary and the Czech Republic and three laggard economies, Albania, Macedonia and Serbia and Montenegro), focused on three factors that influence SME growth - innovation and innovation activities, firm characteristics and business environments. The findings indicated that although both groups of countries are at different stages of transition, and experienced organisational obstacles, they share similar characteristics and the role of entrepreneurship - SMEs in both areas are significantly affected by technological and organisational innovations. The decision of growth strategy is also related to the organisational resources and capabilities (Zou, Chen, & Ghauri, 2010). Zou et al. (2010) suggested that managers need to consider the current resources of their business before selecting a growth strategy.

3.3.2 Cooperation strategy

Cooperation strategy is defined as "the attempt of organisations to realise their objectives through cooperation with other organisations rather than in competition with them" (Child, Faulkner, & B. Tallman, 2005, p. 1). The authors stressed that a cooperation strategy of sharing with others that possess the skills and assets could benefit those organisations that are lacking the competences and resources, thereby providing better access to new markets, and greater opportunity for mutual synergy and learning. Cooperative strategies are especially critical for the survival and growth of small businesses, which require these strategies more than larger organisations (Suarez-Villa, 1998). This is because many small businesses suffer from a relatively limited resource base (Jarillo, 1989), especially in vital areas, such as a research and development and international marketing, and consider their own resources as being limited to compete in the global market (Koivisto & Vesalainen, 1994).

The cooperative strategy can be either, formal (for example joint ventures, licensing or management contract) or informal (Haahti, Madupu, Yavas, & Babakus, 2005). The formation of a cooperative network among organisations could be one of the solutions for small businesses to survive in the marketplace (Pesamaa & Hair, 2007). Pesamaa & Hair (2007) suggested that a cooperative strategy is needed, as small businesses can face difficulties competing in markets located in remote geographical areas. In their studies on the influence of culture and size upon inter-firm marketing cooperation for the salmon factory industry in Scotland and Chile, Felzensztein & Gimmon (2007) found that small businesses in that industry in Scotland were more proactive in building inter-firm cooperation for international marketing activities. In contrast, Chilean businesses faced constraints in building social networks with inter-firm cooperation due to their 'micro size' and, consequently, they were unable to afford membership in the national salmon-trade association, which facilitated cooperation and interaction among its members. According to Ussman & Franco (2000), the Portuguese textile and clothing sector was monopolized by SMEs, and the majority were family businesses. Due to size, availability, technology, purchasing, innovation,

marketing activities and financial constraints, SMEs faced difficulties in maintaining the development of their business strategies and cooperation could be one of the alternative solutions for them to explore the market opportunities, necessary resources and know-how, which they were unable to achieve alone. The results obtained also show that the level of cooperation agreements between Portuguese SMEs was quite limited due to certain reasons, such as lack of knowledge concerning the incentives offered by the firms involved in the cooperation process, lack of trust in potential partners and a refusal to share resources and/or knowledge with others. Ussman & Franco (2000) argued that although the cooperation process is difficult and complex, it has some positive results that can be useful to business to improve competitiveness.

A study by Vanyushyn, Holmlund, & Kock (2009) on cooperation with competitors and internalization among SMEs in the West Coast of Finland revealed the main objectives that drive SMEs to cooperate with competitors:

- to find new customers
- reduce marketing costs
- improve productivities
- gain new knowledge and innovation

This is supported by Qian & Chen (2011) in that most of the SMEs in Guangdong, China, chose a cooperation strategy as their business strategy in order to improve their technology capacity. SMEs can strengthen their competitive positioning as they are able to improve their access to international markets (Carson, Madhok, & Wu, 2006; Cullen, Johnson, & Sakano, 2000) and improve the sharing of knowledge (Levy, Loebbecke, & Powell, 2003).

3.3.3 Strategic Alliance

Strategic alliances are “purposive arrangements between two or more independent organisations that form part of, and are consistent with participants’ overall strategy, and to contribute to the achievement of their

strategically significant objectives that are mutually beneficial” (Pansiri, 2005, p. 1099). A strategic alliance can provide opportunities for business to tap into the resources, knowledge and skills of their immediate partners (Todeva & Knoke, 2005). Kauser & Shaw (2004) demonstrated that behavioural aspects of international strategic alliances have a greater impact on the performance of managers’ satisfaction with international strategic alliances.

A strategic alliance strategy can be an important tool for attaining and maintaining competitive advantage (Elmuti & Kathawala, 2001). Additionally, the strategic alliance concept can appeal to businesses because of the potential cost savings in executing operations, looking for the best quality or technology and identifying the cheapest labour or production costs. A survey by Jaouen & Gundolf (2009) on the patterns and governance modes of alliances in South France found that micro businesses not only sought financial benefits through their cooperation in order to achieve a greater market share, but also sought to access complementary resources in helping them to overcome their shortcomings.

A high degree of harmony, loyalty and sincerity is also shown to have a positive impact on international strategic alliances (Kauser & Shaw, 2004). Kauser & Shaw (2004) also added that communication in terms of quality of information transmitted, the extent of information shared and participation of both parties in the planning of goals and activities is crucial for the success of an international strategic alliance. This is supported by Pansiri (2008) who identified commitment and capability as the determinants that influence the satisfaction, market share and profitability, and overall alliance performance.

According to a study on New Zealand wineries conducted by Bretherton & Chaston (2005), the key success factor in strategic alliance strategy is having a clear strategic intent, combined with adequate capital, which allows ownership and control of key resources and capabilities. There has been a long tradition in the wine industry of using strategic alliances to access resources and capabilities in order to deliver final products (Bretherton & Chaston, 2005). Strategic alliances are an innovative tool for SMEs to market their products and services. This is supported by O’Dwyer, Gilmore, & Carson

(2011) who revealed that SMEs engage in strategic alliances for innovative marketing purposes to accomplish two different outcomes: (1) to accomplish different organisational goals, and (2) to counter existing obstacles, such as limited resources.

3.3.4 Lifestyle

There are a number of small business enterprises that are looking for a lifestyle reason for running their businesses, which impacts on their strategic aims (Levy & Powell, 2003). Levy & Powell (2003) in their study of SME innovation and technological adoptions towards the contingent model indicated that one of the participants who practiced his business for lifestyle reasons revealed that he was not looking for business growth and only marketed his products locally. Deakins & Freel (2003, p.277) described owners of businesses who run the business on a lifestyle basis “normally called sole traders, employed few or no people and their major objectives were likely to be concerned with survival and ensuring that the business provided them and their family with sufficient income.....in other words, the owner is only concerned with maintaining a lifestyle that he or she may have been accustomed to in a previous form of employment”. The lifestyle determines the business growth that the owner of the small business wants to have (Bridge, et al., 2003). This is supported by McMahon (2010) who indicated that lifestyle businesses typically exist to support the source of income and employment of the owner/managers of the businesses. The businesses are often operated in a manner consistent with the lifestyle preferences of the owners-managers. Lewis (2004) suggested that in lifestyle businesses associated with a lifestyle strategy the owner/managers desire to live their life in non-economic terms. The research findings by Lewis (2004) in the study of New Zealand SME owners’ lifestyle revealed that most of the owner/managers involved desire to grow the business but within certain limits, such as to maintain their lifestyle and concentration on the family. Small businesses also face the challenge of technological innovations and the adoption of ICT due to certain limitations. The next section will discuss the reasons for the digital divide in small business enterprises.

3.4 Reasons for the digital divide with SBEs

It is useful to discuss the reasons for the digital divide, as this study explores the adoption of teleworking in SBEs in Wales. Several factors are related to ICT diffusion and will be discussed below,

3.4.1 Availability of Infrastructure

The availability of a telecommunication infrastructure helps the successful use of the internet and promotes teleworking and innovation. However, many communities in Wales are minority communities (Tsatsou et al, 2011) who struggle with telecommunication infrastructure and are faced with difficulties in making internet connectivity in Wales and also in developing countries (Murelli & Okot-Uma, 2002). Hawk (2004) argued that several developing countries have a poor ICT infrastructure in terms of internet connectivity which affects their ability to use modern communication methods.

Small business enterprises (SBEs) in developed countries, especially in urban areas, experience better benefits in terms of infrastructure, applications and services compared to rural areas (Chacko & Harris, 2006). Similar problems are also faced by SBEs in developing countries and rural areas of developing countries, which face problems, such as the lack of internet and ICT communication services due to restricted access in some remote areas (Burgess, 2002). Poon & Swatman (1999) highlighted the importance of having proper ICT access and accessibility.

Welsh internet and ICT connectivity can be classed as average and a little above average, however the challenges arise when ICT and Internet infrastructure for Small Business Enterprises directly are not readily harnessed and applied especially in the minority communities where SBEs are in high volume (Tsatsou et al, 2011).

3.4.2 Availability of skilled workers

One of the big challenges faced by SBEs is the lack of skilled workers to support and maintain ICT applications. According to Ramayah et al. (2005), 'Human Capital' is an important factor that contributes to small business enterprises. Most SBEs are left behind compared to larger businesses in

adopting ICT. This is not about the lack of investment or funds or access to technology, but the relatively low quality of human capital and primarily a lack of knowledge and skills (Arendt, 2008). A lack of skills, knowledge, poor training of staff has been attributed as some of the factors affecting the adoption of ICT and the use of the internet in some Australian small businesses (Lawson, Alcock, Cooper & Burgess, 2003). A wide variety of studies in other countries have supported this viewpoint. In Malaysia, Alam, Noor, & Kamal (2009) in their studies on ICT adoption in SBEs, highlighted the wide margin between ICT knowledge and skilled employees that have ICT knowledge. In Oman, the same viewpoint that a lack of qualified and skilled workers is a major factor that affects ICT development, was buttressed by Al-Gharbi & Ashrafi (2010). ICT adoption in Africa and with particular focus on Nigeria, indicated that the majority of small and medium enterprises in Nigeria are sceptical of investing in ICT due to the high cost of training their employees and maintaining ICT equipment. Most Nigerian small and medium enterprise owners are reluctant to train their employees, as they are afraid of losing their employees after training to better job offers (Apulu, Latham, & Moreton, 2011).

3.4.3. Financial Issues

Finance can be considered as a very important element of the existence of small business in their ability to invest in teleworking, innovation and ICT in general as small businesses are highly dependent on their financial conditions (Stephenson Arinaitwe, 2006). Eyiah & Cook (2003) reported that banks view small businesses as too risky and involving high transaction costs. There is also a limited information on loan applications by small business owners, causing difficulties for banks to assess their loan proposals (Eyiah & Cook, 2003). According to a study by Meas(2006), in Cambodia, the start-up capital needed for a small business is 100,000 USD and it is usually sourced from family members. Meas (2006) discovered that bank shares are limited in their provision of start-up capital to small businesses when compared to local lenders and family members. Cambodia's small business lending policy is unique in the sense that small businesses borrow more from local lender rather than from banks regardless of the fact they offer a higher interest rate than the

banks. The reason small business owners reported this anomaly is that they find it hard to understand and articulate the banking procedures that they view as difficult to comprehend.

The Chinese business perspective with a close focus on grocery small businesses and their ability to adopt ICT is hinged on their limited financial resource which restricts them from recruiting more technical and skilled workers to improve their businesses (Kurnia & Peng, 2010). Apulu et al (2011) highlight the fact that a lack of financial resources has a significant impact on small businesses in Nigeria and the ripple effect is that it affects the utilization and adoption of innovation, teleworking and ICT in general. Ultimately, the cost of the adoption of ICT driven ventures which involve teleworking and innovation have a significant relationship to their full adoption (Alam, 2009).

3.4.4. Culture

Culture can act as a barrier to ICT adoption (Erumban & Jong, 2006). Organisational learning cannot be promoted and emphasised if the culture and learning practice of the employees is not in line with what the owners of small business enterprises have as their vision. If the effort to understand the background of the employee is not made, it would be an effort in futility trying to involve them in the learning process. Thus, the educational level, business culture, skills, capital availability and other surrounding factors are critical to the success of business operations in SBEs (Graham & Nafukho, 2006). According to a study by Teo, Tan & Buk (1998) who highlighted the most significant contingent factors affecting ICT adoption involving innovation and teleworking, which were technology policy, compatibility of the internet with organisational culture and infrastructure and top management support.

The work of Tarafdar & Vaidya (2007) view culture as a big factor in the contribution and adoption of SBEs' ICT policies. Such micro factors as end users' exposure in the past to ICT, discussion of new and innovative ideas, technology advancement, proactive and positive business strategies and the discussion and adoption of new innovative ideas in addition to experimentation and risk taking, all contribute to the increase in trying to blend ICT with culture. In the Chinese culture according to research carried

out by Kurnia & Peng (2010), in their study of the Chinese grocery industry, Chinese culture is not readily open to utilizing the internet and ICT mode of business and this is due to the fact that they still prefer the face-to face interactions and this has been attributed to the dearth of trust in business transactions and relationships.

3.4.5 Government Policies

Government could be one of the factors that affect and influence the adoption of teleworking through its application and enforcement of rules and regulations (Wymer & Regan, 2005). Kapurunadara & Lawson (2006), view SBEs as reluctant to invest in ICT due to the fear of unstable government policies that may negatively affect their business. Wang & Lin (2008) found that government policies were an influential factor in enhancing the adoption of ICT and innovation among SBEs. Making the right policies and offering great incentive to businesses by government can positively encourage SBEs to invest more in ICT and thereby applying teleworking and innovative elements to their businesses (Ssewanyana & Busler, 2007). The works of Chng & Ooi (2008) and Al-Qirim (2007) belong to another school of thought that government policies and strategies have little or no impact on the adoption of ICT involving teleworking and innovation and internet use and do not create a barrier to that effect.

Government policies are designed to suit different economies in order to ensure that their business environment is progressive and according to Harvie & Lee (2002), government programmes vary to suit local situations and climate. A report by the SME Corporation of Malaysia (2011b, p. 35) will be used as a template to showcase the positive direction of government policy. The focus areas in the Malaysian SME master plan are:

- Ensuring that creditworthy SMEs have access to financing for working capital and investment
- Encourage greater support for innovation and technology adoption among SMEs
- Enhance human capital and entrepreneurship development among SMEs

- Improve the infrastructure needed by SMEs to operate effectively
- Expand access to market for goods and services produced by SMEs
- Expand the legal and regulatory environment conducive to the formation and growth of SMEs, while protecting the broader interests of society

In order to balance all the viewpoints, Hashim (2011) suggested that government programmes and initiatives need to be evaluated and designed to determine which are appropriate to assist SMEs as a whole.

3.4.6 Owner's Attitude

The decision to apply teleworking, innovative initiatives and ICT systems is more often than not the primary initiative of small business owners and managers. The right attitude of a business owner towards technology is what enhances the progress of a business entity (Levy & Powell, 2003). Mpofo & Watkins-Mathys (2011) in their study on the understanding of ICT adoption among the small business enterprises in South Africa indicated that small business owner/managers are positive and willing to adopt ICT, the internet and technological advances in order to enhance their business operations. Owners and managers who believe in the advancement and positive attributes of technology are usually more open to applying it to their businesses to enhance productivity (Alam, 2009). Owners and managers who possess computer knowledge and ICT insight are more likely to adopt innovations faster and apply them to their businesses.

3.4.7 Time

The general traditional mind-set and idea of work is the typical 9am to 5pm schedule, however the adoption of teleworking by Small businesses as an innovative work strategy in recent times is seen as strange by some who do not believe that teleworking and by their definition, work outside the traditional 9-5 time frame is 'real work' (Owen, 2014). A survey by Career Builders (2011) stated that one in five teleworkers cheat their employers by working an hour each day. 17 percent just work the bare minimum. Another study by Jean Paul (2014) reasons that it is harder for people who have been in the traditional

work environment to transition and manage their time properly in the teleworking ICT innovation adoption. The right application of time by SME's in their adoption and application of teleworking will enhance their growth and productivity in order to compete favourably in an ever competitive business environment.

3.5. Summary

This chapter which was primarily about small business enterprises and their dynamics discussed the diverse definitions of small business enterprises.

The definition of small business enterprises applied for this study after a review of all other definitions is:

'Any Business that employs less than twenty employees, has a relatively small market share, and managed by the owner or part owner in a personalised way'.

SBESs have unique characteristics and are heterogeneous in nature. Among the common characteristics are:

- The organisation of SBEs is very flat
- The business is operated by fewer employees and directly managed by an owner manager
- The decisions are centralised and made by owner-managers
- Typically they face limitations in terms of resources, managerial skills and competency
- Often business operates informally
- They are typically poor in business strategies

SBES' often lack proper business strategies to support and enhance their business motivation and growth. The chapter also reviewed the four business aims and strategies that are associated with small business enterprises: growth strategy, cooperation strategy, strategic alliance and lifestyle strategy. These strategies can help to support these businesses towards business growth and new dimensions of business approaches. In addition to poor business strategies, small businesses also face a few challenges that influence their

ability to adopt teleworking as an innovative work practice. The challenges are:

- Availability of infrastructure
- Availability of skilled workers
- Financial issues
- Culture
- Government policies
- Owner's attitude
- Time

The next chapter will discuss teleworking. It will review the diverse definitions with an in-depth review of the benefits and barriers of teleworking. Teleworking and the review of its application and uses will be showcased, and teleworking and small business enterprises will be reviewed in tandem.

CHAPTER 4

TELEWORKING

CHAPTER 4:

TELEWORKING

4.1 Introduction

In many respects, the adoption of teleworking is emblematic of recent changes in our ideas of work and the workplace (Bailey and Kurland, 2002). Information technology has facilitated the rapid growth of teleworking (Billingsley, 2013) in recent times because modern telecommunication and computer technology allows workers to perform their duties at home or in remote locations instead of requiring them to travel to and from far-away workplaces (Ndubisi, 2003). Innovation and change in the conventional work environment cannot be effected without the use of technology and knowledge transfer because according to Li-Hua, 2004 “Without knowledge transfer, technology transfer does not take place, as knowledge is the key to control technology as a whole. Hence, knowledge transfer is crucial in the process of technology transfer”, and in this direct instance, teleworking in the organisations.

Most studies have attempted to reveal why the adoption of telework has been slow among organisations and the main finding is that the interests among managers is low (Brown, 2013). According to Huws et al (1990) in their survey of a poll of 4000 European managers, reached the conclusion that telework ‘is still very much a minority interest’ among European managers. The research results showed that managers gave two major reasons for their disinterest in telework and these are: the lack of interest in the need for change, and the organisation and secondly, that the implementation of such programmes is difficult. The managers in large firms expressed concerns about controlling staff who work away from the conventional office environment. The smaller firms anticipated costs of managing and implementing telework programmes as a greater managerial issue (Bailey and Kurland, 2002).

Changes in order to organise work from different and remote locations with the use of hardware such as home and mobile computer, mobile phones and fax machines and software technologies such as the use of e-mails and group

ware is what teleworking adoption is about (Perez et al, 2004). Teleworking matches the classification of innovation found in innovation literature and theories such as in Rogers (1983) where “an idea, practice, or object that is perceived as new by an individual or other unit of adoption”. Some companies are classed as innovation and change resistant because in a discussion of why innovations are rejected, Abrahamson and Rosenkopf (1993) indicate that innovation integration may occur in cycles, with organisations either getting ‘on board or off board’. Some organisations apply innovation for economic efficiency or because they feel competitive pressure from other organisations that have already adopted the innovation and as long as that remains the trend among their rivals, they will continue to apply it (Dahlstrom, 2014). Telework like other innovations may be subject to the ‘on board and off board effect’ and managers may give negative support towards telework adaptation because of the lack of proper insight, awareness of incompetence, or little awareness that others are imbibing the work (Ruppel & Harrington, 1995). Perez et al (2004) believe that teleworking is not an all or nothing activity because only a small percentage of employees may be involved in teleworking. In addition, it can be viewed as a work pattern that can be imbibed in degrees ranging from less than one work day per week to all five work days per week (Clark, 2015). Hence, building upon this work, the research seeks to explore the teleworking activities and operations in South Wales companies with a view to building upon the body of knowledge in the teleworking area using the experiences and operational workings from these small business enterprises as a base to develop and understudy the innovative and change process through the process of innovation and its application in these organisations. This research also presents important implications for other researchers, in relation to future studies that could further knowledge and understanding in the area of teleworking.

4.2. Literature Methodology style

This section introduces the literature on teleworking and its synergy with technology and knowledge transfer as innovative and change tools in organisations in South Wales. A thematic approach to the literature review

will be applied to this study and this is the review of literature organised around a topic and subject matter, rather than the progression of time even though a combination of the two can sometimes be the case. Time progression in thematic literature reviews is still an important factor and is no way like the chronological approach that has writing spread out strictly according to when they were published. Thematic reviews of literature can shift between time periods within each section according to the point made (Anson et al, 2000). Thematic analysis of literature focuses on identifiable themes and patterns of behaviour and living. Building a valid argument for choosing core themes is done by referring back to literature that has been studied and formulating theme statements developed into a story line and interwoven with the findings to assist the reader in comprehending the process (Aronson, 1994).

4.3 Teleworking definitions

The definition of telework proposed by the European Commission reads as follows: *Telework is a form of organising work, using information technology, in the context of an employment contract/relationship, where work, which could also be performed at the employers premises, is carried out away from those premises on a regular basis* (Krzyskow, 2006). The role of technology is buttressed (Deloitte Touch, 2013) by the definition used in the Polish legislations labour code which defines *telework as work done on a regular basis from the workplace, using means of electronic communication, i.e. technical solutions, including information technology devices and appropriate software tools, which enable individual communication over a distance while transferring data between information technology systems. A teleworker is a person who performs telework and passes the result of their work to the employer by means of electronic communication, especially by means of e-mail* (Krzyskow, 2007). Ndubisi and Kahraman (2005) define teleworking as an information and communication technology aided work arrangement concerned with the use of personal computers, dedicated word processors or terminals, telephone, fax, e-mail, modem etc for work-related purposes from the employee's home, a satellite or neighbourhood work centre or any flexible work location outside the traditional work place.

The Australian Telework Advisory Committee (2005) adopted a working definition of telework to include work undertaken, either on a full-time, part-time or occasional basis, by an employee or self-employed person, which is performed away from the traditional office environment. Including from home, and which is enabled by ICT, such as mobile telephony or the internet. Australian Telework Advisory Committee (2006) research findings show that owing to the lack of a consistent definition of telework, it is difficult to assemble authoritative data when measuring the uptake of telework across industry sectors and between countries. Notwithstanding the difficulties in assembling comparable statistics, there is a surprising level of consistency in the conclusions of researchers who have studied telework, including the capacity of these arrangements to support business productivity and efficiency improvements, and their ability to broaden workforce participation. Daniels et al (2001) define mobile telework, which is also referred to as multi-location or nomadic telework as a brand of work that usually involves travel and/or spending time on the customer's work location with the teleworker probably utilising laptop computers and mobile phones to support their mobile work. Mobile telework is classed as a form of working where those carrying out this work pattern work at a range of locations (Giberson & Miklos, 2013), spending a considerable amount of time away from home and office locations. In an analysis of Daniel's definition of mobile teleworking, Hislop & Axtell (2007) suggest that the technology element of the definition leave out jobs such as lorry driving, which involves considerable amounts of mobility however in some way necessitate minimal use to be made of information and communication technologies (Golden & Schoenleber, 2014). Perez et al (2004) views teleworking as the organisation of work through the utilisation of communication and information technologies that facilitate managers and employees to access their work activities from distant locations such as:

- Hotels, airports and other remote locations (mobile teleworking).
- Managers and employees homes (home-based teleworking)
- Branch offices set up solely for the intention of lightening the employees commute daily (telecenters or teleworking centres).

Niles (1994) definition of teleworking concurs with the work of Perez et al by defining telework as working outside the conventional work place and communicating with it by way of telecommunications or computer-based technology. Sullivan & Lewis (2001) encapsulate most of the above definitions of telework in the brief definition which states that telework is work practice that takes place anywhere and anytime.

4.4 Working Definition

For the purpose of this study, the teleworking definition of the researcher will be adopted based on synthesis of the theory and experience from deep research and insight into teleworking. “Teleworking is defined as a form of work that involves working away from the regular official work environment using mobile telecommunications technology in order to add value to one’s personal business or to a formal organisation that one is affiliated to and offering the flexibility of work to accommodate the complexities of modern business and lifestyle.

4.5 Benefits of Teleworking

Teleworking must nowadays be considered as a flexible way to organize work and no longer as a technological innovation because it covers practices and social forms, from home-based work to part-time commuting between multiple sites, mobile work, satellite offices, small office, home office and so on (Bridoux and Taskin, 2005). Teleworking represents an alternative work arrangement facilitated by information and communication technologies that allows the employee to work physically outside the conventional workplace, and, therefore, brings work to the worker (Fairweather, 1999). Telework is a contemporary way of organising work when it comes to time and geographical space (Greer & Payne, 2014) and the essential traits of telework comprise of:

- Working away from the company premises (e.g. at home, in travel, in telecentres).
- Flexible and in most cases unregulated work time.
- Communicating with a computer and telecommunications devices.

- Work consisting in processing data (text, graphics, video, etc). (ENTER, 2007).

Teleworking is a part of a general movement towards new types of flexible working arrangements that has been accelerated by increased commuting times, rising office overheads and developments in information technology. Teleworking has become a familiar term in recent years and is used to cover remote working arrangements (McNaughton et al, 2014). More recently the terms 'e-working or electronic working' have been adopted as a more accurate description of the increased usage of information and communication technologies in facilitating working independent of location. It is not a new form of work, but a rather new way of organizing working arrangements. E-working or 'teleworking' can refer to self employed workers with several clients who may spend all of their working time at home. It also refers to direct employees of companies who commute by agreement with the employer and work all or part of their working week from home. More traditional occupations such as sales representatives and engineers are sometimes referred to as "nomadic e-workers" given their use of a car as a mobile office. "Hotdesking", where a number of people share desk facilities because they spend substantial proportions of their time outside the office is sometimes included under the larger umbrella term of 'telework or e-work' as are workers employed in call centres (Irish Business and Employers Confederation, 2002). Recent developments in information and communications technology services now mean that a far greater range of jobs can be conducted away from the traditional office environment. Telework, working from home and other convenient commute reduction alternatives to the main office can be key strategies for helping employees balance personal and work responsibilities (Flickess, 2014). Telework allows employees flexibility and control over their schedules (Strum, 2001; Hill et al., 1998). There have been different definitions of teleworking, however, summarizing all dimensions and conceptual criteria used by different authors, and admitting Qvortrup's (1998) claims that there is no reason to believe that an ambiguous and restrictive definition can be established for such a diverse phenomenon as teleworking. Huws et al (1990) argues that three components are mandatory to recognize

somebody as a teleworker: working in remote location from employer or contractors premises; use of IT technologies to complete work; and use of communications technologies to communicate for work purposes (with employer, colleagues, clients etc.). According to Kamerade and Burchell (2004), there are three basic dimensions along which different types of teleworks can vary in addition to the three mandatory components: the location of remote work (Lim and Teo, 2000), combining home and traditional office, in satellite offices, telecentres (Bussing, 1998); the proportion of working time spent on remote working (Daniels et al, 2001); permanent or occasional work at home (Bussing, 1998); and employment status e.g. freelancer, employed, self-employed etc (Daniels et al, 2001). Thus there can be a wider variety of different types of teleworkers and organizational forms of their work (Lister, 2015). These are flexible enough to meet diverse analytical purposes and to concentrate on the teleworking specifics in different contexts (Kamerade and Burchell, 2004).

There are a number of benefits of telework. These are:

- Reduced environmental impacts
- Improved flexibility and work-life balance
- Business productivity and cost savings
- Increased workforce participation; and
- Government and business continuity

According to Flexibility Ltd (2000), time wasted in traffic jams can represent a significant loss to the economy, as evidenced by a United Kingdom report in 2000 which estimated the net public loss to the UK economy at £20 billion. Environmental benefits from increased telework through reduced traffic congestion and carbon emissions will assist to address air quality and the quality of life in the metropolitan areas. A study by Mitchell & Trodd (1994) observed the travel behaviour of a small sample of practicing UK teleworkers and found an average reduction in commute of 113 miles per week (even after creating allowances for remaining travel to work and additional non-work trips). Half the study sample reported no extra non-work trips. The commutes

of this sample of teleworkers were considerably longer than the average journey to work – 21 miles compared to the national average at the time of 8.3 miles. On the postulation that long distance commuters may more likely find telework attractive, the study estimated a saving in car use nationally of 5-12%. Groups such as the mature age workers, workers with caring responsibilities, workers with disabilities, and workers in regional and rural areas can be facilitated and increase the workforce participation by using and applying greater flexible work opportunities, such as teleworking. Efficiencies can also be achieved through reduction in travel costs and office space, although this needs to be balanced against additional investment in human resource support, ICT equipment and support (Maruyama & Tietze, 2013). Business savings can be realized by providing flexible telework arrangements which improve worker productivity, efficiency and organizational effectiveness and reduce staff turnover and absenteeism. Organizations that have established business cases and invested in telework, are reaping the benefits because they outweigh the costs (Sensis, 2005). Teleworking is viewed as an attractive working arrangement among employees generally, as increased flexibility of working hours and location of work can be used to meet the changing needs of people throughout their lives (Pirdavani et al, 2013). Government and business continuity is enhanced by telework and in recent times, this has been reaffirmed by the disruption created by actual and potential catastrophes such as the tsunami in Asia, Hurricane Katrina in the United States and the anticipated global Bird Flu epidemic. During human and natural disasters, the ability to work in a decentralized manner, away from central business locations, can allow businesses and governments to provide ongoing services (ATAC, 2006).

From the individual, organisational and societal perspective, teleworking has become a saviour of sorts because of the positive benefits that are derived from this work pattern. Ndubisi and Kahraman (2005) have chronicled a list of these potential benefits:

Individual perspective potential benefits:

- Balance between work, family and leisure

- Gains in flexible life scheduling to accommodate new tasks
- Less commute travel and more effective use of work time
- Increased opportunity for a dual income family
- Increased family contact and ability to care for family
- Saving on petrol, parking fees, business lunches
- Less stress and a more casual work atmosphere
- Maternity benefits and related child care savings
- Increased opportunities for community involvement: and
- Others

Organisational perspective potential benefits:

- Reduced absenteeism and related costs
- Better turn around times and around the clock use of computer facilities
- Less investment in human capital required should the telecommuter return to work in the traditional organisation as compared to hiring a new recruit (Zhu, 2012).
- Improvement in quality of work life programmes
- Productivity improvements due to increased work efficiency
- Company may be able to pursue affirmative action policies such as employment of the physically handicapped
- Reduction of operational overheads especially accommodation and
- Improved recruitment and retention of skilled personnel

Societal perspective potential benefits:

- Teleworking can improve urban environments by reducing petrol consumption, pollution, traffic congestion and high way accident rates
- Directly facilitates the decentralisation of worksites
- Improved environmental impacts. Telecommuters can leave congested cities and live in lower density and more attractive environments (Arista, 2015)
- Contributes towards a more equitable population spread and
- Creation of employment opportunities

4.6. Barriers of Teleworking

There are also a number of barriers to telework: These are:

- Job design and nature of work
- Cultural resistance
- Managing telework
- Potential regulatory barriers
- Health and Safety requirements
- Security and privacy
- Overwork and job fatigue
- Worker isolation

The Sensis Report (2005) suggests that some businesses that did not have employees teleworking said that the main barrier was a belief that it was not suitable for their type of work. Teleworking is uncommon in occupations which involve servicing clients directly such as in retail, health and community services, cultural and recreational services and accommodation, cafes and restaurants. A large number of labour intensive jobs such as in agriculture, mining, manufacturing and construction require on-site, hands-on work which does not encourage telework (Argone, 2015). In the 'cultural resistance' there are many managers who retain a traditional view of working practice and do not subscribe to employees working effectively without being located in an office. Hence the perception that people who telework are not committed to their jobs. The management of teleworkers is also hard work and few managers possess the skills or training to supervise remote working staff effectively. There is evidence that there are some regulatory barriers which impact the ability of organizations to undertake telework. Overtime rates, penalty rates and specified working hours can make hours flexibility and the ability to work outside standard hours away from the traditional work environment costly and difficult. Hence, 'agreement making' allows employees and employers to negotiate working arrangements that are fashioned to meet the employees' needs and workplace. Employers have the responsibility of taking steps to ensure and secure the health and safety of their employees. If there is a formal home-based flexible work agreement with an employee, the employer would generally be responsible for conducting a

health and safety assessment of the employees' home to meet their general duty of care towards the employees. This may be a very financially tasking exercise for SMEs and can act as a disincentive to allowing formal telework (Parade, 2016). Privacy and security are major issues in teleworking because organizations have the responsibility to exercise care in the dissemination and use of private information and need to maintain the security of their assets and information which extends even to teleworkers away from the office. "In the Sensis Report (2005) 13 per cent of teleworkers report a negative impact of having to work longer hours. Working in a home location may make it hard for teleworkers to separate from work and this may end up in a distortion of home life boundaries (Obi, 2015). Isolation is a major barrier for teleworkers because humans are social in nature and love to interact as part of living. The reclusive life is something teleworkers are usually not primed for. Teleworkers may also think that their profession is being hampered by a lack of social contact with their contemporaries and managers and by being absent in the office (Australian Telework Advisory Committee, 2006). Ndubisi and Kahraman (2005) have outlined potential costs and barriers of teleworking in relation to the individual, organisation, and the society at large. Taxonomy of the barriers is listed below:

Individual perspective potential barriers:

- Lack of social interaction and stimulation from peers
- Less personalised supervision
- Lack of participation in organisational decisions and meetings
- Lack of emotional support from peers
- Isolation from the organisation
- May determine team project synergy
- Lack of visibility affecting career advancement and development
- Lack of access to informal communication networks
- Without adequate legal and industrial legislation it may lead to the development of the "electronic sweatshop" and
- The potential to overwork and engage multiple contracts may increase work stress and burnout

Organisational perspective potential barriers:

- Onsite time requirements
- Problem of providing technical and logistical backup
- Distinction between standard on-site employees and telecommuters
- Threat to established work procedures and employee reluctance to change
- Negative union reactions to teleworking and scabbing (telescabbing)
- Method of payment of telecommuters
- Non-applicability of teleworking to certain individual or groups
- Telecommuters rights in the workplace relative to traditional work patterns
- Problem of monitoring work output, administration and lack of supervision and
- Problem of data security and confidentiality (Lisa, 2014).

Social perspective potential barriers:

- Resistance to change issues
- May lead to an international labour price war among workers
- May keep minority groups such as special needs workers out of mainstream society

In February 2005, the UK government announced a public consultation on extending the British flexible working laws that were introduced in April 2003 (DTI, 2005). In 2003, parents of children under six and disabled children under eighteen were given the right to request flexible working patterns, which included part-time working, variations in working hours and home working. Employers have a duty to consider such requests seriously (Swan, 2015). A government survey estimated that thirteen per cent of employees requested a change to working patterns in the first year of this law. Eighty-six percent of those requests were wholly or partially accepted, meaning that around 80,000 people had new flexible working patterns. Ten per cent of those requests concerned working from home on a regular basis (DTI, 2004). If the home working ratio seen in the first year is a reliable predictor, this means perhaps

100,000 further people will be working from home on a regular basis (DTI, 2005). While the more formal aspects of teleworking are the subject of widely available advice concerning legal health and safety and some technology and work organization aspects (DTI, 2003), there are deeper unaddressed issues. These issues as highlighted by Gundry and Slater (2005) and Young (2015) are:

- Trust: establishing trust between a manager and a teleworker to battle suspicion that working at home means slacking of abuse of agreements; similarly, feelings of envy in office-based colleagues that it is a perk denied to them and concern that they will pick up additional workload.
- Work management: organizing and specifying work in terms of results so that it can be accomplished without detailed management supervision; formalizing process for reporting problems and exceptions; avoiding confusion and lack of coordination.
- Information management: ensuring that a remote team member is provided with the same access to formal and informal information as their colleagues in the office.
- Social and team aspects: isolation and detachment experienced by those who are remote (“the loneliness of the long-distance worker”) and potentially lack of motivation and engagement with team goals and timescales.
- Visibility and development: the propensity of managers and office colleagues to see remote workers as out of sight, out of mind; concern by remote workers that they are harming their career advancement; concern that they are missing out on training and development.
- Communications: problems ranging from the realities of technology support for teleworkers, through lack of availability of or skill in using up-to-date collaboration tools, to reluctance to communicate through technology.
- Time management: for teleworkers, being capable of working effectively without the rhythm of the office; dealing with family and

friends believe that they are fair game to be interrupted; feeling of guilt leading to excessive working hours.

Technology is viewed as the backbone for any teleworking program and managing it is critical in the sustainability and support of teleworking. Technology is the enabler of teleworking (Siha et al, 2006).

There are several technology options to help implement telework and according to Viack Corporation (2005) it is safe to say that the inherent technology needs for a teleworker are the following:

- Computer
- Internet connectivity
- E-mail program
- Telephone
- Fax machine

The highest concern expressed from managements in organizations has been the fear of having less control over employees who work from home, ensuring that they remain productive and efficient. This particular concern can be addressed by introducing a richer medium for continuous communications, such as an online communication collaboration tool suite. By equipping teleworkers with high speed internet, a web camera, headset and an online communications solution, managers will be in touch with teleworkers at all times (Drewa, 2015 and Jude, 2014). An effective and useful tool, it should include such features as real-time video, telephone-quality audio and presence detection systems to allow better interaction between the main office and teleworkers. Using a combination of communication methods, such as online meetings, e-mail, fax and phone, will provide a comprehensive telework program.

In order to ensure that the basic elements of a successful teleworking scheme are in place, AT&T (2004) recommends that companies need to apply certain strategies to make it work, such as:

- Carry out an audit throughout the company to find out which jobs are suitable for teleworking. Ask the employees themselves. Though ripe

for telework, their job may benefit from one or two days per week off-site.

- HR, IT and facilities management need to be brought together to manage a remote working program effectively. None can do it single-handedly.
- Engage the support of departmental managers. They are often the sticking point for remote working programs, as they perceive it as a threat to their control.
- Avoid hasty implementation. The technology and HR issues must have been fully resolved or the solution will flounder. How to maintain a distinct corporate culture among a diffuse workforce also needs careful consideration.
- Security in the form of a Virtual Private Network (VPN) is recommended. A home is not inherently less secure than an office and is likely to have fewer strangers passing in and out (Uyte, 2015).
- Consider offering to finance home office equipment and to pay for monthly broadband charges.
- Ensure that interaction between managers and teleworkers is sustained – and includes regular appraisals. A teleworking programme cannot succeed if this is overlooked. Local managers are most likely to need encouragement and training in order to adapt to the teleworking environment that their subordinates.

Positive outcomes such as improved productivity, organizational loyalty and belonging, job satisfaction, and employee retention and attraction often top lists of the advantages of teleworking (Bailey and Kurland, 2002) but an increasing number of people are teleworking to a large extent as an ordinary element of their job. In contemporary times it is unrepresentative of the true picture to study telework along any single factor or element, but rather in relation to varying working practices in general (Huuhtanen, 2003).

Teleworking is indeed a key area in ensuring the businesses remain profitable and futuristic in nature as technology and flexible working patterns are very important in enhancing development in business. The discussion on teleworking will continue as key policy makers will be continuing to be

engaged to refine the teleworking adoption process. The next chapter will address innovation and its contribution to the adoption of teleworking and its key role in ensuring that a better understanding is given of the thesis title.

CHAPTER 5

INNOVATION

CHAPTER 5:

INNOVATION

5.1 Introduction

This short chapter investigates one of the key conceptual themes in this thesis which is innovation. An exploration into the diverse definitions of innovation will be reviewed in order to provide a holistic understanding of innovation and the different perspectives sourced from different schools of thought on what innovation is and what it represents. Furthermore, the chapter will also consider some of the existing innovation models that will present a better understanding of the innovation concept in the context of the thesis and will underpin the innovation literature and assist in the understanding of the study. Factors affecting organisations innovativeness will be one of the sub-components to be considered in this chapter to give an understanding of what makes business concerns and organisations innovative or decide to innovate with a view to gaining a deeper appreciation of the concept. The rationale for such an exploration is to give an analysis of the broader spectrum of innovation and demystify its apparent multifaceted nature. The partial enigmatic view of innovation has held sway and this study aims to break innovation into different components to present a clearer platform for understanding and add to the body of innovation literature.

5.2 Definition of Innovation

Innovation cannot be thought of as a new phenomenon, as it as old as civilisation itself and the purpose of this section of the literature is to compare different definitions of innovation with a view to understanding more about this very important and never ageing word. According to Irwin (2000), Innovation is all about doing things differently which is a very simplistic definition of viewing innovation. Innovation is viewed in contemporary terms as a process that is dynamic and interactive in its unique entity (Cooke, Boekholt and Todtling, 2003:3). McFadzean et al (2005) believe that key components of innovation should be a. the potential for change and b. new ideas. Conway and Steward (2009) defined innovation broadly as occurring when an invention is commonly used. The UK Department of Innovation Universities and Skills (2008) view innovation as the successful exploitation of a unique idea which highlights the commercial side of innovation by Ahmed and Shephard

(2010) who perceive innovation as added value and believe that innovation has two parts which are product and process in order to highlight the value added theory. Freeman and Soete (1997:6) envision “*an innovation in the economic sense is accomplished only with the first commercial transaction involving the new product, process system or device, although the word is used also to describe the whole process. Of course, further inventions often take place during the innovation process and still more inventions and innovations may be made during the diffusion processes*”. However, the commercial perspective to innovation shared by Afuah (2003:34) states that “*to be an innovation, an idea must be converted into a product or service that customers want*”, but Trott (2005) brings a new perspective to the commercially biased innovation argument by saying that even though a great number of innovation definitions reference market entry and success as components of successful innovation, a lack of market success does not automatically negate the fact that innovation remains itself and unique not just an insignificant invention without any credit. The term innovation tends to have a generic definition pattern because of its highly evolving definitive nature, however for the purpose of this study, the definition of Galanakis (2002:2) which states that innovation is defined “*as the creation of new products, knowledge or services by using new or existing scientific or technological knowledge, which provide a degree of novelty either to the developer, the industrial sector, the nation or the world and succeed in the marketplace*”, will be applied to this study. The importance of innovation to an organisations survival cannot be overemphasised as innovation is extremely vital to the success of businesses organisations and this argument is supported by the European Institute of Technology Management (EITM, 2004) where the term ‘innovation management’ is defined as: the actions taken to efficiently identify, acquire, develop, select, protect and exploit the technologies, products, business models, processes and infrastructure that is required to grow, maintain and achieve a strong market position and enhanced business performance in line with the organisations objectives. Rutten and Boekema (2007) strongly believe that innovation does not occur independently but is strongly reliant and thrives upon several types of knowledge such as technological knowledge. Their point being that for innovation to be fostered in an organisation or business environment, a knowledge requirement for innovation should have been provided. This argument is further buttressed by the inclusion of creativity in the innovation definition debate by authors such as Phillips (1993) that draw importance to the administration of creativity to the smooth flow of the innovation development and also the works of Von Stamm (2003) and Henry (2001) that support the deep role creativity plays in the definitions of innovation and its organisational

and business impact. All the authors above agree that creativity that is nurtured, encouraged and courted will produce desirable outcomes of progressive innovation. The works of Roper et al (2003), Dodgson et al (2008) and Halkett (2008) in their definition of innovation, support the commercialisation element and also Afuah (2003) which involves the transformation of ideas into products and services adoption for the market place in order to make financial gain or have a technological market or business advantage. Smith (2006) acknowledged the multifaceted and evolving nature of innovation and opined that innovation does not compulsorily have to affiliate with new process or new products, however may simply just involve tweaking, adjusting and upgrading an already existing process, idea or product. Phillis et al (2008) and the European Commission (2006a) identify that innovation is not just a word that can be defined on a micro level but more on a macro scale and have highlighted the social and economic impact and importance of innovation. According to Phillis et al (2008) innovation had not occurred if it has not been able to impact economically and socially. The works of Henry (2001) and Manley (2003) highlight the fact that innovation cannot occur in isolation and promote the importance of communication and team effort as strong components of the innovation process in order for any innovation to be successful. The work of John Schumpeter in the 1930's in the Oslo manual produced by the OECD (1997:28) highlights the importance of innovation and with his pioneering work as an economist, he defined innovation into five types: introduction of a new product or a qualitative change in an existing product, the process innovation to an industry, the opening of a new market, the development of new sources of supply for raw materials or other inputs and the changes in industrial organisation. The Oslo manual takes a critical look at the first two Schumpeter innovation types as the claim is that they are easier to measure and define in the innovation definition quest. The first is the *technological process innovation* which is defined as an adoption of a new or significantly improved method of production which includes methods of product delivery (OECD, 1997:49) and the words "improved" and "new" are directly applicable to an individual organisation because according to the Oslo manual, even if an organisation introduces a technique that is being used by others as this is still classed as innovation. The second is the *technological product innovation* which is the introduction of new product or hybrid that has a unique characteristic on its own and significantly differs from other products because of the application of knowledge, materials and new technologies. The aim of the two categories is to showcase the fact that innovation can innately involve the dissemination of existing knowledge and the creation of evolution of fresh knowledge. In an analysis of the Oslo manual, Rogers (1998:8) opined that "*the basic*

lesson from the extensive work in the Oslo Manual is that 'innovation' is problematic to define precisely. In practice, survey research must choose a relatively short definition for innovation and accept the fact that respondents will use varying interpretations". A key point in the Oslo Manual on Innovation data is the exclusion of organisational innovation and its definition which is partly due to the difficulty in measuring it conceptually and in practice (OECD, 1997:43). The Australian Bureau of Statistics in its ABS innovation survey (1996) defined innovation as "*any new or substantially improved good or service which has been commercialised, or any new or substantially improved process used for the commercial production of goods and services. 'New' means new to your business*". Another interesting innovation definition from the 1990's is the one used by the Department of Industry Science and Tourism (DIST,1996:2) which says that "*innovation at the level of an individual firm, might be defined as the application of ideas that are new to the firm, whether the new ideas are embodied in products, processes, services, or in work organisations, management or marketing systems*". The Business Council of Australia (1993:3) put the customer and clients in focus in their definition of innovation which is "*in business, innovation is something that is new or significantly improved, done by an enterprise to create added value either directly for the enterprise or indirectly for its customers*". Rogers (1998) is of the opinion that "*innovation is only regarded to have occurred if it has been implemented or commercialised in some way. The creation of abstract knowledge, or the innovation of new products or processes, is not normally considered innovation until it has been productively incorporated into the enterprise's activities. This means that innovative activity is not something that can occur separate from the firm's core activities; rather it must involve the coordination of various inventive learning and implementation skills*". The works of Dodgson and Rotherwell (1994), Freeman (1995), Lattimore (1991) and Gregory (1993) review innovation definitions in industry specific terms reviewing the entire innovation systems, which comprise of government, education business and all the institutional links between them that, enhance innovative activity which helps in the further understanding of innovation in each of these sectors. Innovation has not always been well received with optimism because of its sometimes difficult nature and hard understanding because of its evolving dynamics and multifaceted structure. Hamel (2003) believed that innovation was not real and was more of a term for speech making and platitude while Kirton (2003) did not support the concept of innovation using semantic to make his point that innovation concept is not accepted even though the term and its usage may be popular.

5.3 Innovation models

5.3.1. Introduction to models

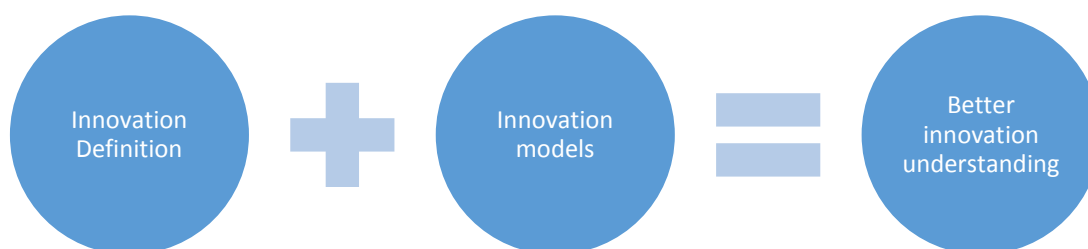
There are many models that are worth investigating in order to understand and expand on the innovation debate, with a view to drilling down into the viewpoints of different authors and their theories. The work of Afuah (2003) will feature strongly in this section of this chapter because of his in-depth assessment of the innovation models. Innovation models in this section will be divided into two in line with the generic way most of the innovation data exists and they are the dynamic models and the static innovation models. The reason for this division is to further understand where each model defined in this chapter falls with a view to helping with the demystification of the innovation models.

5.3.2. Innovation models

Static models will be explored first and they view innovation in conjunction with its ability to change, further and impact on organisations abilities to be profitable and reform. Afuah (2003) expressed the idea that innovation can be determined by its dramatic change ability in an organisation, its radical style and it's intrinsic ability to cause a radical change when deployed which even though on the surface may be a good thing, may also be seen as negative and reduce core competencies. Incremental innovation is another element of the static model that harnesses innovative activity (Afuah, 2003). This research further classifies innovation into the radical element or incremental element, the former being seen as a catalyst for change in an organisation's profit levels and the later having a non-effect static style consequence on an organisations profit margins. In summary, incremental innovation is an element that enhances services, ideas and products to remain relevant and economical in the market place while on the flip side, the radical innovation results in products and ideas being uncompetitive in the business environment (Afuah, 2003). A major innovation model is one called the Disruptive Technological Change model which is projected by Christensen and Overdorf (2000). This model is a very customer friendly and focused model as its nature is to be compliant with the requirements of its customers in order to stay relevant. This specialist style showcases the Chirstensen and Overdorf (2000) viewpoint as a limitation of an organisations ability to deeply engage in radical innovation. The Abernathy-Clark model is one that is very commonly used and practiced across diverse sectors and industries as it alludes to the fact that the core element of innovation in the context of the model is that it is

highly focused on market-based and technical elements. In addition, the importance of the market which is the key base of an innovative focused organisation and technical insight and ideas are very important and further, equally important in the grand scheme of an organisations objectives (Abernathy and Clark, 1988). The Henderson-Clark innovation model is an interesting model that classifies innovation as expanding if it eliminates architectural and component knowledge which further supports and explores the radical innovation theory (Henderson and Clark, 1990). The authors explain the model further by stating that great consideration is given to product design and enhancement because of that further exploration and interpretation of incremental and radical innovation has been undertaken by Henderson and Clark (1990). They consider product development as requiring component knowledge and knowledge of linkages between components – dubbed ‘*architectural*’ knowledge. The Henderson-Clark model identifies innovation as being incremental if it develops both component and ‘architectural’ knowledge. Innovation is considered radical if it ‘destroys’ both component and ‘architectural’ knowledge. Other combinations of component and ‘architectural’ knowledge change are ‘modular innovation’ (component knowledge destroyed, ‘architectural’ knowledge improved) and ‘architectural innovation’ (component knowledge improved, ‘architectural’ knowledge destroyed) (Afuah, 2003). Another model under review is the dynamic model by Utterback and Abernathy (1975) which classifies its technological process into three key phases which are: the fluid phase, the transitional phase and the specific phase. The innovation inception stage when designs and ideas are developed and showcased to interested parties is called the fluid stage. It is one of the most important stages as it is when innovation is designed and created. The transitional stage is the second stage in the dynamic model that validates a design of a product by its acknowledgement and admittance in the business market place. It is a unique stage as it is not the final bus-stop for the product. The specific phase which is the final phase of this model highlights the growth of this innovation after transitioning from product to process innovation with emphasis placed on a continuous increase in its design and the need to progressively improve. Dynamic models are technologically driven with it power to evolve countless times before it produces its result. The uniqueness of the dynamic model is its non-static approach to innovation with and incremental and radical progressive design. It is classed as the genius of innovation models (Afuah, 2003). The common practice for business organisations has been to embrace incremental innovation which is innovation that just improves on a former model rather than embracing the radical innovation which tends to be more expensive as it starts from scratch with ideas formulation and goes through the process

innovation tunnel, however it is usually seen as more revolutionary and far reaching in its approach. Which is why, the safer mode is called the static model (Afuah, 2003) which arguably doesn't help in fast tracking the innovation process. Cooke, Boekholt and Todtling, (2000), reason that organisations especially from empirical evidence based study of European businesses, tend to take the easy way out in their innovation process journey which is the incremental innovation mode rather than the radical, fresh and ground-breaking innovation. Another model under review is the Innovation value-added chain model originally designed by Porter as cited in the work of Afuah (2003) which highlights innovative activity and its impact on the ability of innovation to impact not just on the organisation or end users but also on the customers, suppliers and fellow innovators. This innovation is embedded in its strong relationship framework which highlights the importance of fostering solid relationships between the producers, clients and suppliers in order to showcase the importance of a harmonious relationship for innovation to thrive (Fountain, 1998). When all the parties that are critical to a harmonious innovation process relationship, working together with strategic management support for a common goal, ensures that successful innovation is the end outcome (Afuah, 2003). The next chapter highlights the research methodology and research design in enhancing a better understanding of how this thesis was carried out and designed.



CHAPTER 6
RESEARCH DESIGN AND
METHODOLOGY

CHAPTER 6:

RESEARCH METHODOLOGY

6.0 Research Design and Methodology

This chapter outlines the research design and methodology of the study. The chapter begins with a discussion of the research philosophy, research methods applied in the course of the study and techniques used to gather the research data. The chapter also gives a brief discussion into the techniques and methods that were considered but not used in this study. Methodology is the bedrock of a research structure, hence the in-depth process and procedure in the interpretation of the research methodology. In order to present a research argument a methodological structure must be built for any research approach (Jones-Evans, 1994). Yin (1994) argues that a competent research design will avoid problems in poor methodology, which will be used in this study to develop the appropriate methodology in investigating/examining the research questions.

The Five Stages are:

- Research Purpose / Aim
- Research Strategy
- Research Design
- Data Collection
- Data Analysis

6.1 Overview of research context

The study aims to investigate the adoption of teleworking as an innovative work practice for Small and Medium Enterprises (SMEs) in Wales with a view to exploring the barriers and benefits that exist and its acceptance. An objective is to develop a robust framework, which is developed from the literature and refined with the data collection. In the context of Wales being the area in focus of the research, teleworking provides some benefits and also barriers to SMEs in its adoption process. It is proposed that organisations consider the challenges and opportunities of teleworking in its adoption in order to keep up with the competitive work practices that obtain in the global

business environment. Teleworking adoption is hampered by barriers in its practice and implementation, such as mistrust, isolation, information management, visibility and development that can diminish the ability to adopt teleworking in their business practices.

6.2 Overview of research approach and perspective

This study attempts to develop a general framework of teleworking adoption as an innovative work practice, especially and particularly in Wales. The input for the framework development is generated specifically from the literature and tested and refined using primary data from an expert panel, focus groups and interviews.

6.3 Interpretivism

The term of 'interpretivism' is mainly associated with qualitative research; however, it can also be used in quantitative methods of research (Williamson et al, 2002). The term of 'interpretative' is viewed as broad, however, the perspective can be summarised based on how the social world is understood and experienced (King and Horrocks, 2010). King and Horrocks (2010) also added that interpretative research is commonly idiographic, which discusses aspects of the social world by presenting a detailed description of specific social settings, processes or relationships. Williamson et al (2002) opined that researchers who are interpretivist are more concerned with the natural setting of the fieldwork. They are convinced that there are divisions between the social world and the world of nature, as the social world is interpreted or constructed by people. People develop their own perspectives and interpret them constantly with an ever-evolving world (Williamson et al, 2002). Interpretivist researchers search for literature to gain better insights and an understanding of the topic, develop the theory and research questions, and plan for methods of data collection. The researcher might amend the research questions or data collection if the initial stage of data collection reveals unexpected views of the research questions. Interpretivist researchers do not necessarily test hypotheses although they might develop working propositions

that are grounded in the perspectives of the participants (Williamson, et al, 2002).

6.4 Positivism and Post Positivism

The positivist approach is defined as “*a set of interrelated assumptions about the social world which provides a philosophical and conceptual framework for the systematic study of that world*” (Kuhn, 1970, p.10). The positivist paradigm is mainly associated with quantitative methods of research, but it has been used in qualitative research, particularly in post positivist (Denzin & Lincoln, 1994; Myers, 1997). Williamson et al. (2002: 27) noted that positivist researchers view the world as a “collection of observable events and facts” that can be measured. Experimental design and survey are commonly linked to the positivist paradigm, provided the latter is carried out with rigour (Williamson, et al., 2002). The principle of reliability which is defined and refers to the degree to which the findings are independent of the accidental circumstances of the research and also the principles of validity which makes reference to evidence that the instrument, technique, or process used to measure a concept does indeed measure the intended concept, must be considered while selecting the research sample. Post-positivism is similar to positivism, which assumes that the reality exists but it is hard to discover, as it is affected by “human intellectual mechanisms and the fundamentally intractable nature of phenomena” (Denzin et al, 1994:110). In post-positivism research, the reality should be subjected to the broadest views, which are related to more natural settings and imploring of insider feedback and experiences, as against a dependence on outsider opinions and views (Williamson et al, 2002).

The interpretive approach is considered as a guideline in this study. The researcher does not declare absolute ignorance of the results. The researcher is prepared and open to the readers making judgements as to the applicability of the results, as based on the research methods that are used in this study. However, the researcher believes that the results and conclusions of this study

are relevant to many business organisations and key organisational stakeholders in multi-sectored areas.

6.5 Research Methods

There are a number of methods that can be used to enlighten research. Among the research methods that are commonly used in business research are grounded theory, action research, life history, ethnography, conversational analysis and case study research (Myers and Avison, 2002; Neuman, 2006). The research methods for this study are the Delpi method for Phase One and the in-depth interviews method for Phase Two of the research data collection. Section 6.5.2 will discuss these methods. It will also discuss the other research methods that were considered for the research.

6.5.1 What is qualitative research?

Qualitative research is a research approach that seeks for better insights and a clearer understanding of certain problems (Malhotra, 1999). Liamputtong (2000) defined qualitative research as research that focuses on the social world instead of the world of nature. The social world is related to human beings who rely on subjectivity of certain experiences. The “understanding of reality can change over time and in different social context” (Dew, 2007). Qualitative research is also about the study of social and cultural phenomena based on understanding people and their social contexts, as well as the culture perspectives within which they live (Myers and Avison, 2002). Myers and Avison (2002) explained that the typical examples of qualitative research methods are action research, case study research and ethnography. The qualitative data sources consist of observation and participant observation (fieldwork), interviews and questionnaires, documents and texts, and reactions and impressions from the researcher. This type of research is aiming to “capture lived experiences of the social world and the meanings people give these experiences from their own perspective” (Corti and Thompson, 2004:326).

In a broad perspective, qualitative research is best defined as:

“An approach that allows the researcher to examine people’s experiences in detail by using a specific set of research methods such as in-depth interviews, focus group discussion, observation, content analysis, visual methods, and life histories and biographies” (Hennick, Hutter and Bailey, 2011:8-9).

6.5.2 Phase One: Modified Delphi Method

The Delphi method is sometimes considered to be more of an “art rather than a science” (Linstone and Turoff, 1975:3). Linstone and Turoff (1975) defined the Delphi method as a composition of group communication process that allows the group of individuals to deliver their effective thoughts and views in dealing with a complex problem. The Delphi approach is the platform to seek for comparability and also to receive views and consensus concerning certain issues (Baretta, 1996; Green et al, 1999). The Delphi approach provides the opportunity for a group of experts to gain a better understanding of the issues discussed (Watson, 2008).

There are two common processes of the Delphi method: *conventional* and *real-time* (Linstone and Turoff, 1975). The *Conventional* Delphi method is where the moderator designs a questionnaire to send to a larger group of participants. The returned questionnaire will be analysed and a new questionnaire developed based on the previous results. The participants will be given at least one opportunity to re-evaluate their original answers based on their response. Summaries of a revised framework were sent to all participants for their comments.

A *real-time* Delphi method is known as a ‘Delphi conference’, where it replaces the moderator with a computerised program. Participants communicate through the internet to respond to questionnaires via the website. The responses are saved in the database on the server. A Delphi conference uses a real time communication system and is able to eliminate any delay caused in summarising the result. The selection and approach of the expert

panel is important to maintain the level of participation of continuing participation (Watson, 2008).

Justification of the non-standard Delphi approach used

The non-standard Delphi study used in the research has been developed from the Delphi method evolved by Dalkey and Helmer (1963) as a technique to capture the consensus of a group of experts through intensive discussions using controlled feedback. Rather than using conventional questionnaires (Dalkey and Helmer 1963) online questionnaires were deployed in this study. The Delphi method has been widely employed in many management areas since 1963 (Chaw, 2001; Kuo & Chen, 2008; Shu et al, 2010; Joshi et al, 2011; Wang and Durugbo, 2013). As a technique with flexibility, it has been used to investigate new concepts. The traditional Delphi method has had the disadvantages of low convergence of expert opinions and high execution costs due to the iterated process of modifying and collecting expert's judgements (Joshi et al, 2011). There is also the problem that opinion organisers can filter out specific expert options (Kuo & Chen, 2008). By using a non-standard approach involving online questionnaires, the problems of low convergence, high execution costs and the filtering out of expert options were overcome.

Loo (2002) listed five major characteristics of Delphi methods:

- The sample participants consist of 'experts' that are carefully selected to represent a broad spectrum of opinion and views based on the discussion topic.
- The identity of the participants usually kept anonymous
- The moderator of the discussion develops a series of structured discussions, questions and feedback reports for the expert panel in ongoing discussions.
- It often involved three or four modifications or 'rounds' of discussion questions and feedback reports.
- The output from the discussion will be in the form of Delphi's research report, the forecast, the forecast, policy and the options of the

discussion topic that include the strengths, weaknesses, recommendations and action plans.

There are several advantages of implementing the Delphi method in the research, such as:

- The views and thoughts are based on the individuals perspective
- The identity of participants are anonymous and independent
- Participants are not influenced by group pressure
- Interpersonal conflict and communications problems are minimized
- No central location is required, thus minimizing the travelling cost and coordination problems to get everyone in the same place at the same time.
- Allowing the moderator to generate earlier results through the use of successive rounds in a Delphi (Loo, 2002).

Apart from the Delphi method, expert judgement could be considered as one of the research methods for qualitative studies. Expert judgement is an informed assessment based on the experts experience and knowledge concerning the certain quantity or quality of interest (Daneshkhah, 2004). The author referred to the term 'judgement' as the process in gathering and forming opinions. Several criteria are used for selecting expert(s), such as experience, research and publications, position and awards. Expert judgment is applicable and appropriate to be applied when (Daneshkhah, 2004):

- The data are limited and difficult to obtain, and higher costs will be involved.
- Unknown data models and data are open for different interpretation and feedback,
- Data problems are screened and the researcher should bring ti the attention of the experts which problems or issues to look at for further discussion with different points of view.

Considering the above characteristics, a modified Delphi approach with expert judgment is applied in phase one, as it involved a group discussion with experts, who provided their knowledge on the particular topic. The difference between the typical Delphi approach and a modified Delphi approach in this

Phase One is that the former does not necessarily attempt to conduct multiple rounds of data collection.

6.5.3 Phase Two: In-depth interviews

Phase Two of this study employed in-depth interviews research for data collection. In-depth interviews provide a richer set of data for a better understanding of poorly understood phenomena that support the transferability of the researcher's findings (Yin, 2003). Miles and Huberman (1994:29) indicated that in-depth interviews provide "confidence to findings", particularly in case study research. "The boundaries of the phenomenon are not clearly evident at the outset of the research and no experimental control or manipulation is used" (Huberman, 1994:81). Myers and Avison (2002:82) listed eleven (11) key characteristics of in-depth interviews, which are:

- Event is explored in a normal setting
- Data are gathered by multiple means
- One or a few entities (person, group or organisation) are examined
- The complexity of the case is studied intensively
- In-depth interviews are more appropriate for exploring, classification and hypothesis development stages of the knowledge building process, the investigator should have a receptive attitude towards exploration
- No experimental controls or manipulation are involved
- The investigator cannot specify the set of independent and dependent variables in advance
- The results derived depend heavily on the integrative powers of the investigator
- Changes in case research selection and data collection methods could take place as an investigator develops new hypothesis,
- In-depth interview research is useful in the study of 'why' and 'how' questions because these deal with operational links to be traced over time rather than with frequency or incidence, and
- The focus is contemporary events.

Several data collection methods can be used in in-depth interviews research. Yin (1984:781) classified a few sources that are appropriate for case study research.

- Documentation – written material ranging from memoranda to newspaper clippings to formal reports
- Archival records – organisational charts, service, personnel or financial records
- Interviews – these may be open ended or focused
- Direct observation – absorbing and noting details, actions, or subtleties of the field environment
- Physical artefacts – devices, outputs, tools

Triangulation

Triangulation is applied to highlight that dual methods are in use in a research study and this is used to verify the findings of one and the same subjects. The research concept of triangulation allows for an increase in confidence of results of research especially when various methods are applied and eventually lead to the same result. It is viewed as a reputable technique that helps in the verification of different sources of results. It can be applied by quantitative and qualitative researchers in the social sciences. (Rothbauer, 2008 & Bogdan and Biklen, 2006)

6.5.4 Summary of the research approach

This study applies the interpretive approach for research guidance. It adopts the Delphi method in Phase One of data collection with an online expert panel. The purpose of the expert panel involved in Phase One of data collection is to discuss and gain feedback concerning the initial version of the framework. In Phase Two of data collection. An in-depth interview approach was applied via interviews with teleworkers and teleworker managers in rural and urban areas of Wales.

6.6 Data Collection Techniques

There are many data collection techniques for qualitative research. In this study, the two data collection techniques involved are online expert panel and interviews. The reason for these two types of data collection techniques being employed in this study is to gain feedback from the expert panels regarding the proposed framework and refine it further based on the final analysis results from the interview sessions with teleworker employees and teleworker employers.

These two approaches are selected instead of other data collection techniques, such as questionnaires, which are not appropriate for this study, even though the questionnaires allow a wider geographical coverage (Cooper and Schindler, 2001). Although, principally, questionnaires are related to quantitative data, open ended questionnaires could also be used to collect qualitative data (Williamson, 2002c). However, they would not allow the researcher to explore questions in depth. One advantage of interviews is that the researcher can control the direction of the interviews to some extent and ensure that the participants focus on the discussion uses at hand (Williamson, 2002c) also the researcher is given an opportunity to quote the actual words by the participants concerning a specific situation.

This study also employed secondary data to support the research findings. The secondary data is important to provide a better understanding of the current environment of the studies (particularly relating to Wales) in Phase Two of the data collection. The secondary data included census data, government statistics and other related information, which is essential to support the primary data collection.

The two primary data collection techniques employed in this study will be discussed in the next session.

6.6.1. Phase One: The Expert Panels

In Phase One, an online discussion took place which consisted of an expert panel from multiple backgrounds of expertise that are related to this area of study. The discussion was similar to a focus group but instead was conducted online. This online discussion provided more flexibility to the experts as they were located in several geographical locations, which would have made it impossible to conduct a face-to-face focus group.

The online bulletin was developed and participants were invited to provide their comments and feedback on the related issues pertinent to the initial conceptual research framework. The discussion consisted of five rounds (approximately five weeks; each week one different issue was discussed). The comments and feedback from participants were analysed and the initial conceptual research framework was revised. Summaries of the revised framework were sent to all participants for their comments, at the conclusion of all discussion.

Focus Group

“Focus groups provide a special type of information.... They tap into the real-life interactions of people and allow the researcher to get in touch with participants’ perceptions, attitudes and opinions in a way that other procedures do not allow” Krueger (1988:177) cited in Mann and Stewart (2000)

Recently, focus groups have been widely used in qualitative studies (Mann and Stewart, 2000). According to Mann and Stewart (2000), focus groups are a specific group discussion that usually involves between five and ten participants. A focus group is a planned discussion with the purpose of obtaining perceptions and views of defined areas from the selected group in a relaxed environment. A focus group is about interviewing a group of selected participants at the same time and highlights the responses by participating in answering the questions as well as the interaction between participants and the researcher. Nevertheless, a focus group is not a group interview. It is about a

group of people gathered together to discuss the issues being discussed (Liamputtong, 2009a).

The advantages of a focus group are (Liamputtong, 2009a; Williamson, 2002b):

- They are quick, lower in cost and more efficient for gathering in-depth information from participants
- They provide the opportunity to obtain knowledge on sensitive subjects that may be isolated from verbal response
- There is an opportunity to clarify certain responses and follow up questions. The researcher can observe the body language of participants, which may be useful to help interpret as a verbal response
- The open responses of a focus group contributes a large amount of data in the participants own words. Instead, listening about other's experiences help stimulate their own ideas, and , thus, help to 'break the ice' for shy participants
- They are able to produce precise data as the topics of discussion are under the control of the researcher.

The disadvantages of the focus group are (Liamputtong, 2009a; Williamson, 2002b):

- The discussion may be dominated by some participants and other participants may not feel comfortable or easily able to express their views
- Focus groups may incur lower cost, be efficient and manageable but they only represent the perspectives of participants and do not include the range of views of a large population or community.
- There is the possibility of bias as participants are driven by the researcher's interest, which might not be the same as the participants' interests.
- Focus groups are generally controlled by the moderator. Thus the focus group should generally be led by a trained moderator. An

inexperienced moderator may prevent participants from expressing their views about the issues concerned.

Online Focus Group

The Internet offers a new dimension to which focus groups can be adapted and transformed (Mann and Stewart, 2000). There are two types of online focus group, *the real-time focus group(synchronous)* and *the non-real-time focus group (asynchronous)* Mann and Stewart, 2000).

The real-time Focus Group

A real-time focus group is conducted synchronously in which all participants will be online for discussion at the same time. This type of discussion can be fast and interactive (Mann and Stewart, 2000).

The non-real-time Focus Group

Here, the online focus group is conducted asynchronously, where it is not necessary for participants to be online at the same time. This type of discussion provides benefits as it can overcome differences in the time zone of participants (Mann and Stewart, 2000). For this study, the researcher applied non-real-time focus group as the study involves a group of experts from different towns and cities with different work schedules and work patterns.

With the growth of the internet, the use of qualitative data collection via the internet is expanding (Mann and Stewart, 2000). Several qualitative studies have been used for the internet in collecting research data. For instance, Molla and Licker (2005a) in their pilot study used expert panels to judge the degree of relevance of the instrument items on e-commerce adoption factors. The degree of relevance of variables was measured on a five-point Likert-type scale. Karanasios (2008) used an online focus group with a group of expert panels in a phase of data collection. The expert panel was used to provide feedback on the initial framework that had been developed through a literature review. The feedback received from the expert panel is used to further refine the framework in this study.

6.6.2 Phase Two: In-depth interviews

Phase Two of this study involves in-depth interviews for data collection. In depth interviews are commonly and widely employed in qualitative research (Barbour, 2008; Bryman, 2008; Holstein and Gubrium, 2003). Holstein and Gubrium (2003) viewed an interview as empirical data of an individual's words by encouraging them to deliver their views and thoughts in great depth. An in-depth interview is often referred to as 'face-to-face' or 'one-to-one' interaction between a researcher and participant (Liamputtong, 2009b).

The advantages of in-depth interviews are:

- They provide greater depth of insights towards the issue
- They attribute the responses directly
- They result in the free exchange of information
- They often receive a better response rate compared to mailed questionnaires as they require a personal contact for setting up the interviews
- The interviewer has an opportunity to control the context of the interviews and is able to ensure that participants concentrate on the discussion issues,
- Unstructured interviews provide flexibility in questioning and the follow up of interesting leads (Malhotra, 1999; Williamson, 2002c).

The disadvantages of in-depth interviews are:

- Skilled and capable interviewers are needed,
- The lack of structure could cause the result to be susceptible to the interviewer's influence, and the quality and completeness of the results much depends on the interviewer's skill,
- The data obtained are difficult to analyse and interpret (Malhotra, 1999).

Types of Interview

There are several types of interview that could be considered. Williamson (2002c) lists three types of interview:

- *Structured (standardized or scheduled)*

For this kind of interview, the same interview questions are asked exactly and follow a fixed sequence for each participant. A structured interview is simply a survey questionnaire administered by interview unless there is some freedom given for participants to express their own thoughts and views and unconstrained by researcher's agenda. It is noted that a structured interview should be tested in the same way as a self-administered questionnaire if this type of interview is used (Williamson, 2002c).

- *Unstructured (non-standardized, non-scheduled, or in-depth)*

Unstructured interviews generally refer to situations in which each type of the interview answer generates the next question. This interview is practical for exploring and gaining insights from participants. This type of interview is also appropriate to be used in case studies, to collect extensive data from key people. This kind of interview is accepted for use in interpretivist research.

- *Semi-structured*

This type of interview has a standard list of questions but it allows interviewers to follow-up on leads provided by participants for each of the questions involved. The semi-structured interview is closer to the unstructured, in-depth interview, than to the structured and standardized interview.

Conducting an interview

It is argued that social interaction in an interview may be influenced by where it is conducted or the context of the interview itself (Neuman, 2005). The interview locations, such as the office, home, or cafe, can

have an impact on the interview. According to Neuman (2005), this could be overcome by conducting the interview in a private location (such as their home). In this study, participants have an opportunity to choose the location of the interview they prefer. The interviews are commonly conducted at their business premises, cafe or home. The selected locations, such as business premises, cafe or home provide an advantage to the researcher to ask more in-depth questions as these locations are private and silent. In locations such as cafes, quiet spots are chosen to minimise distractions.

Two types of non-verbal behaviour can occur when conducting interviews (Cavana et al, 2001). These two non-verbal behaviours involve an interviewer and interviewees. For the interviewer, it will impact upon the interview. Cavana et al. (2001) presented some guidelines to perform interviews.

This study followed the listed guidelines below:

- Pattern of interview – This study involved the semi-structured interviews. It involved building a good communication with interviewees, managing language barriers and encouraging the interviewees to provide in-depth information.
- Listening – It involved listening to interview responses and feedback concerning the interview questions and discussion context. The listening process required the researcher to listen carefully and understand what has been said by the interviewee.
- Paraphrasing – The researcher needed to paraphrase concisely what was said by the interviewees.
- Probing – It involved the follow-up questions in order to obtain more specific or in-depth information.

Two issues concerning the researcher before conducting the interviews were cost and geographical limitations. These were overcome through good planning (interviews carefully arranged and scheduled in sequence, thus it became more cost-effective and travel time could be reduced). For this study,

the travelling costs were reduced as the researcher planned well in advance and travelling schedule especially on the trains were planned in advance to get the best national-rail deals. The appointments with participants were confirmed before the researcher travelled. The researcher was able to get huge discounts on rail travel in Wales because of the use of a student discount card that allows students to travel for a third of the original travel price which helped a great deal in this phase of data collection.

The consent form and information to participant letter – which outlined the objectives of the study and indicated that their participation in this study would remain anonymous at all times -were provided to participants. The interviews only commenced once approval to participate was granted by participants. In addition, the researcher was also aware of any deficiencies from the interviews, such as interview bias, potential impact of interviewer characteristics and interviewer effects.

Conducting an interview via the telephone

Interviews over the telephone were conducted when face-to-face interviews were not possible. For this study, a couple of interviews were conducted via the telephone upon the request from the participants.

Conducting the interviews over the telephone offers advantages and disadvantages. According to Sekaran and Bougie (2010), the main advantage of conducting telephone interviews is that it can reach a number of people internationally and locally in a short period of time. In addition, telephone interviews are able to minimize the discomfort of disclosing the personal information of participants (Sekran and Bougie, 2010). However, there are also disadvantages of telephone interviews. Among the disadvantages are:

- The respondents can terminate the interview without warning or explanation by hanging up the phone.
- The researcher is unable to read non-verbal signs from the participants (Sekaran and Bougie, 2010)
- The interview needs to be kept short

- There is a possibility that the telephone numbers might be obsolete and cannot be contacted (Cavana, et al, 2001).

Interview Questions

When conducting a study in more than one location, the major concern in information gathering from participants is language style. Each region in Wales might have a different meaning and inference to the way words are used and also the element of Wales being a dual language speaking country with Welsh speakers and English speakers both residing in the same locations. Countries, cities and towns have different languages with different meanings to different people (Bulmer and Warwick, 1983b). The interview questions were designed to precisely produce appropriate outcomes from the field research. Some of the interview questions were required to be phrased differently to cope with the different characteristics of the participants (Manaster and Havighurst, 1972).

For the purpose of this study, the researcher did not have a problem with misunderstanding words or phrases, as the researcher is a fluent English speaker. The English language was the primary language used in the course of the study and except for some strong accents however, this could still be understood by the researcher.

Recording Interviews

Recording the interview can be an advantage to the researcher. However, the interviews can only be recorded if the interviewee has no objection. The use of a tape recorder or other audio-visual device might influence the interviewee in the interview. Flick (2009) anticipated that the interviewee would simply forget the tape recorder and the conversation would take place naturally. In this study, the interview was recorded if the interviewee gave permission. However, out of the ten interviews conducted in Cardiff, only one interviewee permitted the interview to be recorded. The interviewees felt uncomfortable about the conversations being recorded. This is supported by Karanasios (2008), who conducted interviews in his country and stated that recording

interviews might lead to fewer interviews being conducted and also contribute to several forms of courtesy bias.

Note taking then becomes an essential part of the interview process. This is applicable where participants refuse permission for the interview to be audio-recorded (King and Horrocks, 2010). King and Horrocks (2010) added that there will be a challenge to the researcher to balance the need to attend to what is being said, to framing the questions in response and the need to keep the interviews flowing smoothly. In this study, note taking was used as a method of recording interviews, the interview questions were printed in booklets, which made it easier for the researcher to write the notes from the participants. Participants also provided full cooperation to the researcher during the note taking.

6.7 Analysing the data

Qualitative data analysis refers to *the interpretive nature of analysis, whereby researchers need to understand, explain and interpret human experience, which requires uncovering personal, social and cultural meanings that underline people's behaviour* (Hennick, et al., 2011:205). Qualitative data analysis requires different strategies to effectively interpret data as it comprises the 'art' of qualitative analysis (Hennink, et al., 2011).

6.7.1 Content Analysis

Content analysis is the most useful method of data analysis to confirm or test pre-existing theory (Ezzy, 2002), such as the development of the framework for this study. Content analysis concerns the type of category for prior analysis, the categories present the important aspects of the theory that will be tested, in this study, the researcher systematically worked through the transcripts and codes and transferred them into words, numbers and texts (Dawson, 2009; Ezzy, 2002). The initial categories were defined in the framework and the researcher let the categories emerge based in gathered data

as the list of categories and transcripts that had been gone through previously (Dawson, 2009). The data analysis from the fieldworks then occurred (Ezzy, 2002). This type of analysis provided the opportunity for data to emerge based on the common theme for further analysis.

The content analysis involved (in phase One of this study) coding of post comments by the experts. The data were categorised based on common themes according to the major components of the framework. In Phase Two, content analysis was used for the data gathered from the field interviews. It was performed after each of the interviews had been carried out and the data was then allocated in the electronic spreadsheet for analysis, then all the interview data was analysed to identify themes emerging across all the interviews.

One of the drawbacks of content analysis is assuming that the researcher knows the important categories for the analysis (Ezzy, 2002:85). Thus, it is limited to the interpretation of the researcher. Qualitative researchers are likely to use other forms of analysis that are more inductive and sensitive to emergent categories and interpretation (Ezzy, 2002). Consequently, the researcher decided to use thematic analysis as a part of the data analysis. Thematic analysis aims to identify the themes within the data (Ezzy, 2002:88). Thematic analysis is more conducive than content analysis as the categories into which themes are categorised are induced prior to coding the data (Ezzy, 2002). This study used emerging themes to match the content analysis.

6.7.2 Interpreting data

There are a few steps in interpreting the data as suggested by Williamson and Bow (2002). Below were the steps taken in both phases of this study:

Transcribe the data

This process was done in both Phase One and Phase Two of data collection. It involved entering the notes and audio recording into an electronic spreadsheet, so that the information was more accessible allowing data management and ease of analysis.

Read through each transcript in order to familiarise yourself

This is an important step in interpreting the data and cannot be left out, the researcher read through each transcript and took notes on the important points, through this process, the researcher has a better understanding concerning the gathered data and was more familiar with all aspects of data before further analysis could occur.

Categorise the data

The researcher applied the 'code and retrieve' process, which helped to manage the data in terms of the depth level of data needed, and the importance of particular issues by looking at the amount of data in certain categories and also the relationship between the categories.

Playing with ideas

Playing with ideas can be done in any stage of analysis; it provides opportunities for thinking and considering the data in different ways and promotes deeper understanding. The common words, phrases or sentences by participants generated ideas to the researcher for data analysis.

Writing memos

A memo is a document that the researcher commonly uses to write ideas and information while conducting the interview and throughout the research process. This study involved note taking by the researcher as a method of recording interviews.

Conceptually organising the categories

The researcher needs to categorise the data before starting to organise them conceptually. Nevertheless, the analysis does not require advanced analysis at this stage. It was recommended that the organising of categories should be done continually along the research processes. Generally, the categorisation of data in this study was defined in the initial conceptual framework based in the literature review.

Undertake word searches

Searching for common words or phrases is important to find the words or phrases that were used frequently. However, word searches are useful but not necessary for analysis. Word searches were not applied in this study.

Form tentative theories

Once the previous steps were completed, the researcher attempted to write statements and theories based on the data. The initial conceptual research framework of this study was revised based in the data gathered.

Ask questions and check hunches

Lastly, the final step is to check whether the statements and theories are feasible to the study before completing the final report. The researcher also needs to check the supporting evidence for the statements and theories as well as evidence to the contrary. The changes made in the research framework of this study were supported by the data gathered from the data collection and literature review.

6.7.3 Applying content analysis

The researcher applied the content analysis approach in this study. It involved coding the post comments by an expert panel (in Phase One) and interview transcripts (in Phase Two) based on the major indicators of the framework (such as adoption of teleworking, benefits and barriers and others). The descriptions of each item coded were included in the spreadsheet for further analysis.

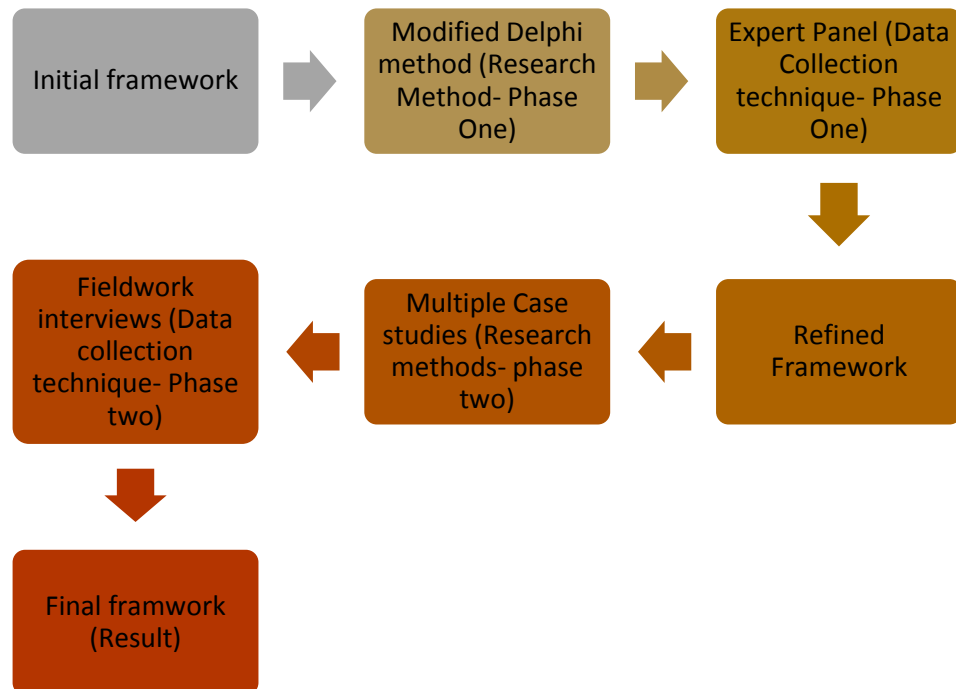
6.8 Summary of the research methodology

This section discusses the research methodology used in this study. Based on the discussion above, this study is considered as an interpretive study with a pure qualitative approach to data collection. This study's research method has several similarities to the Delphi method (Phase One) and multi-case studies

(Phase Two). In Phase One of data collection, an expert panel was selected and field interviews were used for Phase Two of the data collection.

Figure 12 below outlines the research methodology process of this study.

Figure 12 - Diagram of research methodology



6.9 Validity and generalisability

There have been many ideas developed by qualitative research concerning research qualities (Gibbs, 2007). Two approaches have been used to ensure the appropriateness of this study – validity and generalisability.

6.9.1 Validity

Validity refers to the accuracy of research findings. The validity issue over the legitimacy of quantitative studies has been debated among scholars as it relates to the consistency of results, policies, programmes or predictions; if the qualitative studies do not comply to such consistency, the studies cannot be

relied on (Maxwell, 2002). Maxwell added that *'validity is not an inherent property of a particular method, but pertains to the data, accounts, or conclusions, reached by that method in a particular context for a particular purpose'* (Maxwell, 2002:42). There are typically different ways in dealing with the validity of qualitative and quantitative research. Quantitative researchers generally deal with both anticipated and unanticipated threats to validity, which contrast with qualitative researchers.

"Qualitative researchers, on the other hand, rarely have the benefit of previously planned comparisons, sampling strategies, or statistical manipulations that control for plausible threats, and must try to rule out most validity threats after the research has begun, using evidence collected during the research itself to make these 'alternative hypotheses' implausible" (Maxwell, 2005:107)

Maxwell (2005) raised two threats to validity – researcher bias and reactivity. Researcher bias occurs when selecting data that fit the researcher's existing theory. Meanwhile, reactivity involves the influence of the researcher concerning the setting or individual studies, and is a problem that often occurs with qualitative studies. Although methods and procedures do not guarantee validity, Maxwell (2005) advised that steps are nonetheless important to the process of ruling out the threats to validity and increasing the credibility of the conclusion. This study applied to the combination of secondary data, online discussion and fieldwork interviews to support the validity of the results. The summary of the findings in Phase Two that was pertinent to their interpretation was shown to participants to increase the validity.

6.9.2 Generalisability

Generalisability is defined as *'the extent to which one can extend the account of a particular situation or population to other persons, times, or settings than those directly studied'* (Maxwell, 2002:52). Maxwell added that qualitative studies are generally not designed to allow systematic generalization to a wider population, which is in contrast with quantitative and experimental studies. Yin (1994) stressed that generalisability is often based on the assumption on the theory that leads to simplification on similar persons or

situations, rather than details of a sampling process that will draw the conclusions of a specific population based on statistical inferences. Sampling is crucial whenever the researcher is to draw inferences from the actual persons, events or activities observed to other persons, events or situations, or to these at other times than when the observation was made (Maxwell, 2002:53). It was impossible for the researcher to observe all these issues in a small setting as inferences are involved in the study. Maxwell (2002) categorized two aspects of generalisability, which are generalizing within the community, group or institution studies to persons, events and settings that were not directly involved (internal generalisability) and generalizing to other groups and communities or organisations (external generalisability). This study applied both aspects of generalisability. The study is not claiming that the results are absolutely certain to apply in all cases (as is the case in positivist or quantitative studies). This study provides the opportunities to the readers to make the judgements of the applicability of the results based on the methods used in the study. The researcher does stress the 'general benefits of the framework for teleworking in Wales, but suggests that the elements of the framework need to be useful to other SMEs in Wales and all over that are considering adopting teleworking as an innovative workplace tool.

Schofield (2002) suggested multiple site studies as an approach to increase the generalisability of qualitative study. The approach is applied in Phase Two of this study. In this phase of data collection, two areas (heterogeneous) rural and urban are selected and data are collected. It is suggested that the researcher makes a decision whether multiple areas should be heterogeneous or homogenous (Blaike, 2000). Schofield (2002) added that there is a possibility of studying a number of heterogeneous areas that makes these multiple studies a potentially useful approach to increase the generalisability of qualitative studies. Nevertheless, the shortcoming of this approach is that it can be quite expensive (Schofield, 2002). Schofield also advised that the researcher should not make a trade-off in multi-area studies to increase the potential for generalisability flowing from studying a large number of areas and increased depth and breadth of description and understanding made possible by focus on a few areas. In this study, the researcher considered a few related factors while

selecting the locations for the research sample. Among the factors that were considered were the rural nature of the location, the urban nature of the location, the economic background and details of these factors will be discussed in the next chapter in relation to the selection of both locations for the study.

6.10 Cross-location research

Cross-location or comparative research is defined as *if one or more units in two or more societies, cultures or countries are compared in respect of the same concepts concerning systematic analysis or phenomena, with the intention of explaining them and generalising them. The expectation is that the researchers gather data about the object study within different contexts and, by making comparisons, gain a greater awareness and a deeper understanding of social reality* (Hantrais and Mangen, 1996:1-2).

“Rather than each researcher or group of researchers investigating their own context and then pulling information, a single researcher or team of researchers may formulate the problem and research hypotheses can carry out studies in more than one location: using replication of the experimental design, generally to collect and analyse new data. The method is often adopted when a smaller number of locations is involved and where researchers are required to have intimate knowledge of all the locations under study. Where a single researcher or team from one location is carrying out research in two or more locations, it is generally described as the ‘safari’ approach...this approach usually combines surveys, secondary analysis of national data, and also personal observation and an interpretation of the findings in relation to their wider social context” (Hantrais and Mangen, 1996:4).

The researcher experienced a number of cross-locational cultures while conducting this study. As both phases of data collection in this study involved participants from different locations, the researcher was aware of these issues. In Phase One (online discussion with a group of experts), participants constituted of academics from different locations (Rural and Urban Wales, UK) who have different areas of expertise. For this phase of data collection,

the researcher was required to send gentle reminders to experts in order to encourage them to provide full support in the online discussion.

In Phase Two (interviews with owner/managers of teleworking practicing organisations) the interviews were conducted in Wales which was divided into rural and urban Wales. As the researcher has lived in Wales for more than 10 years (the researcher was aware of most of the Welsh culture), the interviews in Wales were run as expected by the researcher. Travelling to rural Wales was a semi-new experience to the researcher. The participants were very welcoming of the researcher's visit and gave full cooperation throughout the interviews. Even after the interview session the researcher was invited to have a cup of tea in typical Welsh hospitality form. The participant highlighted that when one is visiting a business or a home in Wales, the first question after taking the coat from the visitor is if the visitor wants a cup of tea with milk and sugar or none at all. Public transportation in urban Wales is efficient and fantastic however for rural Wales; the researcher had to make advance bookings with the taxi companies for services. Based on the researcher's observation, there were both similarities and dissimilarities within rural and urban Welsh culture. The similarity was that most Welsh people are friendly and welcoming of their guests regardless of the initial apprehension of the researcher's race which is black which made some participants apprehensive at first perhaps due to the fact that they had never been interviewed by a black man, however the researcher was able to overcome that minute hurdle by being cheerful, open and jovial in order to gain the participants trust and confidence. The issue of race as it pertains to research surveys has been highlighted by Nnamdi (2009) where research participants are said to gravitate towards researchers and surveyors with similar interests, race and language. This according to Nnamdi (2009) affords the participant an opportunity to relax and be themselves because of the similarities between participant and researcher. The researcher was able to overcome this barrier successfully. The accents used in rural and urban Wales differ greatly as those in the rural areas had a much stronger accent than those in the urban areas; however the researcher was able to overcome this hurdle by listening carefully and seeking clarification if words and sentences are not properly understood. The

researcher has lived in Wales for more than ten years so was able to understand the dynamics of the various accents in the conduct of the research in both the urban and rural areas. English is the main language in Wales however there were a few Welsh speakers especially in the rural areas but they were happy to use the English language for the purpose of the interviews regardless of their dual English and Welsh language proficiency. This was very helpful to the researcher because the cost of having a Welsh translator is quite high hence the deep appreciation of the researcher to the Welsh speaking participants that decided to use the English language during the interview.

The next sub-section will discuss the issues of cross-locational research in the context of Wales being a country in the United Kingdom.

6.10.1 Issues in cross-locational research

Conducting cross-locational research required the researcher to pay special attention to cultural differences, such as the use of terms and type of instruments that need to be tailored to particular cultures (Cavana, et, al., 2001). In this study, the researcher, being a man who has lived in Wales for a substantial number of years, was aware of the cultural differences that covered the locations of the study especially in the rural and urban areas that are focused on in the research and additional issues in the Wales context. Some generalisability might be applied in the study, thus it is important to consider other factors, such as size, centrality, history, economic base and other related factors that were exceptional to each place (Peil, 1983). Peil added that it is justifiable if at least two or three places are selected for generalization. A mixture of areas was selected as per referred to Peil's (1983) recommendation. For this study, two locations were selected as the sample – North Wales and South Wales. In South Wales, the areas were divided into two categories – urban and rural – with five participants for each. Whilst, for North Wales four participants were selected for urban organisation and only one participant was identified representing the rural organisation. The researcher decided to select two locations in this study in respect of the financial limitations (as limited research funds were available due to a large amount of travelling costs incurred) and time constraints (the researcher was required to complete the

study within the period given as the researcher had pressing family commitments). The selection of these two locations (South Wales and North Wales) was based on certain criteria, such as the different teleworking adoption, ICT levels, availability of SMEs and others.

Sampling

The most important issue in conducting a study is the selection of individuals who are to be studied in a particular research (Bulmer, 1983). It is possible to represent an actual representative sample if the population of the sample is really homogeneous and some form of accurate existing list is suitable for a sampling framework (Looner and Berry, 1986).

The researcher decided to use a combination of online and offline techniques to gather a list of organisations which includes the use of the Wales top 300 list and the Cardiff Chamber of Commerce in addition to the Welsh Assembly database. The researcher also had used other multiple sources, such as guidebooks, online articles or commercial and government websites to support the initial selection of the sample. It was not an easy task to search for information concerning organisations with the research focus however the research was necessary regardless of the challenges that presented themselves, which hindered the conduct of the study (Peil, 1983).

Conducting cross-locational research

It is important for the researcher when conducting cross-locational research to have adequate knowledge concerning the local situation before entering the fieldwork (Peil, 1983). This is essential as problems may arise in locations where there is inadequate or non-existent information. Peil (1983) suggested that it is necessary for the researcher to have knowledge of the geography, history, politics and culture of the people to be studied and/or the historical development of the organisations on which the study will focus.

Bulmer and Warwick (1983a) highlighted that the main consideration for conducting research is the type of participants involved in the fieldwork. For example, participants in rural areas might misunderstand the purpose of the research or be reluctant to cooperate (Bulmer and Warwick, 1983a). A

detailed selection of research methods is required to counter the possible problems. Telephone interviews are one of the possible methods to obtain the research information. However, telephone interviews are good options when there is high telephone penetration and efficient postal survey methods are practical when there is an efficient and recognisable address system (Bulmer and Warwick, 1983a). The main approach to contact participants in this study is by email. This approach was appropriate as the study involved organisations that telework and the email technology is a teleworking element. Among the challenges faced by the researcher were invalid email addresses and late responses.

Language and translation

Some issues that need to be addressed in conducting a study in more than one location is the language, dialect, accent difference (Cavana, et al., 2001). Cavana et al (2001) added that it is important to ensure that the translation of the local language is comparable to the original language. In this study, the researcher did not have any major language problem as the fieldwork was conducted in English and the researcher is a fluent English speaker. The initial challenge of the Welsh speakers as participants was overcome when the participants agreed to the use of the English language all through the course of their interaction during the study. Although the Welsh accent used in the rural and urban parts of Wales differ, the researcher was able to understand the participants and the English language spoken and the accent used by the researcher was understood by the participants.

Ethical considerations

The Research was undertaken in accordance with the university ethical Code of Practice for Research Students (See <http://gro.southwales.ac.uk> October 2015 page 21 section 12). In accordance with the guidelines the panel discussions and interviews were taken into consideration and involved the findings anonymously reported (Section 12, bullet point 2 and 3 Code of Practice). Ethical clearance was checked with the Graduate Research Office Code of Practice in conjunction with the University of South Wales Research Degree Regulations and from all documented research work, in the particular

context and relation to the sex industry that formed part of the research, there was no contravention since there was no direct contact with sex workers at all.

6.11 Summary

The first part of this chapter presented several of the methodological approaches applied in this study. This study adapted many characteristics of the Delphi and multi-case study approach. Further explanations were provided on the expert panel and fieldwork interviews, including the advantages and disadvantages of the selected approaches. In this study, content analysis and thematic analysis were applied as the main data analysis.

This chapter also discussed the issues behind conducting a cross-locational study as well as a study conducted with its diverse challenges. Conducting a study in more than one location required the researcher to be concerned with a few particular matters, such as language in the Welsh context, interviewee and interviewer bias and other related issues. The next chapter will discuss the details of Phase One of the data collection, which involved the expert panel of academics.

CHAPTER 7
RESEARCH FINDINGS -
PHASE ONE/EXPERT
PANEL

CHAPTER 7:

RESEARCH FINDINGS - PHASE ONE/EXPERT PANEL

7.0 Phase One/Expert Panel

This chapter discusses the first phase of the data collection for this study. In this phase, a group of experts was gathered to discuss and provide feedback on the initial conceptual framework. The first section of this chapter describes the process of gathering a group of experts and how the discussion was conducted in this phase. The second section of this chapter describes the feedback received from experts that were considered in refining the initial conceptual framework. Finally, the revised framework is presented.

7.1 Section One: The process of gathering experts

7.1.1 Selection of experts

In this first phase, the selection of the expert panel was sought from different disciplines of academic and professional expertise. The main areas of expertise chosen for this data collection were: teleworking and small businesses, innovation, ICT, and small businesses in urban and rural Wales (or a cross-section of these areas). In the first phase, experts only consisted of academics, as small business owners or managers and staff participated in the second phase of the study.

Experts were chosen based on:

- Publication records; journal articles, conference papers, professional telework involvement, and other relevant literature
- Recommendation by peers and organisations
- Innovative approach to business and their organisations

The number of experts targeted for this phase was six to eight people. The reason for the small number of experts selected to participate in the discussion was because it was more manageable for the researcher, as managing a large number of experts might cause difficulties due to excessive comments in the online bulletin post comments section. The participants were invited via e-mail to join the discussion between 12 January 2012 and ended on 15 February 2012. Introductory emails were sent to participants, which described the aims of this study. Participants were requested to respond to the e-mail if they were interested to participate in the discussion. It was an appropriate approach to use e-mail as the medium since the study involved experts from many walks of life and diverse towns and cities in Wales. An online discussion provided convenience to participants to join the discussion at their convenience with due consideration of their different work schedules.

A total of thirty-nine invitation emails were sent to potential participants. Out of thirty-nine, ten invitees responded positively to participate in the discussion, eleven invitees replied that they could not participate, one did not reply due to e-mail address failure, and seventeen did not respond. Two of the invitees replied they could not participate, but did recommend the name of a colleague. One of the recommended experts agreed to participate and another one was 'out of the office' (automated reply).

The ten confirmed participants were from different areas of expertise, which provided a good cross-section in terms of views and perspectives. A number of experts were from the capital city of Wales (Cardiff), which generated broader ideas and deeper thought on the discussion issues as well as experts from other cities outside of Cardiff (Newport, and Swansea). Thus, it created an excellent combination for an expert panel in the discussion. Table 10 indicates the summary of areas of expertise of the participants.

Table 10 - Summary of areas of expertise

No.	Expert Code	University/Position/ Professional position	SMEs	ICT	Teleworking	Innovation
1	A	Welsh University, Dr.	X	X		
2	B	Welsh Assembly, Director			X	X
3	C	Welsh University, Dr	X			
4	D	Welsh University, Professor	X	X		X
5	E	Welsh Assembly Supervisor	X		X	
6	F	Welsh University, Lecturer	X	X		
7	G	Welsh University, Professor	X		X	
8	H	Local government Executive, Director			X	X
9	I	Local Government Executive Director	X			X
10	J	Welsh University, Lecturer			X	X

Two days before the commencement date of discussion, the emails were distributed to confirmed participants as a reminder, which included the hyperlink address of the website, user ID and guidelines to post the comments. The user ID was used in the discussion to avoid any bias or personal interest in the discussion. The discussions were based on weekly rounds. Each week new topics were posted on the bulletin board. The topics for discussion were presented in the initial conceptual framework of the study, followed by the indicators of the framework for further discussion. The commencement date of discussion was 12 January 2012 and ended on 15 February 2012 (approximately five weeks). Participants posted their comments between Tuesday and Sunday, as Monday was the day for the researcher to update and administer the bulletin. Those participants who missed the previous week's discussion were allowed to post their comments on the previous week's discussion in addition to the current week's discussion. 'Friendly' reminders were sent to experts every Thursday to remind them of the ongoing discussion. However, Expert E withdrew without giving any notice after a few reminders

had been sent from Week 1 until Week 3. Thus, nine participants participated in the discussion.

7.1.2 Online Bulletin

The online bulletin was created by using Word Press blog, which is an open source of publishing (an open source refers to free access to an end product's design and implementation details), powered by PHP, and My SQL (Structured Query Language) and can be used for basic content management.

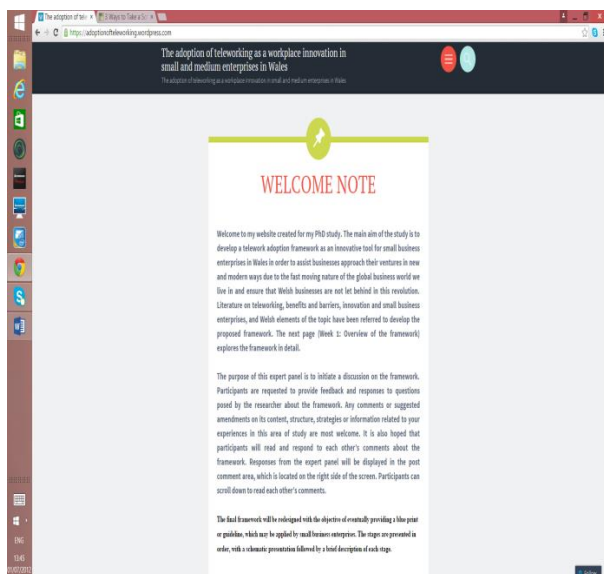
The online bulletin was hosted at URL:

<http://adoptionofteleworking.wordpress.com>

The reason for selecting Word Press blog as the channel of discussion is that it offered an interactive theme, support for tagging and posting comments, and free hosting services. The online bulletin for discussion consisted of six web pages. The first page of the online bulletin described the overview of the study, followed by Week 1 until Week 5 discussion's topics. The online bulletin was designed to be simple with little graphical design. This was to avoid any overload of information after participants posted their feedback on the post-comment section.

Figure 13 displays the front page of the online bulletin as first viewed by participants.

Figure 13 - Welcoming screen for expert panel discussion



7.1.3 Ethical issues (anonymity)

The identity of the participants remained anonymous at all stages of the discussion and report presentation. Participants were reminded to use the provided user ID as there was still a possibility that the participants might mistakenly disclose their real identity. The purpose of keeping the participants' identities anonymous was to protect their real identity in order to avoid any bias or personal interest and conflict among the participants.

7.2 Section Two: Expert Panel

The previous section discussed the process to gather experts for data collection. This section will discuss the data collected and the responses gathered in this phase of the study.

7.2.1 The initial conceptual frame work

The initial conceptual framework (refer to Figure 14) was uploaded to the online bulletin board for discussion. The framework was developed based on the literature discussed in Chapters Two to Five of this study.

The themes in the initial framework were:

- The impact of innovation through teleworking
- Business aims and strategies
- Teleworking adoption
- Teleworking adoption evaluation

These themes are discussed below according to evidence from the literature and the experts with reference to the initial conceptual framework:

The Impact of innovation through teleworking: In order for the initial framework to be designed and the expert panel discussions, this theme was developed from the literature in chapter 4 on teleworking. The impact of innovation through teleworking matches the classification of innovation found in innovation literature and theories such as in Rogers (1983) where “an idea, practice, or object that is perceived as new by an individual or other unit of

adoption". Certain businesses are classed as innovation and change resistant because in a discussion of why innovations are rejected, Abrahamson and Rosenkopf (1993) indicate that innovation integration may occur in cycles, with small business enterprises either getting 'on board or off board'. Some organisations apply innovation for economic efficiency or because they feel competitive pressure from other organisations that have already adopted the innovation and as long as that remains the trend among their rivals, they will continue to apply it. Telework like other innovations may be subject to the 'on board and off board effect' and managers may give negative support towards telework adaptation because of the lack of proper insight, awareness of incompetence, or little awareness that others are imbibing the work (Ruppel & Harrington, 1995). According to Expert A, the owner's attitude is a key driver in adopting the Innovation for the businesses. Expert A indicated that if owners did not see the value of innovation through teleworking adoption, they could not be convinced by a trusted adviser to adopt it, and if they were not being forced to (e.g., by major customers) then it would just not happen. Perez et al (2004) believe that teleworking is not an all or nothing activity because only a small percentage of employees may be involved in teleworking. It can be viewed as a work pattern that can be imbibed in degrees ranging from less than one work day per week to all five work days per week. Building upon this work, the research seeks to explore the teleworking activities and operations in South Wales companies with a view to building upon the body of knowledge in the teleworking area using the experiences and operational workings from these companies as a base to develop and understudy the innovative and change process through the process of knowledge transfer and its application in these organisations.

Business aims and strategies: This theme was derived from chapter 3 where there was a strong case in making it a discussion theme topic. As noted in the previous literature, SBEs often lack appropriate business strategies to support their business growth. As one expert stated, "It is therefore more useful as part of "aims and strategies" to distinguish between aims and strategies (as suggested by Expert D) and to view "strategies" in the micro sense by acknowledging that there are a range of quite specific strategies which could

be used to achieve their business aims”. Strategic planning is related to long-term business goals, the implementation of goals, and the allocation of resources in realizing the goals (O’Regan & Ghobadian, 2004; Stonehouse & Pemberton, 2002). According to Wang et al. (2007) strategic planning leads to better business performance. However, SBEs are typically lacking in strategic planning and long-term vision (Mazzarol, 2004). Thus, SBEs may not achieve their complete planning goals and full performance and the survival of their business might be placed at risk when they neglect strategic planning for their potential growth (Berry, 1998). In addition, the growth of small business enterprises often relies on the entrepreneur’s choice of strategies (Hambrick & Mason, 1984); the ability to overcome the obstacles to growth (Barber, Metcalfe, & Porteous, 1989); the ability to construct structural adaptation for organisational growth (Hambrick & Crozier, 1985); or construct the structural characteristics, particularly in the external environment (Aldrich & Fiol, 1984; Eishenhardt & Schoonhoven, 1990). According to O’Gorman (2001), the growth of businesses is determined by the innovative success strategies of the business itself, which is dependent on the choice of strategies made by the owner/managers. Storey (2006) highlighted three components that are associated with the growth of the firm – characteristics of the entrepreneur; characteristics of the organisation; and types of innovative strategy related to growth.

Teleworking adoption: This unique theme is the bedrock of this thesis as it highlights how small business enterprises embrace teleworking and adopt it in order to move their businesses forward. In many respects, the adoption of teleworking is emblematic of recent changes in our ideas of work and the workplace (Bailey and Kurland, 2002). Information technology has facilitated the rapid growth of teleworking in recent times because modern telecommunication and computer technology allows workers to perform their duties at home or in remote loctions instead of requiring them to travel to and from far-away workplaces (Ndubisi, 2003). Innovation and change in the conventional work environment cannot be effected without the use of technology and knowledge transfer because according to Li-Hua, 2004 “Without knowledge transfer, technology transfer does not take place, as

knowledge is the key to control technology as a whole. Hence, knowledge transfer is crucial in the process of technology transfer”, and in this direct instance, teleworking in the organisations.

Most studies have attempted to reveal why the adoption of telework has been slow among organisations and the main finding is that the interests among managers is low. Expert H commented that the adoption of teleworking by managers might differ in different environmental situations. This was based on his/her previous studies on technology and teleworking adoption especially among SMEs, which indicated that both internal and external factors influenced their efforts in adopting technology (including ICT and teleworking) in the execution of their SME business strategy. According to Huws et al (1990) in their survey of a poll of 4000 European managers, reached the conclusion that telework ‘is still very much a minority interest’ among European managers. The research results showed that managers gave two major reasons for their disinterest in telework and these are: The lack of interest in the need for change, and the organisation and secondly, that the implementation of such programmes is difficult. The managers in large firms expressed concerns about controlling staff who work away from the conventional office environment. The smaller firms anticipated costs of managing and implementing telework programmes as a greater managerial issue (Bailey and Kurland, 2002).

Changes in order to organise work from different and remote locations with the use of hardware such as home and mobile computer, mobile phones and fax machines and software technologies such as the use of e-mails and group ware is what teleworking adoption is about (Perez et al, 2004).

Teleworking adoption evaluation: This theme is seen as a one that has employers and employees’ element. For teleworking adoption evaluation, there is a need to consider employee and employer satisfaction, work life balance, and value for money. With regard to employee and employer satisfaction, there are many managers who retain a traditional view of working practice and do not subscribe to employees working effectively without being located in an office. Hence the perception that people who telework are not committed to their jobs. The management of teleworkers is also hard work and

few managers possess the skills or training to supervise remote working staff effectively. There is evidence that there are some regulatory barriers which impact the ability of organizations to undertake telework. Overtime rates, penalty rates and specified working hours can make hours flexibility and the ability to work outside standard hours away from the traditional work environment costly and difficult. Hence, according to one expert, ‘agreement making’ allows employees and employers to negotiate working arrangements that are fashioned to meet the employees’ needs and workplace. Employers have the responsibility of taking steps to ensure and secure the health and safety of their employees. If there is a formal home-based flexible work agreement with an employee, the employer would generally be responsible for conducting a health and safety assessment of the employees’ home to meet their general duty of care towards the employees. This may be a very financially taxing exercise for SMEs and can act as a disincentive to allowing formal telework. Privacy and security are major issues in teleworking because organizations have the responsibility to exercise care in the dissemination and use of private information and need to maintain the security of their assets and information which extends even to teleworkers away from the office. Work life balance is also considered to be important for teleworking adoption evaluation. Work life balance is also considered to be important for teleworking adoption evaluation. Although three experts said “I don’t think many small business employers will be interested in ‘work life balance’, with the exception perhaps of the ones with families and who can relate to the challenges faced. Again, the ‘employee satisfaction’ — what extent would this apply to a small business and, more importantly, a sole operator? Probably not at all.” (Expert A). Expert H suggested it was ideal to look at the small business perspective, as the aspect of work life balance or employee satisfaction was not a relevant evaluation basis for small businesses. Expert D was in agreement with Expert H with work life balance, which was probably not relevant to small businesses. Contrary to this, it is recognised in the literature that work life balance is important for the evaluation of teleworking adoption.

“In the Sensis Report (2005) 13 per cent of teleworkers report a negative impact of having to work longer hours. Working in a home location may make

is hard for teleworkers to separate from work and this may end up in a distortion of home life boundaries. Isolation is a major barrier for teleworkers because humans are social in nature and love to interact as part of living. The reclusive life is something teleworkers are usually not primed for. Teleworkers may also think that their profession is being hampered by a lack of social contact with their contemporaries and managers and by being absent in the office (Australian Telework Advisory Committee, 2006). Finally, value for money needs to be taken into account for teleworking adoption evaluation and Ndubisi and Kahraman (2005) have outlined potential costs and barriers of teleworking in relation to the individual, organisation, and the society at large which involves value for money.

Figure- 14 The Initial Conceptual Framework

The Impact of innovation through teleworking

Factors	Wales and Developing country		Developed country	
	Urban	rural	Urban	rural
Inadequate infrastructure	xxx	xxx	x	xx
Availability of skilled workers	xx	xxx	x	xx
Limited financial resources	xxx	xxx	xx	xx
Culture	xx	xxx	X	xx
Government policies	xx	xx	xx	xx
Owners attitude	xxx	xxx	xx	xx
Time	xx	xxx	x	x

Business aims and strategies

- Growth strategy
- Strategic Alliance
- Cooperation Strategy
- Lifestyle strategy

The symbol

x little impact xx some impact xxxmajor impact



Teleworking Adoption

- Customer
- Cost
- Convenience
- Communication

Teleworking Adoption evaluation

- Employee Satisfaction
- Employer satisfaction
- Value for money
- Work life balance

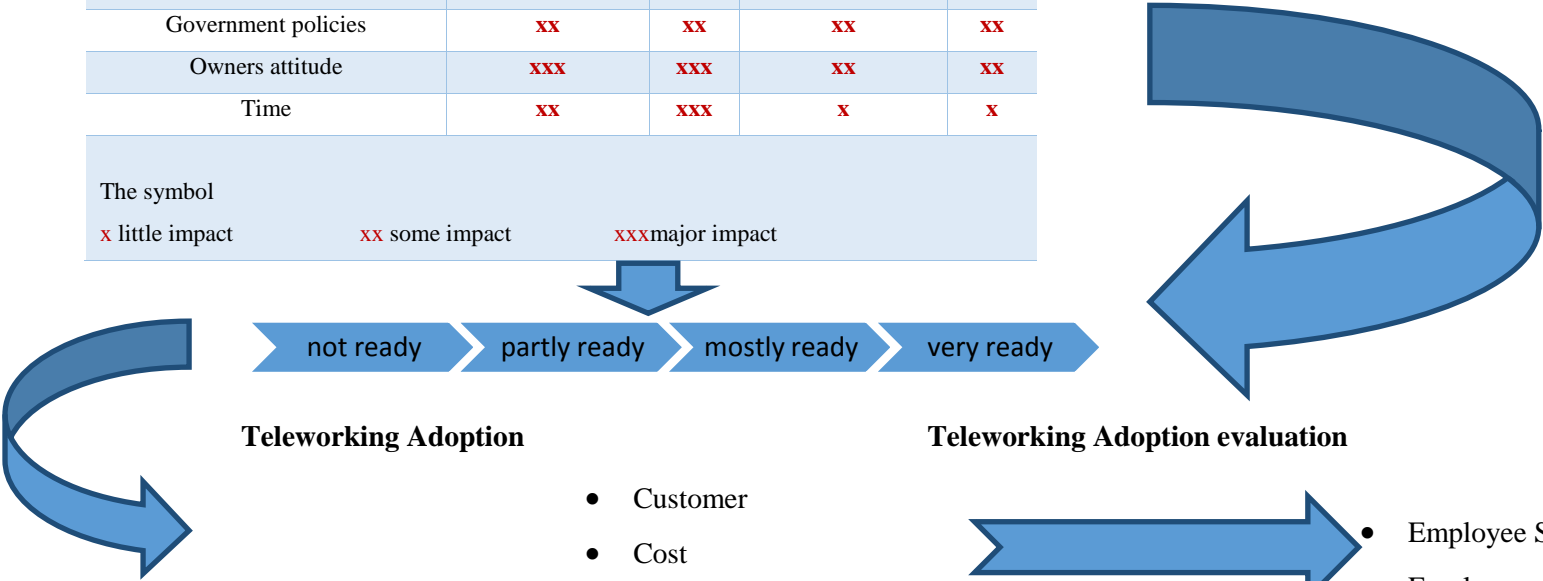


Table 11- Structure of Comments

1.	Week 1	A				
2		H				
3		A**				
4		G				
5		D				
6		J				
7		I				
8		F				
9		C				
10		B				
11		Week 2	A			
12			D			
13			J			
14			I			
15			F			
16			C			
17			Week 3	H		
18				C		
19				D		
20				A		
21				B		
22				G		
23				I		
24				Week 4	H	
25					D	
26					A	
27					J	
28					I	
29					Week 5	A
30						A**

31						H
32						D
33						1

7.2.2 Formation of discussion

The discussion was conducted in five rounds. Each of the rounds was divided on a weekly basis —one round per week. Each round discussed a different topic based on the structure of the initial framework. The structure of discussion topics were as follows:

Week 1: Welcome note and Overview of the framework

Week 2: Teleworking implications

Week 3: Innovation strategies

Week 4: Wales teleworking progress and strategies

Week 5: Small Business Enterprises strategies

The topic of discussion was designed according to the structure of the initial conceptual framework. However, a participant could post the comment on any aspect of the framework on the previous topic of discussion and/or the current week’s discussion. Table 11 presents the structure of the comments posted by participants.

Friendly reminder to all participants to use the given user ID in order to protect their real identity. In Week 5, Expert A added his points based on his previous comment.

Comment from Expert A:

“I think the researcher is trying to keep the “experts” anonymous by getting us to use our user ID (e.g., Expert X) rather than our real names. I am happy to be identified, but we probably should follow the protocol so there are no issues “.

Out of five week’s discussion, a total of 33 comments were posted. Most of the comments received from experts were detailed and rich in content, which

assisted the study to gather much useful information for refining the framework. The positive support from experts in Week One until Week Five generated a large number of perspectives towards the framework. Table 12 presents the number of comments posted by experts.

Table 12 - Number of Expert Comments

Week	A	B	C	D	F	G	H	I	J	Total
1	X	X	X	X	X	X	X	X	X	9
2	X		X	X	X			X	X	6
3	X	X	X	X		X	X	X		7
4	X			X			X	X	X	5
5	X			X			X	X		4
Total	5	2	3	5	2	2	4	5	3	33**

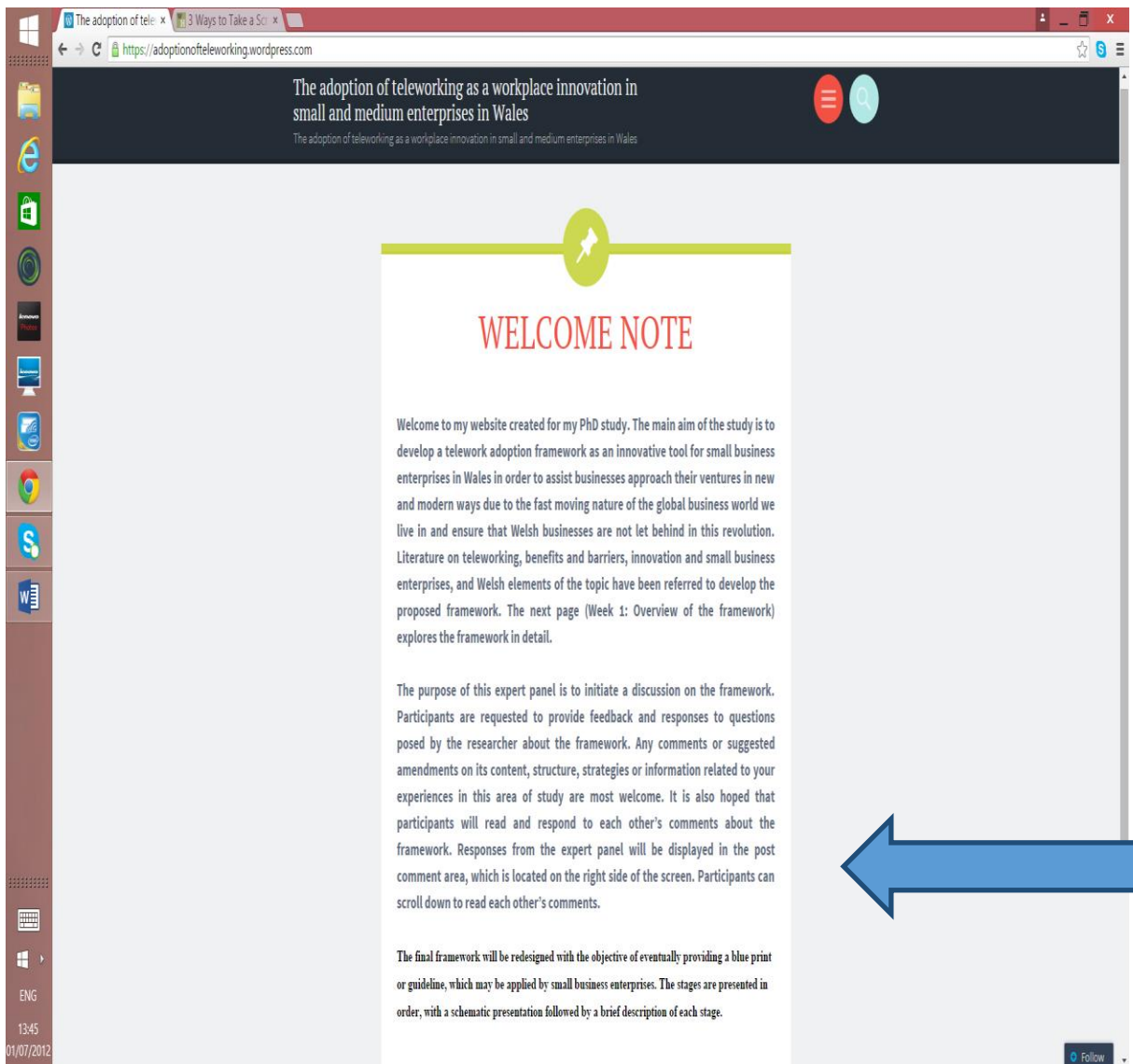
** Two comments were posted twice by experts

7.3Expert discussion

This section discusses the comments posted by experts. The comments are discussed accordingly from Week One to Week Five of the discussions. Each comment was individually discussed. Note that some of the comments from experts may refer to a different week than the week the comment was posted.

Below is an overview of the guidelines given to the experts; the guidelines booklet was sent together with a reminder e-mail notifying the experts of the commencement date and their user ID.

Step 1



The adoption of teleworking as a workplace innovation in small and medium enterprises in Wales

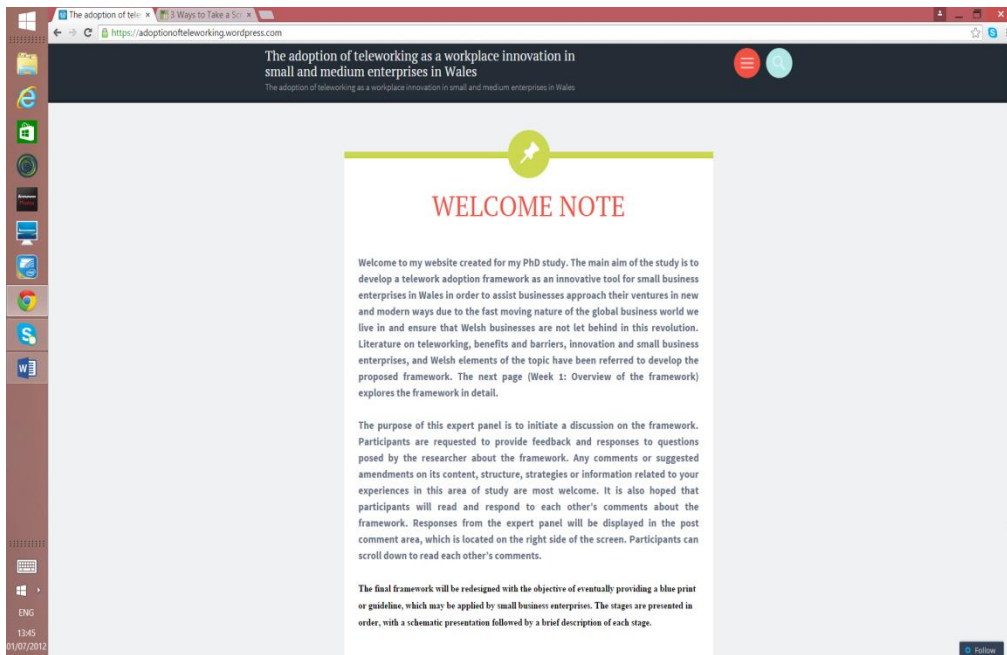
WELCOME NOTE

Welcome to my website created for my PhD study. The main aim of the study is to develop a telework adoption framework as an innovative tool for small business enterprises in Wales in order to assist businesses approach their ventures in new and modern ways due to the fast moving nature of the global business world we live in and ensure that Welsh businesses are not let behind in this revolution. Literature on teleworking, benefits and barriers, innovation and small business enterprises, and Welsh elements of the topic have been referred to develop the proposed framework. The next page (Week 1: Overview of the framework) explores the framework in detail.

The purpose of this expert panel is to initiate a discussion on the framework. Participants are requested to provide feedback and responses to questions posed by the researcher about the framework. Any comments or suggested amendments on its content, structure, strategies or information related to your experiences in this area of study are most welcome. It is also hoped that participants will read and respond to each other's comments about the framework. Responses from the expert panel will be displayed in the post comment area, which is located on the right side of the screen. Participants can scroll down to read each other's comments.

The final framework will be redesigned with the objective of eventually providing a blue print or guideline, which may be applied by small business enterprises. The stages are presented in order, with a schematic presentation followed by a brief description of each stage.

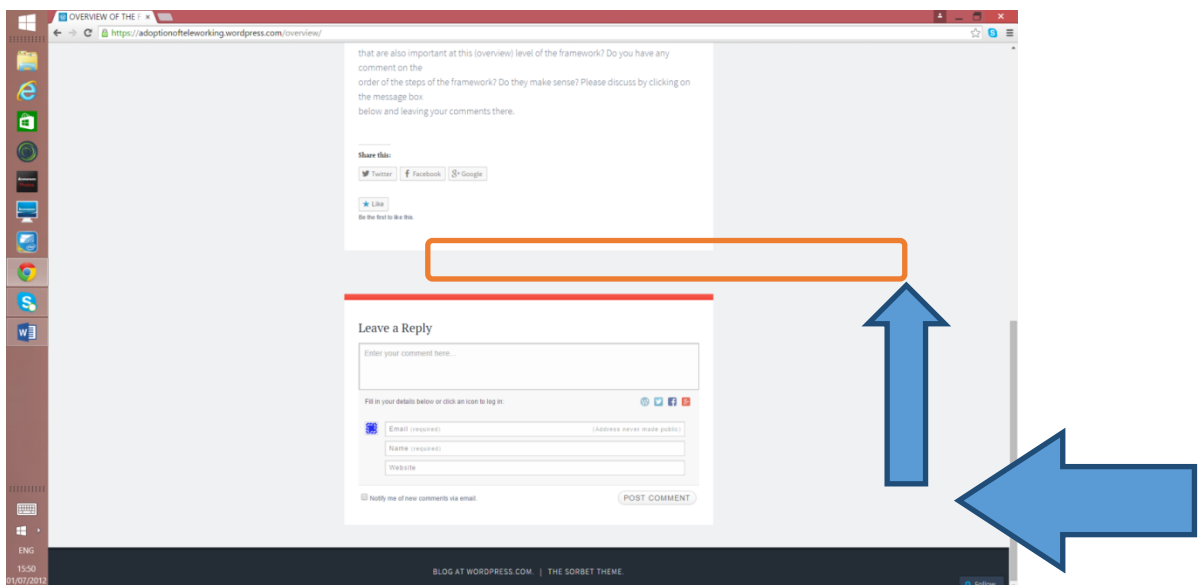
This is the Opening screen of the website. You may read the information given to get ideas about the discussion and proceed to **Step 2.**



Step 2

Clicking On the next stage ‘Overview of the framework’ to begin the discussion

Step 3



This screen above, has contents that appear below each discussion page.

These are the steps that you should follow to add a comment:

1. The “Leave a reply” box can be used to enter any comments/feedback for the week’s discussion.

2. For the “name” box, please insert your user ID (that has been provided to you by the researcher);
3. Enter your email address (note: your email address will not appear in this page, it can only be viewed by the researcher);
4. You do not need to enter anything into the “website” box;
5. Finally, just click “post comment” and your comments/feedback will appear in the post comment column.

** Please read the comments from other experts and provide your feedback based on those as well.

7.3.1 Week One: Overview of the framework

Week 1 started with a welcome note to all experts, followed by a discussion of the overview of the framework. The welcome note particularly introduced the purpose of the online discussion created and the explanation of how the online discussion will be conducted. Below are the extracts of the welcome note and overview of the framework page that appeared in the online discussion board for Week 1.

Introduction

Welcome to my website created for my PhD study. The main aim of the study is to develop a telework adoption framework as an innovative tool for small business enterprises in Wales in order to assist businesses approach their ventures in new and modern ways due to the fast moving nature of the global business world we live in and ensure that Welsh businesses are not let behind in this revolution. Literature on teleworking, benefits and barriers, innovation and small business enterprises, and Welsh elements of the topic have been considered to develop the proposed framework. The next page (Week 1: Overview of the framework) explores the framework in detail.

The purpose of this expert panel is to initiate a discussion on the framework. Participants are requested to provide feedback and responses to questions posed by the researcher about the framework. Any comments or suggested amendments on its content, structure, strategies or information related to your

experiences in this area of study are most welcome. It is also hoped that participants will read and respond to each other's comments about the framework. Responses from the expert panel will be displayed in the post comment area, which is located on the right side of the screen. Participants can scroll down to read each other's comments.

The final framework will be redesigned with the objective of eventually providing a blue print or guideline, which may be applied by small business enterprises. The stages are presented in order, with a schematic presentation followed by a brief description of each stage.

The online discussions will take approximately five weeks, which is one topic per week. Each new topic will be discussed from Tuesday until Sunday each week. Those who miss the discussion of any week might refer to the previous week's discussion and post their comments on that particular week, in addition to the current week.

Now, let us begin by clicking on Week 1: Overview of the framework.

Week 1: Overview of the framework

This section provides an overview of the framework. This framework consists of four major stages: teleworking, benefits and barriers, Innovation and small business enterprises, and the Welsh element. The framework is developed through a literature review analysis from a variety of fields including teleworking, innovation, ICT, small business enterprises, and the Wales element setting and its implications.

Teleworking is a part of a general movement towards new types of flexible working arrangements that has been accelerated by increased commuting times, rising office overheads and developments in information technology. Teleworking has become a familiar term in recent years and is used to cover remote working arrangements. More recently the terms 'e-working or electronic working' have been adopted as a more accurate description of the increased usage of information and communication technologies in facilitating working independent of location. It is not a new form of work, but a rather

new way of organizing working arrangements. E-working or ‘teleworking’ can refer to self-employed workers with several clients who may spend all of their working time at home. It also refers to direct employees of companies who commute by agreement with the employer and work all or part of their working week from home. Developing a realistic adoption

A framework for Wales is important if teleworking is to stay and grow in Wales.

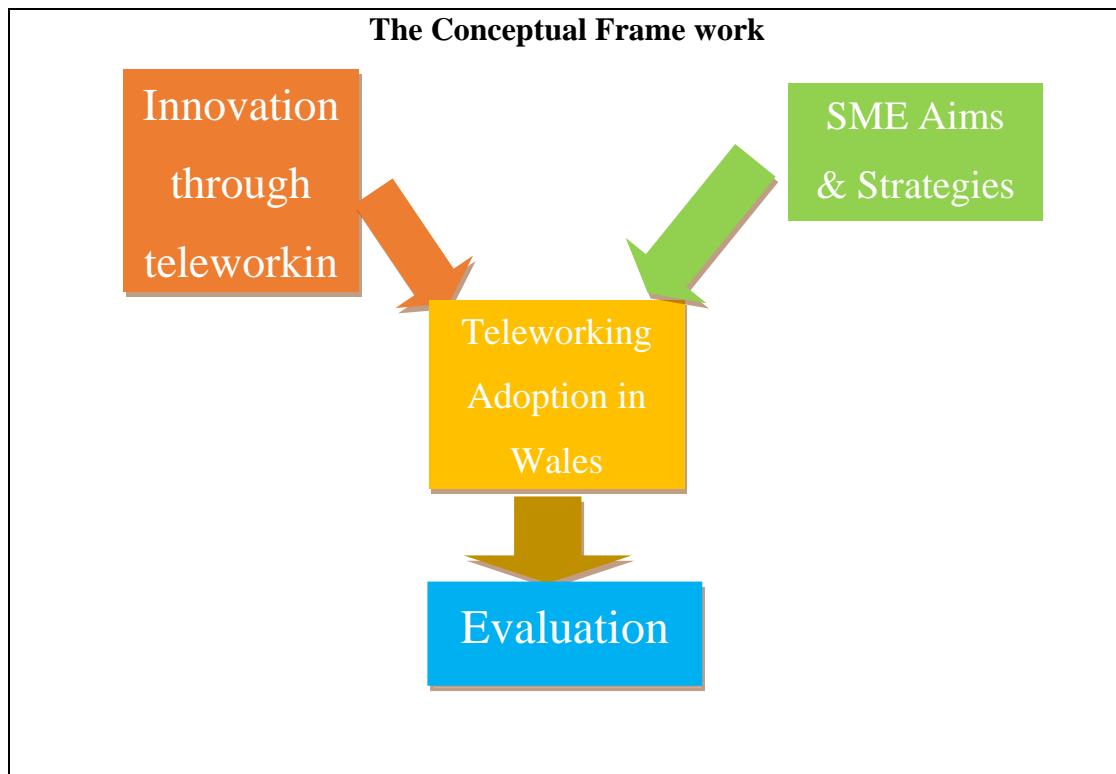
The Adoption of Teleworking as an innovative tool in small business enterprises will be the focus in the potential framework.

Each of these stages will be discussed in detail in the upcoming weeks.

Discussion question

In your opinion, what do you think about this proposed framework (figure 15)? Are there any other additional elements that are also important at this (overview) level of the framework? Do you have any comment on the order of the steps of the framework? Do they make sense? Please discuss by clicking on the leave a reply box below and leaving your comments there.

Figure 105 – Summary of Conceptual Framework



7.3.2 Discussion of Week 1

Comments on the overall structure of the framework were generally accepted at this stage of the study. However, the framework seemed too simplistic from some experts' points of view (Experts D, H, G, and I). The comments suggested a need to consider other variables or context factors of the framework.

“In my opinion, the framework is too simplistic, although I do understand the concerns that a more detailed version may be confusing”. (Expert D)

“I do agree that the overview of the framework tends to be too simplistic”. (Expert I)

“I find the conceptual framework too simplistic. Perhaps at this early stage of your study it is quite acceptable”. (Expert I)

The experts suggested that there should be an iterative loop or feedback loop added after the evaluation phase of teleworking adoption implementation (Expert A, D, and G). Expert A also suggested there should be an arrow between innovation and SME aims and strategies as they seem interrelated.

“First, I suspect that after evaluation there is likely to be some kind of feedback loop. The reflection of the operator might change their teleworking adoption approach, or might influence (negatively or positively) their SME aims and strategies or assist them to improve their innovative approach”. (Expert A)

“Furthermore, by looking at the model it seems that evaluation is the final phase, however, this is more likely to lead to some kind of refinement in most cases. Therefore, consider some kind of iterative loop”. (Expert D)

“Evaluation. What's next after evaluation?” (Expert G)

Experts F and I commented on a further and clearer explanation on 'teleworking' and 'SME aims and strategies'. Expert F added for his/her

knowledge that many SMEs just adopted the teleworking approach in their business operations whether it was a business goal or not.

Often those SMEs developed their aims and strategies and approach to business due to the pressure from competitors and customers.

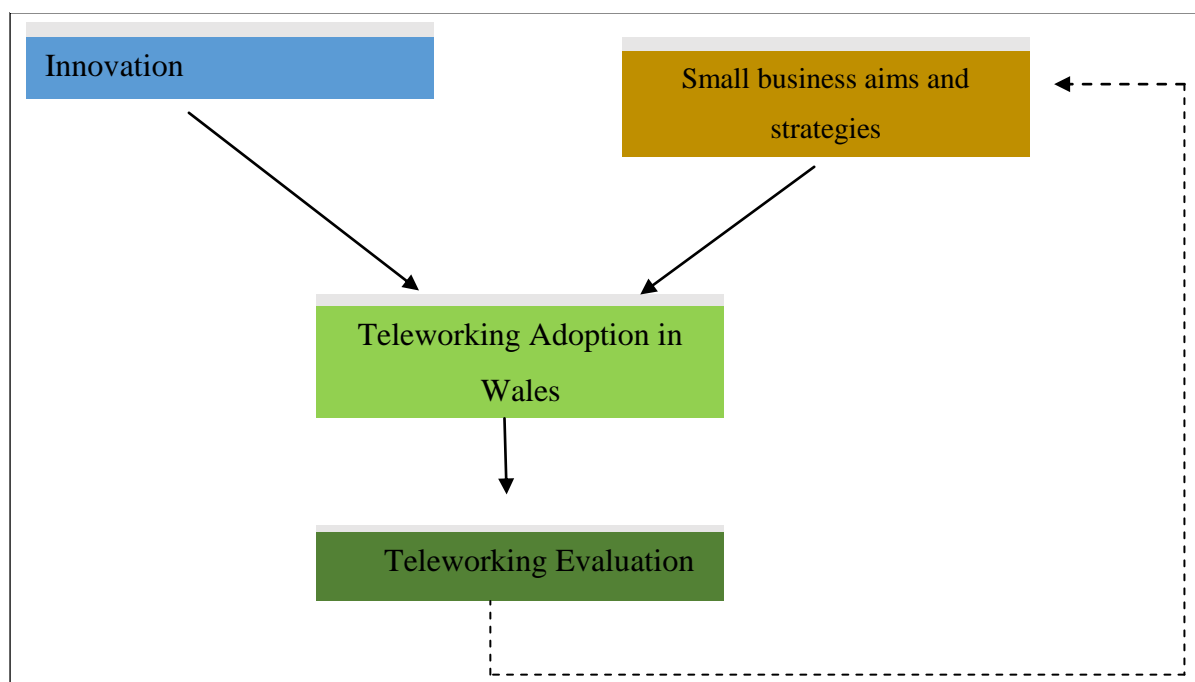
Expert H commented that the adoption of teleworking might differ in different environmental situations. This was based on his/her previous studies on technology and teleworking adoption especially among SMEs, which indicated that both internal and external factors influenced their efforts in adopting technology (including ICT and teleworking) in the execution of their SME business strategy. Expert C had a similar view concerning the factors affecting innovation by giving an example, such as resourcing, the history of the industry in which the business operates and the level of ICT use within the company. The level of the operator's ICT experience also impacted the level of readiness, as they were generally micro businesses. Expert A was not convinced that external factors influenced more than internal factors due to the existence of some operators who are highly ICT literate who will engage in Internet marketing even if there are no external factors or pressure. They will be more proactive in this regard. The converse is also fairly common where, in spite of external pressure, an operator might not engage in Internet marketing. Given the heterogeneity of small businesses, the balance of the innovation through teleworking factors (internal and external) will vary considerably from one business to another, one industry to another, and so forth. Nonetheless, innovation through teleworking (whether relating to industry, operator, employees, etc.) was a good term to describe this interplay of internal and external factors.

7.3.3 Reflections on Week 1

A number of comments were made concerning the overall structure of the framework, which was viewed by the experts as being too simplistic. The comments suggested adding more complexity and detail.

The inclusion of an ‘iterative loop’ was suggested after the evaluation phase in the framework. The ‘iterative loop’ was added after the evaluation phase and interconnected with the aims and strategies phase. The interconnection was appropriate for considering either the implementation of teleworking adoption positively or negatively impacting small business operations. Consequently, SME owners and/or managers may revise their business aims and strategies. Innovation and business aims and strategies were two different environments, as innovation focused on macro issues and business aims and strategies on micro perspectives. Business aims and strategies looked at the issues inside the organization itself. Therefore, there was no added arrow that interlinked innovation and small business aims and strategies. According to Expert A, for those businesses that are being pressured by the customers to practice teleworking, they are more reactive than proactive and might represent a case of survival rather than long-term aims or strategies. Thus, these types of business might be quite different to those who are proactive. The feedback from Expert A was taken into consideration for further refinement of the framework. Figure 16 presents the overview of the refined framework after the ‘iterative loop’ was added.

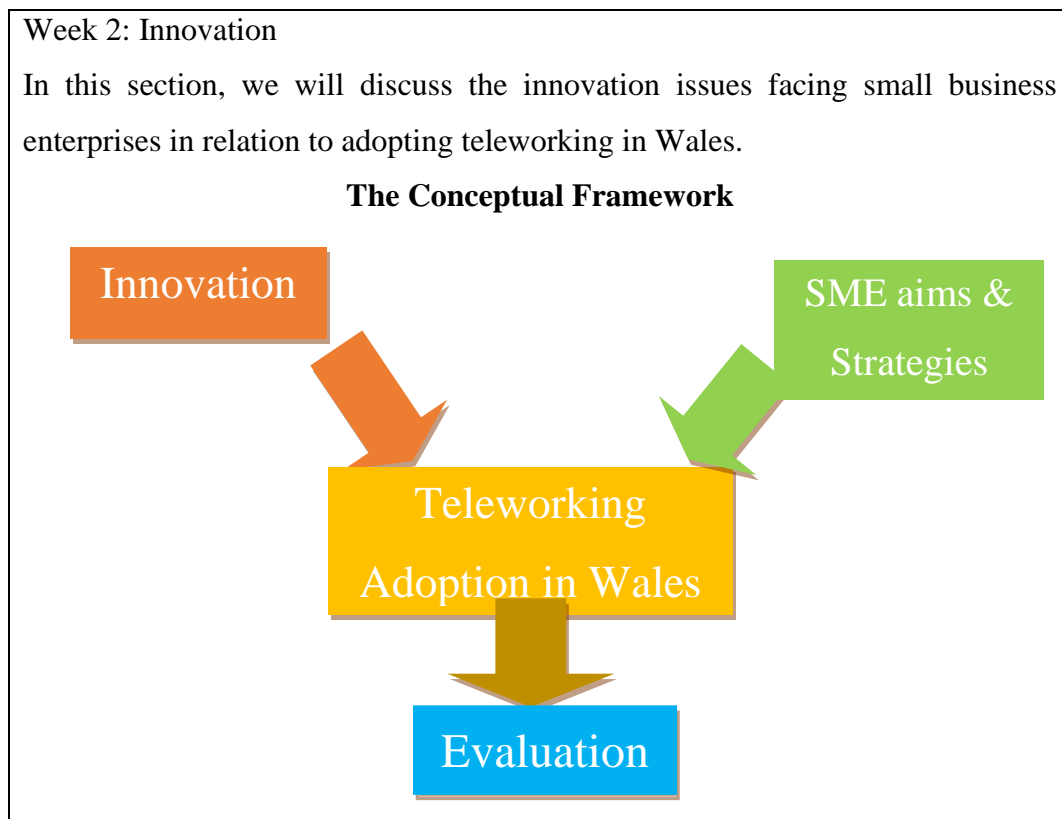
Figure 16 - Overview of refined framework based on Week 1 discussion



7.3.4 Week 2: Innovation

The Week 2 discussion particularly focused on the factors that affected the level of innovation of SMEs to adopt teleworking in their business operations. In Week 2 discussion, seven factors were listed — Culture, financial resources, owner’s attitude, government policies, skilled workers, time and infrastructure.

Below is the extract of Week 2, which appeared in the online discussion.



In the previous step, I stated that innovation refers to the ability of the business to access and effectively apply teleworking for the purpose of teleworking adoption. This section examines the factors that may affect the level of innovation of a business.

Factors of Innovation through teleworking



Based on the literature review, the above listed factors contribute to the innovation capability of small business enterprises in relation to teleworking:

• Infrastructure

According to scholars, inadequate infrastructure, such as Internet communication services and poor mobile access signals, can restrict access to ICT, particularly in remote areas thereby limiting teleworking application.

• Availability of skilled workers

Small business enterprises are often hindered in adopting new technologies or embracing teleworking due to the lack of skilled and qualified workers to support and develop ICT and further e-commerce related activities. Additionally, a lack of technical expertise to monitor and control any circumstances (such as hackers or viruses) can create an uncomfortable environment for small business enterprises to adopt ICT in their businesses.

• Financial resources

A lack of financial resources can be critical to small business enterprises. Typically, these businesses experience financial difficulties in the start-up stage of the business as they soak up all the available capital to generate the business. Small business enterprises are often highly concerned with the cost of adopting new technology in the business operations (such as connection cost to the Internet, the cost of adequate hardware or software, set-up and maintenance cost) with the limitations of financial resources. In addition, they also often have less access to bank loans, as the bank perceives that these businesses are too risky and involve high transaction costs.

• Culture

Culture refers to the organization's values, beliefs, practices, rituals, and customs. Owners and managers of small business enterprises need to know their own business culture and level of organizational learning before promoting new technologies to their employees. The effort should be made to understand the background of the employees who are involved in the learning process involved in adopting new technologies in the business operations. Instead of that, the cultural differences in Wales can also present an obstacle to ICT adoption as the idea of innovation through teleworking can be negatively viewed as the idea of work is typically viewed as 9am to 5pm work hours and not flexible hours as innovation through teleworking presents.

• Government policies

Some small business enterprises are reluctant to invest in ICT for teleworking, probably due to a fear of social or economic barriers affected by changing government policies. However, with the rapid growth of small business enterprises many government policies are now focusing on stimulating the growth of these businesses by providing support and incentives — sometimes through support programmes that encourage ICT use.

- **Owner's attitude**

The business owner's attitude, experience and knowledge are important in their understanding of the use of the Internet in the business. Previous studies claim that small business enterprise's owner-managers prefer or tend to be followers rather than leaders in adopting ICT through teleworking in their business. However, owner-managers that have entrepreneurial attitude, tend to be more positive about adopting new technologies and ways of working in their business.

- **Time**

The importance of time in the application of ICT in the adoption of teleworking as an innovative element cannot be over-emphasised as the wave of development and speed in which technologies and times are changing especially with a view to evaluating the way small businesses carry out their functions, is something to be observed. If SME's do not ride with the times, their competition will sweep them out of business.

Discussion questions

In your opinion, how do these factors affect small business enterprises in adopting the Innovation through teleworking in their business? Are there any other factors (positive or negative) contributing to innovation? You may suggest any.

7.3.5 Discussion of Week 2

Most experts that participated in the Week 2 discussion agreed that the listed factors of innovation did affect SMEs when adopting Teleworking into their business (Experts A, D, J, I, F, and C). Other comments suggested considering customers and competitors as driving forces that urge SMEs to adopt teleworking for business purposes (Experts C and D).

“Two key factors that I would urge to consider in innovation through teleworking are customers and competitors”. (Expert D)

“I think the items you have pointed out are consistent with my research. I noted a comment about customers and competitors, which I think are also driving forces”.

(Expert C)

Expert A provided detailed comments on the listed factors for innovation. Expert A commented on the availability of teleworking through e-business services; he/she found that most ISPs and web designers in Wales (who might service small businesses) can provide the technical infrastructure, such as a domain name¹⁵ or web space, but are not skilled at providing e-business services. However, many service providers of e-business services expected that owner managers of small businesses already knew their teleworking through an business strategy, and the provider only needed to implement it or provide the tools for owner managers to use. Nevertheless, it created misalignment between small business needs and what the e-business industry can provide unless small businesses were willing to pay for expensive consultancy services. Expert J added that the infrastructure, in terms of mobile and digital wave supplies and ISPs, in most countries was provided by the government and that it duplicated the factor of government influence. The infrastructure came under the jurisdiction of the government, which was embedded in their policies.

¹⁵ Domain name refers to an identification identity that defines a realm of control or authority on the Internet.

Expert A also commented that the owner’s attitude is a key driver in adopting the Innovation for the businesses. Expert A indicated that if owners did not see the value of innovation through teleworking adoption, they could not be convinced by a trusted adviser to adopt it, and if they were not being forced to (e.g., by major customers) then it would just not happen. Expert D was in agreement with Expert A’s inclusion of owner’s attitude. Expert J viewed the owner’s attitude as referring more to the characteristics of the owner themselves. For the culture factor, Expert D and Expert A indicated that it

would be complex as it covered a broad and complex range of issues. Expert D suggested considering some identified factors related to cultural perspectives, such as Welsh language issues, owners being too old to learn to use the technology, catering to illegal sectors of the market, cultural issues relating to the local workforce, and technology advancement, which might be too fast for owner managers of small businesses.

Small businesses often cannot afford the type of expenditure of large businesses, and tend not to have cash reserves or flexibility (Expert A). Small businesses only considered the decisions that were essential for their business survival. Expert A added his/her views that small business owners were always described as being time poor as they often have to consider in what they did and did not spend their time doing. For example, they were often doing accounts, marketing, or sales themselves, and, therefore, spread their time quite thinly. Expert F supported Expert A and agreed that the awareness of time benefits or cost of teleworking using e-business will play a big role in whether a small business considers innovative practice of teleworking using e-business at all.

Expert B highlighted the cultural mind-set of time for work and expressed the opinion that small businesses that adopt innovation practices through teleworking and using e-business in their operations are not taken seriously as the Welsh definition of work is primarily 9am to 5pm in nature and not flexible.

Expert J suggested that all the listed factors (infrastructure, skilled workers, time, financial resources, and culture) be grouped together as 'resources', as part of innovation and that government policies were an external factor and owner's attitude was a characteristic of the owners. Expert I also forwarded his/her thoughts concerning the literature on the Disruptive Technological Change model which is projected by Christensen and Overdorf (2000). "This model is a very customer friendly and focused model as its nature is to be compliant with the requirements of its customers in order to stay relevant" (Expert I).

7.3.6 Reflection on Week 2

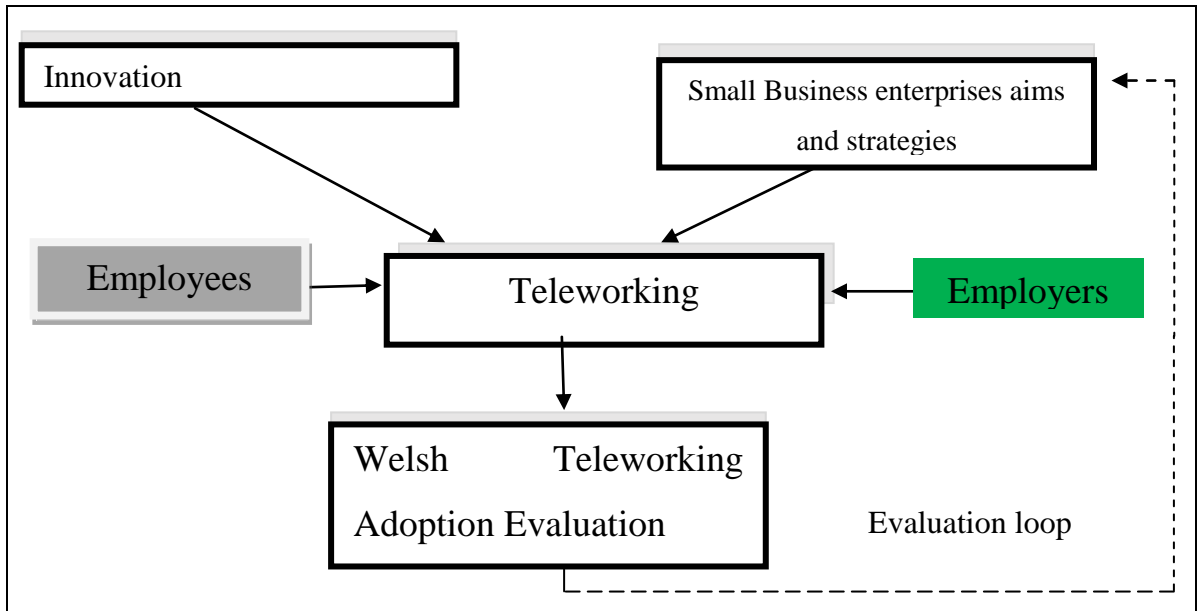
The Week 2 discussion received detailed feedback on innovation through teleworking issues, and pertinent factors that affected the level of innovation through teleworking by SMEs. The majority of experts agreed that the listed factors (infrastructure, skilled workers, financial resources, government policies, culture, owner's attitude and time) were the relevant factors that contribute to the level of innovation of SMEs in adopting innovation through teleworking in their business operations. The comments from Expert C and D (customers and competitors) were taken into consideration in refining the framework as the demand and pressure from customers and suppliers influenced SMEs to determine their innovation strategies in order to stay relevant in the market. Customers and competitors supported the decision in adopting innovation through teleworking in their operations as it gave a competitive advantage to their business.

Experts D and I commented that the initial conceptual framework had not been stated clearly from a teleworking adoption perspective. Changes were taken into consideration following further discussion (Week 4). Customers and competitors were added parallel to innovative teleworking strategies as customers and competitors influence small businesses to adopt teleworking in their businesses. The pressure and demand from customers and competitors indicated that small businesses diversify their innovative activities via teleworking using ICT. This is consistent with Sadowski, Maitland, & Van Dongen (2002), and Scupola (2009) in respect of the influence by the competitors causing small businesses to adopt tele practice through ICT. Also, studies from Kalakota & Robinson (2001), and Scupola (2009) indicated that the pressure and demand from customers was also a reason for small businesses to equip their businesses with ICT and aligning with teleworking.

While it was suggested to group the listed factors (infrastructure, skilled workers, time, financial resources, and culture) as 'resources', government policies as an external factor and owner's attitude as a characteristic of the owners, it was decided to maintain the current position of listed factors for

further examination in the next phase of data collection. Figure 17 presents the refined framework after the antecedents (customers and competitors) were added to the framework.

Figure 17 - Overview of refined framework based on Week 2 Discussion



7.3.7 Week 3: Impact on innovation through teleworking

Week 3 involved further discussion on innovation through teleworking and examined the impact of innovation, particularly in Wales in comparison to other countries and its urban and rural areas.

Below is the extract of Week 3, which appeared in the online discussion.

Week 3: Innovation through teleworking Implications

In previous sections we have discussed the factors contributing to innovation through teleworking capability to small business enterprises. In this section, we will discuss the impact of innovation factors, particularly in relation to urban and rural areas in Wales and other countries as well.

The figure below represents some research findings comparing the impact of six major factors of innovation through teleworking in Wales and other developing countries. The level of impact (little, some or major) for each factor is based on my understanding of the literature. These factors

impact on the innovation stage of small business enterprises and their capability of adopting or not adopting the teleworking in their businesses.

For instance, I have indicated that inadequate infrastructure in Wales has a major impact on the ability to adopt teleworking, which is in contrast to other developed countries, especially in urban areas, as they mostly have an appropriate infrastructure available to them. Small business enterprises in Wales and certain developing countries often face difficulties when attempting to hire skilled workers to support new technologies as they also have a limitation in terms of financial resources. Additionally, the attitudes of owner managers of small business enterprises in Wales and developing countries who often prefer to be followers rather than leaders inhibit the adoption of teleworking. These factors can have a major impact on small business enterprises, particularly in developing countries. Recently, the government has provided more incentives and support to help small business enterprises to grow in the market, however, some of these businesses are still reluctant to invest in ICT for teleworking purposes. The culture in organizations can have some impact, as the business needs to consider the acceptance level of employees in adopting new technologies. For developed countries, almost all of these factors may have less impact on their innovation for adopting teleworking.

The figure below indicates four stages of innovation through teleworking level —not ready, partly ready, mostly ready, and very ready. The impacts of innovation factors will determine how ready small business enterprises are to adopt teleworking for their operations in Wales.

The Impact of innovation through teleworking

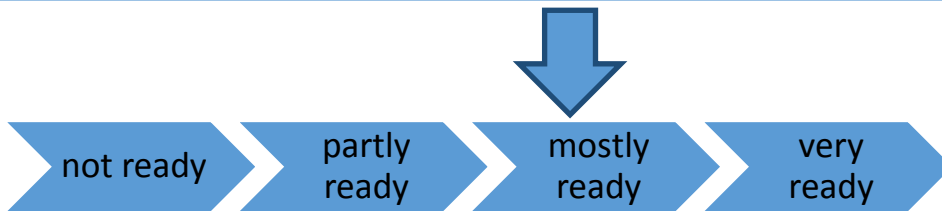
Factors	Wales and Developing country		Developed country	
	Urban	rural	Urban	Rural
Inadequate infrastructure	xxx	xxx	x	xx
Availability of skilled workers	xx	xxx	x	xx
Limited financial resources	xxx	xxx	xx	xx
Culture	xx	xxx	x	xx
Government policies	xx	xx	xx	xx
Owners attitude	xxx	xxx	xx	xx
Time	xx	xxx	x	x

The symbol

x little impact

xx some impact

xxxmajor impact



Discussion questions

Based on your thoughts, please indicate your viewpoints regarding the impacts I have listed as innovation diffusion factors in urban and rural areas of developed countries and Wales and developing countries. Please discuss further.

7.3.8 Discussion on Week 3

Expert B agreed that the aforementioned factors affecting innovation were valid to a certain extent. Nevertheless, their level of significance may differ from one country to another. Expert H agreed that there is definitely a difference between Wales and developing and developed countries concerning innovation implications. Expert H highlighted Wales as an example of a developing country regardless of it being in the United Kingdom which is classed as developed, where SMEs, to a large extent, were still inhibited by a number of infrastructural and attitudinal elements in executing technology in their operations. Many SMEs were family owned enterprises that may not see the need to grow 'big' through massive ICT led teleworking adoption. Expert C suggested that the government can have a positive impact in terms of infrastructure provision. Expert C further commented by looking at the provision of electronic education services in remote parts of Iceland, in that remoteness creates problems similar to those in Wales and developing countries. Expert D positively agreed with the points made by Experts C and H concerning the location of SMEs.

“Expert C raises an excellent and relevant point concerning the location of the SME. I imagine any small business in the remote parts of Iceland will encounter a range of infrastructure problems. Also, Expert H raises some good points, the case of Wales is interesting because despite the aggressive ICT plan of the government there are a number of concerns for SMEs, and, furthermore, in my experience family plays a big role in SME operations”. (Expert D).

Expert D also queried the measurement of innovation through teleworking using the scale if what the business was partly ready. Expert A was in agreement with Expert D's comment on that matter. Expert A responded to Expert H's comment on family owned business issues, as such businesses were prevalent in Iceland. A growing body of research on small businesses indicated that a large percentage of Iceland family-owned small businesses were not interested in growth. They were in the business for other reasons and their perception of 'success' was not measured in financial/growth or

traditional entrepreneur definitions. Expert I was in agreement with Expert A's comments and suggestions. Expert I gave his/her points on Wales SMEs in which the owners simply hired others to manage the enterprise. Similarly, the availability of skilled workers may also not be of interest to SMEs if these SMEs were not into ICT led innovation through teleworking in the first place. Finally, Expert G suggested that consideration be given to the listed factors of innovation through teleworking to be compared against the changing age structure of the population (for example the readiness to change of the Baby Boomers, Generation X, and Generation Y).

7.3.9 Reflection on Week 3

Week 3 discussion mostly reflected the discussion of the two previous weeks (Weeks 1 and 2). The listed factors remain unaltered. The government policies have a major impact on Wales and developing countries in urban and rural areas (reflected by Experts C and D's comments). The suggestion by Expert G was excellent, nevertheless this study only concentrated on the generic framework of Innovation through teleworking adoption for SMEs. The idea will be taken into consideration for future studies.

7.3.10 Week 4: Business aims and strategies

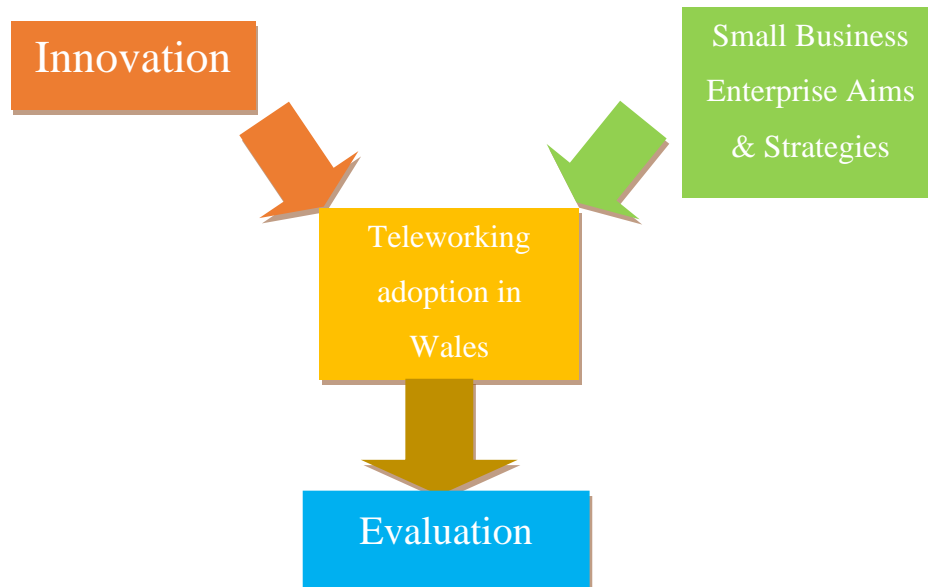
Week 4 discussion was about the second indicator of the framework — the business aims and strategies. There are four types of strategy that are appropriate for SBEs for future business direction. The four business strategies are growth strategy, strategic alliance strategy, cooperation strategy, and lifestyle strategy. The first three strategies (growth, strategic alliance and cooperation) typically occur when the SMEs have the aim to expand or at least maintain their position in the market. The last strategy (lifestyle) refers to how they want to live in a certain manner whilst operating the business.

Below is the extract of Week 4, which appeared in the online discussion.

Week 4: Business aims and Strategies

Now, we are approaching the, second indicator of this discussion, which is, '*SME aims and strategies*'.

The Conceptual Framework



In the previous section we discussed innovation, particularly innovation through teleworking and its impact. In this section, we will discuss the types of business strategy used by small business enterprises in meeting their business aims. Business aims are important to guide the business targets and goals in the future. With the business aims, the owner managers will plan the appropriate strategies for the future business direction.

Aims and Strategies



The first three strategies (growth, strategic alliance and cooperation) probably often occur when the small business enterprises have an aim to expand or at least maintain their position in the market. Whilst the last strategy (lifestyle) often refers to how they want to live in a certain manner while doing the business.

Based on previous research, there are four typical strategies adopted by small business enterprises in order to maintain their competitiveness in the market place.

- **Growth strategy**

For growth strategy, small business enterprises are often searching for new market opportunities to expand their share of a market or move into a new market. In this strategy, entrepreneurs will find new products or services to be offered to existing customers as well as obtain new customers with existing products, or possibly diversification into other activities.

- **Strategic alliance strategy**

Strategic alliance strategy provides small business enterprises the

opportunity to leverage their strengths with assistance from their business partners. The combination of complementary skills and knowledge of the business partners (such as cost saving in executing operations and cheapest production and labour cost) will lead to a competitive advantage.

• **Cooperation strategy**

A cooperation strategy is where businesses work together to achieve shared objectives. Cooperating with other businesses is able to create value for a customer, exceed the cost of constructing customer value in other ways, and establish a favourable position relative to competition. Cooperation could be one of the strategies for small business enterprises to overcome globalization pressure due to a variety of constraints.

• **Lifestyle strategy**

Lifestyle strategy is where the entrepreneurs seek for independence and control over their own schedule. The entrepreneur normally runs the business in a manner such that it also facilitates the lifestyle that the entrepreneur's want. In these instances, the level of income may not be a primary driver for the entrepreneur.

Note that the above strategies may not only operate individually but also operate with other strategies in combination, such as growth strategy and cooperation strategy or cooperation strategy and lifestyle strategy.

Discussion questions

Based on your thoughts, are the above strategies appropriate to be implemented by small business enterprises? If not, please elaborate further and suggest any related strategies that are pertinent for small business enterprise's business aims.

Currently there is no link in the framework between innovation and small business aims and strategies. Should there be one? Please discuss.

7.3.11 Discussion on Week 4

Week 4 discussion received a few comments and suggestions from experts regarding the business aims and strategies for SMEs. Expert H was not sure whether to agree or disagree with all the listed strategies, especially those related to strategic alliance and cooperation. Accordingly, Expert H, commented on a study within the Wales scenario where small businesses have yet to reach a stage where a strategic alliance is seen as an option they seek aggressively in their business aims. Small businesses usually restrict their capabilities to attach themselves to strategic partners and most often their source of alliance is with the supporting agencies or government bodies. The cooperation among businesses at this level is also limited as they strive to survive and sustain their business. Expert H added that it was accepted as an ideal achievement when aiming towards globalization or linked to such strategic cooperation but in reality not many small businesses practice it. Expert D agreed with expert H's comment, as according to his/her studies, there was a strong link with supporting agencies or government bodies (for example, the Welsh government has strategies concerning teleworking ICT promotion to small businesses) (reflected in the Week 3 discussion).

Expert J commented that business aims and strategies were two different things altogether. Expert I was in agreement with Expert J's comment concerning the different concepts of aims and strategies. Expert I disagreed with the categorization of the strategies, as the listed business aims and strategies might overlap and not be appropriate for the unique characteristics of SMEs. Expert D also agreed that there was considerable overlap between strategic alliance and cooperation strategy. Expert D suggested there should be a link between the innovation stage and aims and strategies (discussed in Week 1). Expert D stressed that the initial conceptual framework was not particularly linked to a teleworking framework. Expert D also commented on lifestyle strategy as it was not a strategy and it was a reason for getting into business. Experts A and H agreed with Expert D (lifestyle is not a business strategy).

Most experts suggested focusing on a business aims and strategies indicator from a micro-strategies perspective (Expert D, A, J, H and I).

“Perhaps, strategies that are more micro in nature are more appropriate at this point, especially when it is linked to teleworking business. For example, business aims and strategies may be geared more towards entrepreneurial capabilities relating to teleworking requirements such as level of ICT knowledge and capabilities in executing such a task”. (Expert H)

“Maybe Expert H is right when she/he suggested more micro strategies, this would allow you to focus on broader aims and then more micro strategies. Importantly, we need to see some link with innovation through teleworking”. (Expert D)

“It is therefore more useful as part of “aims and strategies” to distinguish between aims and strategies (as suggested by Expert D) and to view “strategies” in the micro sense by acknowledging that there are a range of quite specific strategies which could be used to achieve their business aims. The four categories you have come up with do not really achieve this”. (Expert A).

“I do believe that the strategies need to be in a more micro sense that relates to small businesses in nature like teleworking penetration strategies with the help of ICT tools”. (Expert J)

“Redefine your categorization of strategies in a more meaningful way, especially those relating to the unique characteristics of Wales SMEs. Micro businesses would hardly have any strategies whatsoever”. (Expert)

7.3.12 Reflection on Week 4

Notwithstanding the comments regarding listed business aims and strategies, which were too broad for small business perspectives, this study has decided to maintain the listed business aims and strategies for this phase of data

analysis. The main reason was these business aims and strategies act as a long term plan and core management functions for the businesses to achieve their particular goals or objectives. The business aims and strategies help small businesses in positioning their businesses, the competitiveness of the business, and a guide to improve the business. Considering comments were received from only a few experts, this study maintains the original listed business aims and strategies for this phase and the next phase of data collection will test the appropriateness of the listed business aims and strategies either to maintain or remove it for the final framework.

According to all the comments and suggestions in Week 2 and Week 4 concerning narrowing the focus from macro to micro perspectives in the framework, a new indicator was added (teleworking strategies). The teleworking strategies reflected micro strategies (as suggested by Experts D, A, J, H and I). This allows the framework to narrow the focus on innovation through teleworking itself. Thus, it was appropriate to comply with the uniqueness of the nature of small businesses.

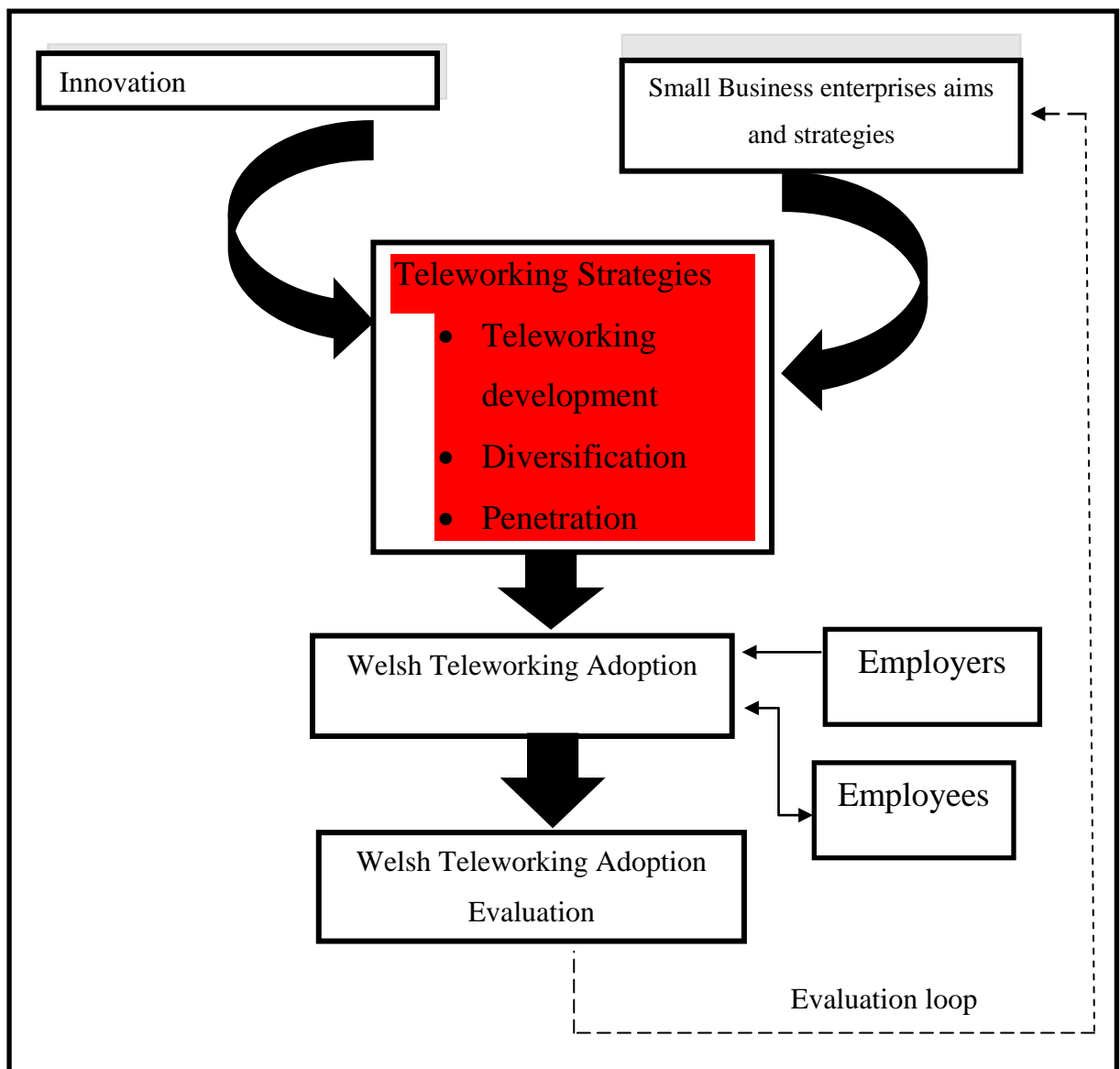
Four new teleworking strategies sourced from the literature were added in the framework at the suggestions of the experts. These strategies are Teleworking development, diversification, penetration, and product development (Chaffey, et al., 2006).

Teleworking development is used to sell new and existing teleworking methods to a new demographic segment in order to enhance the practice and culture of teleworking. According to Smallbone, Leigh, & North (1995), a new market does not necessarily involve geographic extension, it may also vary between location, industrial sector, business sector or local markets, whilst, telework diversification is where new products regarding teleworking are developed and used across new sectors that were not traditionally set up for teleworking practices, opening up new markets. Diversification can be diversified into related businesses, diversified into unrelated businesses, upstream integration (with suppliers-through data exchange), and downstream integration (with intermediaries — data exchange with distributors). Teleworking penetration involves selling existing products or carrying out

teleworking practice in existing business markets, which can help them in terms of better market growth, improve customer loyalty, and improve customer values. Finally, product development is used to add value to or extend existing products, such as extend their product range.

Overall, these strategies are compatible to support the different growth strategies through the use of teleworking and can help small businesses to take advantage of the lower cost of an innovative approach. Figure 18 presents the overview of the refined framework until the Week 4 discussion.

Figure 18 - Overview of refined framework based on Week 4 discussions



7.3.13 Week 5: Welsh Teleworking Adoption and evaluation

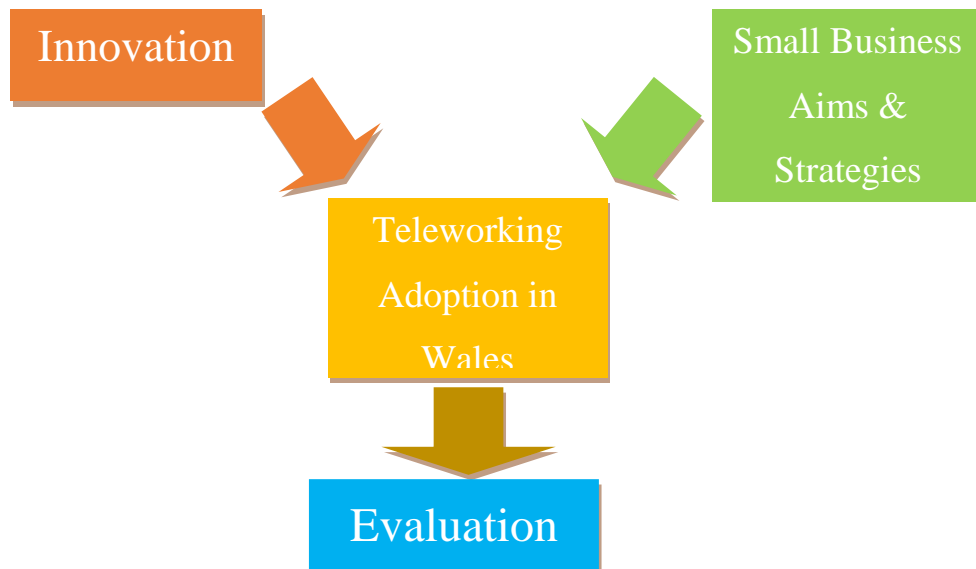
Week 5 was the final week of discussion and highlighted Welsh Teleworking adoption and evaluation of teleworking performance. In the discussion, the extension of the 4Ps (product, place, promotion, and price) was introduced, which was the 4Cs (customer, cost, convenience, and communication).

Below is the extract of Week 5, which appeared in the online discussion.

Week 5: Welsh Teleworking and Evaluation

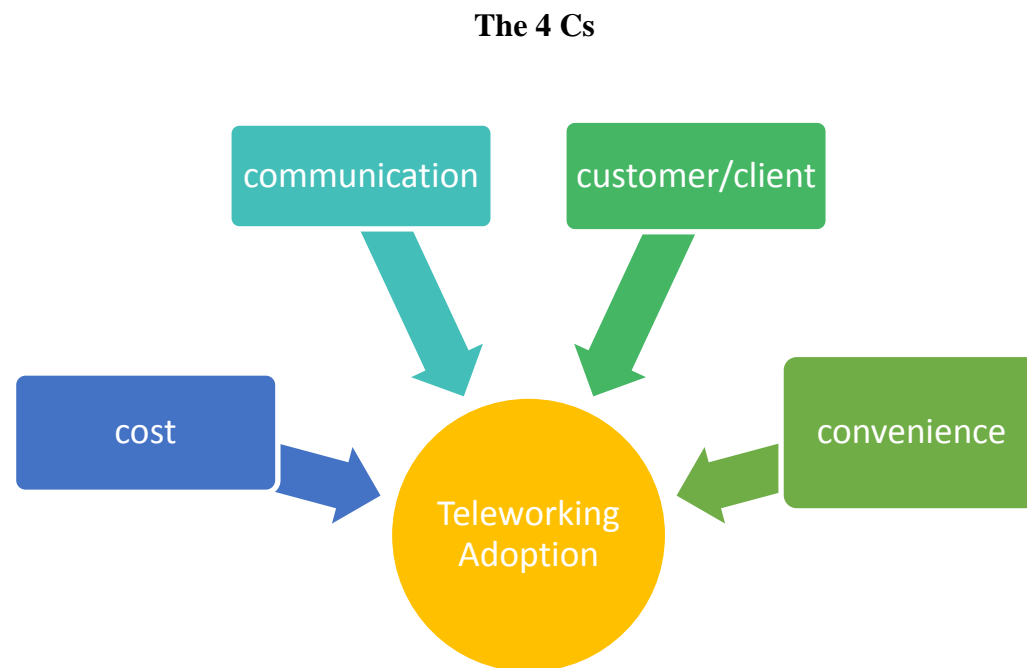
This is our final stage of discussion. In the previous stages, we have discussed two main indicators — Innovation and Small business aims and strategies — that contribute to the implementation of Teleworking Adoption as a business strategy. In this section, we will identify the Teleworking Adoption approach in expanding and maintaining its practice in the business environment as well as to evaluate the outcomes of Teleworking adoption in Wales implementation.

The Conceptual Framework



Teleworking Adoption

Let us assume that the employers and employees have decided to adopt teleworking and the business aims and strategies have been determined. How can teleworking adoption assist in their business operations? Below is the image of the extension of the basic 4Ps marketing principles; the 4Cs have been identified in the literature to support Welsh teleworking.



Welsh teleworking is about the process of teleworking representing an alternative form of work arrangement in Wales that is facilitated by information and communication technologies that allows the employee to work physically outside the conventional workplace, building and maintaining customer relationships through online activities at any time to facilitate the exchange of ideas, products, and services to satisfy the goals of both the employers and the employees. Teleworking in Wales affects the four basic Ps (product, promotion, place, and price), which are extended to four Cs—customer, cost, communication, and convenience (Smith, 2003). These are now described.

• Customer/Clients

An innovative approach via the use of teleworking can offer improved services to clients, happier employees and employers and improved customer service by

customizing offers for providing added value, which leads to client loyalty. For example teleworking offers customers as well as employers and employees a flexible and customised style of work which will do well to improve service delivery and enhance loyalty from customers, clients, and both sides of the divide between employees and employers.

- **Cost**

The use and adoption of teleworking can help to reduce the business and operation costs as well as add value to the employer through operation cost reduction. For example, through the adoption of teleworking the employee could reduce the cost of travelling which will save money and time and enhance work life balance.

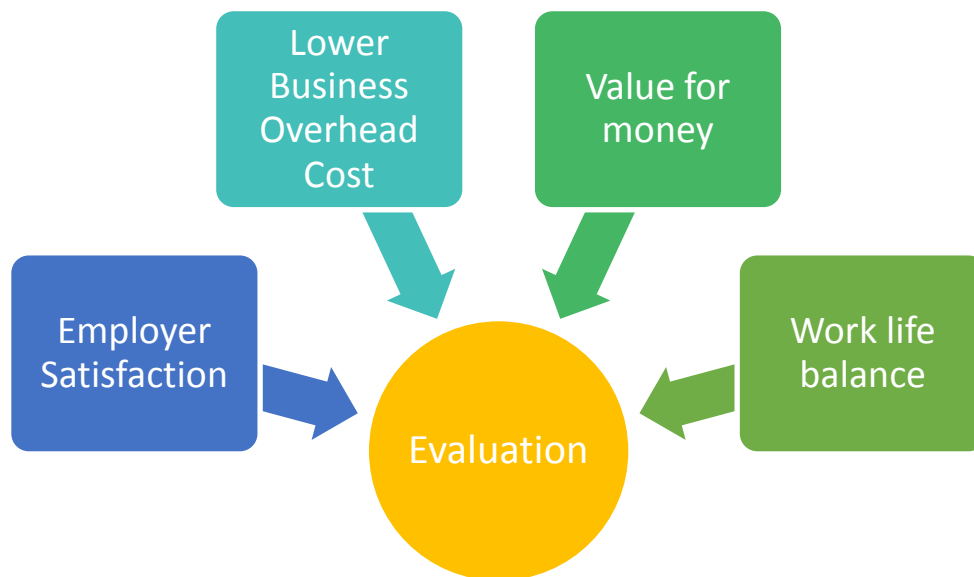
- **Convenience**

Teleworking has the potential to offer at unconventional work hours, 7 days a week and around the globe, which provides convenience to customers, clients, employers and employees and offering services wherever they are located even after local business hours and at any place.

- **Communication**

Teleworking can also provide opportunities as a communication channel to exchange and communicate information between businesses, employers, employees and customers. For example, deadline demands can be made by the employer to the employee and demands from customers too especially during non-conventional hours and questions can be asked and better focused attention can be given when practicing teleworking and enhances all round communication.

The Evaluation



The evaluation is a tool to determine the expected results from the adoption of teleworking. Teleworking adoption and performance can be measured through a combination of:

- Employee satisfaction
- Value for money
- Work life Balance
- Lower Business Overhead cost

Discussion questions

The figure above representing the Teleworking Adoption approach consists of four Cs: customer/client, cost, communication, and convenience. Are the elements of the four Cs appropriate to be considered in the telework adoption approach? You may suggest any other additional elements that are pertinent to telework adoption for small business enterprises. Please discuss.

Listed above are the measurement indicators to evaluate telework adoption. Please discuss and suggest any other measures that you think may be appropriate to evaluate telework adoption.

7.3.14 Discussion on Week 5

Expert A agreed it was appropriate to not use the traditional 4Ps of marketing (place, promotion, price, and product). According to Expert A, the literature on small businesses and teleworking suggests that the 4Ps are not appropriate for small businesses as the traditional 4Ps require human and financial resources to apply them successfully. Expert A was also concerned with the use of 4Cs, and suggested that if employers do not support or see teleworking adoption as feasible and valuable then they will not adopt the approaches.

“I realise that small business employers will be interested in serving their employees and customers, and therefore the 4Cs offer categories of approaches they could pursue in achieving this”. (Expert A)

Expert H also agreed that the 4Cs have relevance. Against this, Expert H highlighted that the focus is on small businesses where peculiarities of small business should be taken into account. The existing 4Cs must be matched with the requirements of small businesses.

For the evaluation indicator, Expert A commented that if it was ‘large’ organization oriented. Expert I was in agreement with Expert A’s comment and suggested considering the operationalization of research variables in determining the appropriateness of incorporating the variables in the framework and research focus.

“I don’t think many small business employers will be interested in ‘work life balance’, with the exception perhaps of the ones with families and who can relate to the challenges faced. Again, the ‘employee satisfaction’ — what extent would this apply to a small business and, more importantly, a sole operator? Probably not at all.” (Expert A).

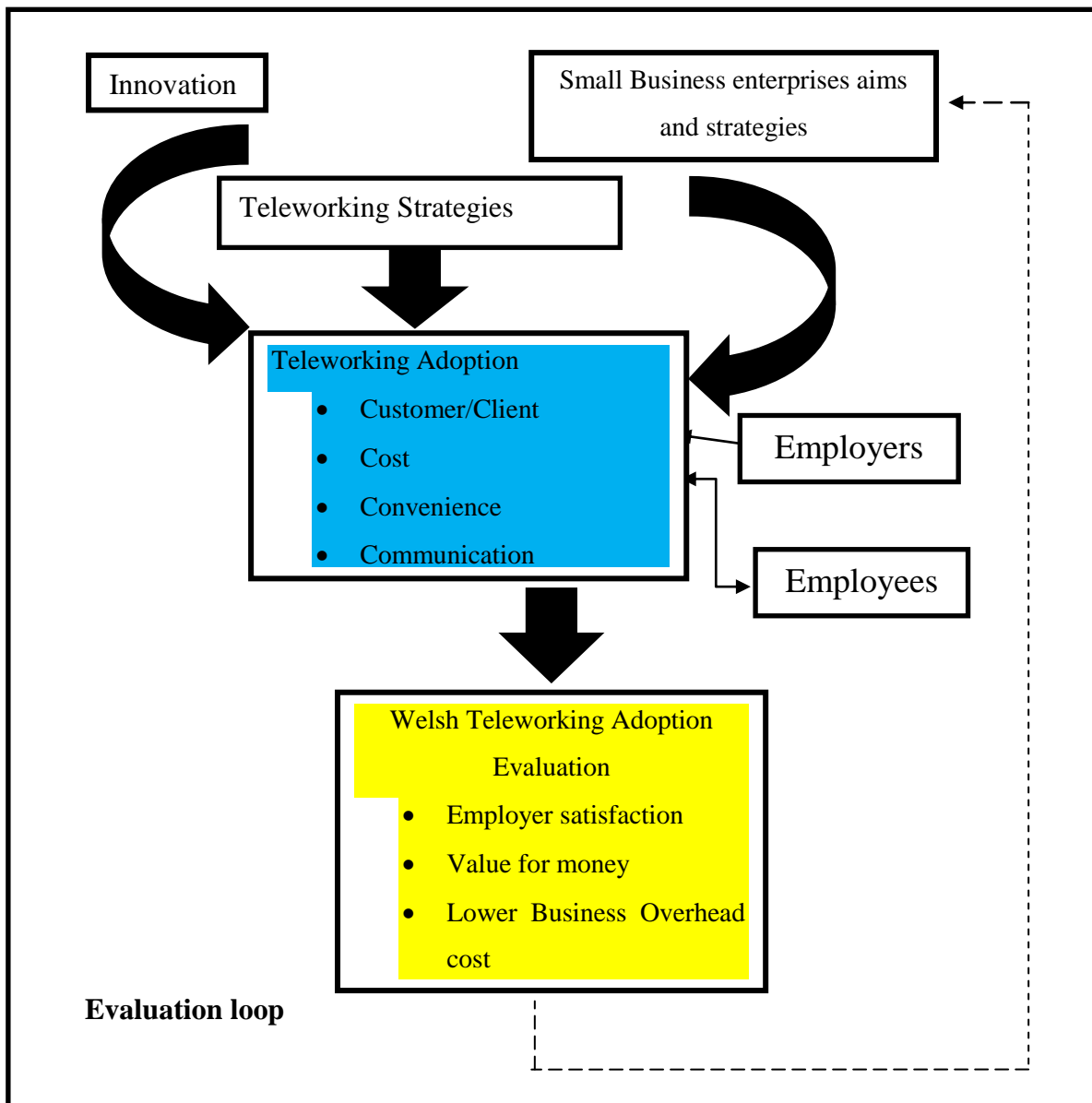
Expert H suggested it was ideal to look at the small business perspective, as the aspect of work life balance or employee satisfaction was not a relevant evaluation basis for small businesses. Expert D was in agreement with Expert

H with work life balance, which was probably not relevant to small businesses.

7.3.15 Reflection on Week 5

Overall, no change was made to the teleworking adoption components, 4Cs, as it was appropriate for application for telework adoption purposes. The application of teleworking adoption is consistent with teleworking strategies (teleworking development, diversification, penetration and product development) as it aligns in minimizing the innovative cost of small businesses, which are particularly limited in financial resources. In performance evaluation of teleworking adoption, the attributes (work life balance, and employee's satisfaction) were removed to comply with the nature of small businesses, as suggested by the experts. This is supported by Chaffey et al. (2006) who indicated that the typical measurements of small business effectiveness are sales, customer retention, reduction in business cost, qualified enquiries, brand enhancement, and customer service. Figure 19 presents the overview of the refined framework based on Week 5 discussion.

Figure 19 - Overview of refined framework based on Week 5 discussions



7.3.16 Summary of the changes to the framework

The overall discussion generated a number of in-depth suggestions concerning the framework. As a result a number of changes were made to the initial conceptual framework, in terms of the structure and its attributes. The framework still maintains its major indicators and a few attributes were added and removed to suit the framework for SBEs.

Summarizing, in Week 1 an evaluation loop was added after the teleworking adoption evaluation component. In Week 2, employees and employers were added parallel to teleworking Adoption, as a new antecedent as it was the external forces that pressure small businesses to apply teleworking as an Innovative tool. For Week 3, the overall impact of the listed factors were agreed by experts except the component of government policies, which were changed from some impact to major impact, particularly for developing countries and for both urban and rural areas.

There were comments in Week 4 in terms of the listed business strategies in the discussion being considered by the experts to be too broad and not applicable for small businesses. Nevertheless, the listed business aims and strategies were maintained in the framework and will be tested again in the next phase of data collection to see whether or not they are appropriate to remain or be removed from the framework. In addition, a new indicator, teleworking strategies, was added (teleworking development, diversification, penetration, and product development), which was more appropriate when viewed from innovation and teleworking perspectives. For the final week discussion (Week 5) no changes were made in terms of teleworking adoption indicators (4Cs). However, there were changes in the teleworking adoption evaluation indicator. Two attributes were dropped (work life balance and employees satisfaction), as the attributes were not applicable to the nature of small businesses according to the experts. Finally, based on the comments and suggestions from experts the refined framework was derived, particularly for SBEs to use as a guideline in adopting teleworking as an innovative tool in their business. Figure 20 presents the general view of the refined framework based on the overall comments and suggestions from Week 1 until Week 5; Figure 21 presents the refined framework in detail.

Figure 2011 - General view of Refined Framework

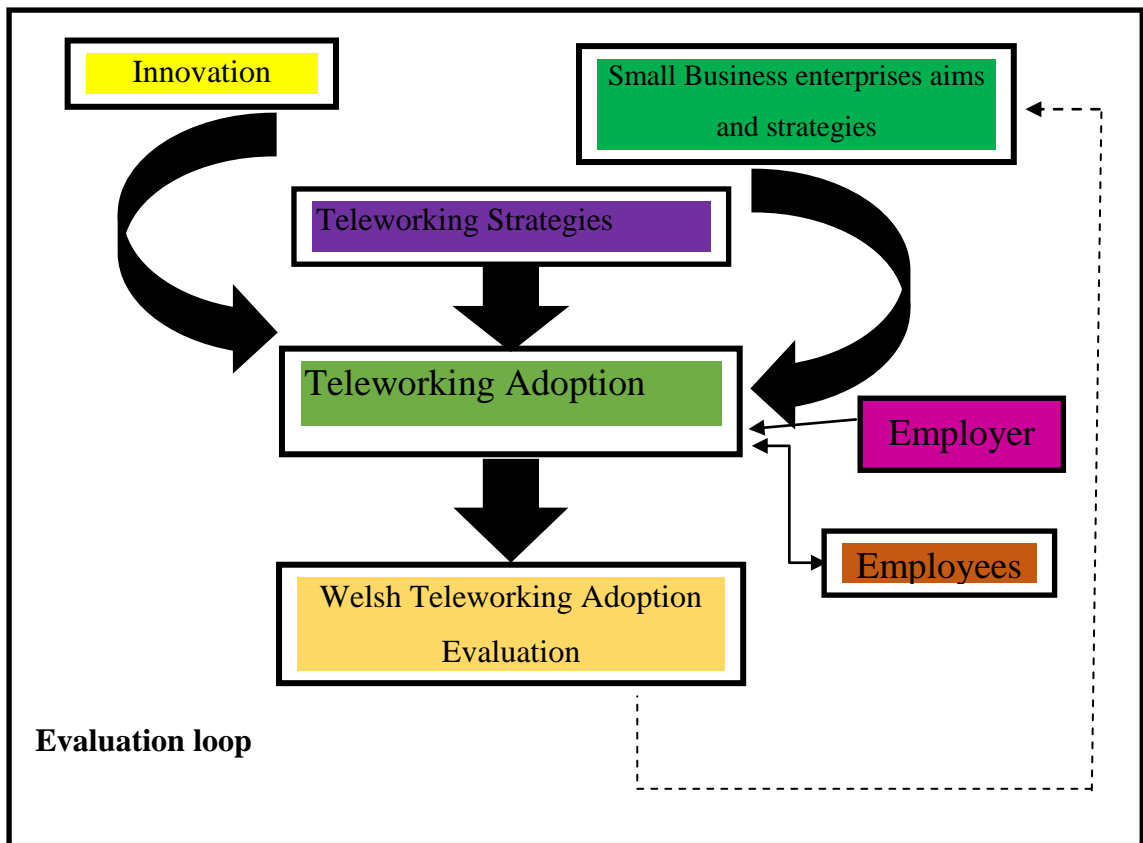
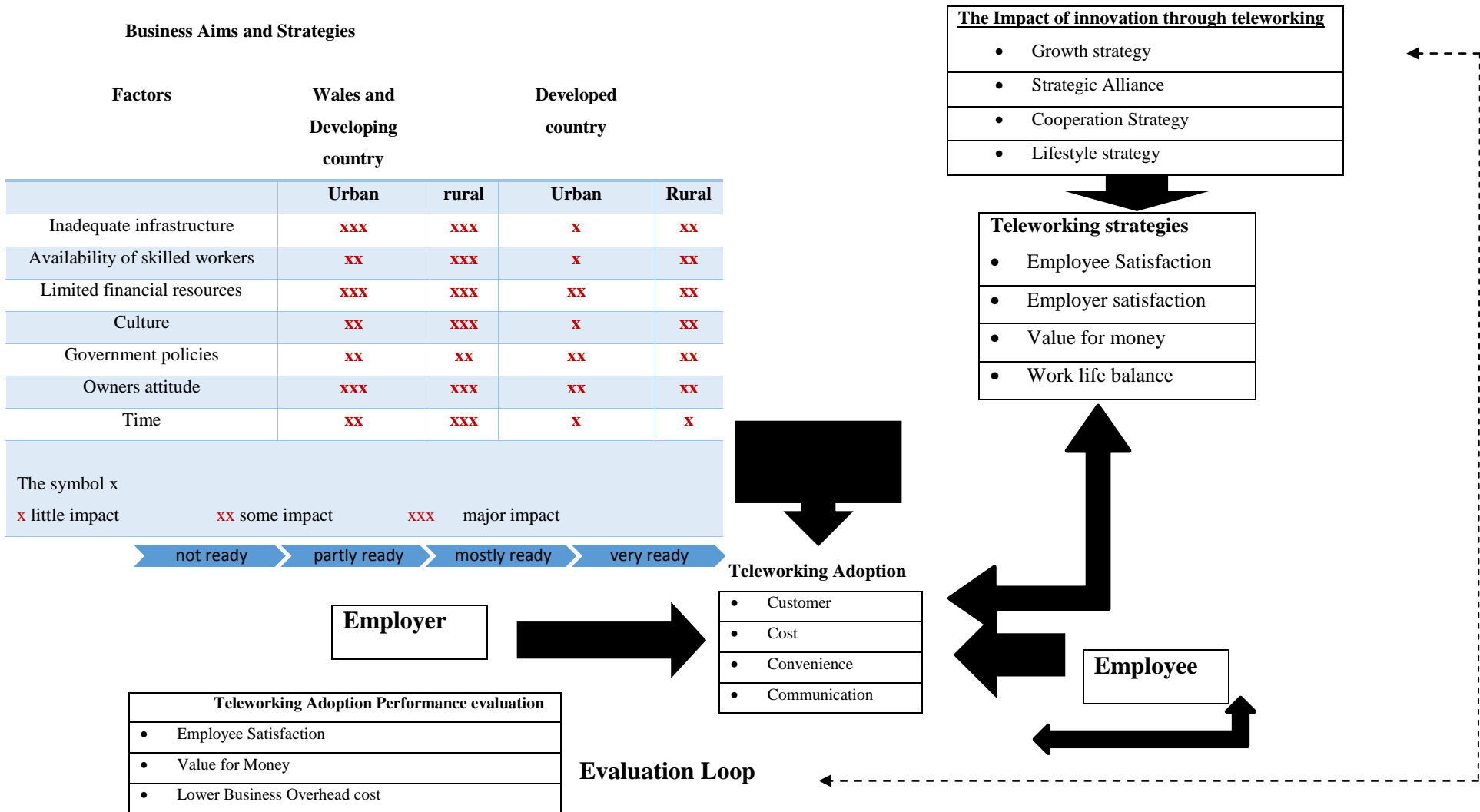


Figure 21 - A Refined Framework based on Expert Panel Feedback



7.4 Conclusion

In this chapter the main findings of the research have been presented including phase one and the expert panel. This has involved the process of gathering the experts, the expert panel involving the conceptual framework, the expert discussion, Welsh teleworking adoption and evaluation, and the formulation of the refined framework. Based upon the findings of the research the next chapter considers the phase two multiple case study that will also enhance the understanding of the study in terms of the discussion in relation to the literature and expanding the conceptual framework. This enables the findings to be placed with regard to their significance and their contribution to knowledge. The next chapter highlights Phase two and the multiple case study. It showcases how the study is carried out and speaks about locations where the research was carried out and its different stages of research progression.

CHAPTER 8
PHASE TWO/IN-DEPTH
INTERVIEWS

CHAPTER 8 :

PHASE TWO/IN-DEPTH INTERVIEWS

8.0 Phase two/in-depth interviews

This chapter describes the data collection in Phase Two. Interviews were conducted with SBE owners or managers in Cardiff and Swansea which are the two biggest cities in Wales and most of what happens in these two cities affects Wales. The data gathered in this phase was used to further refine the framework. This chapter consists of two sub-sections. The first part discusses the selection of the cities, Cardiff and Swansea. The second part of the chapter describes the selection of SBEs, how the interviews were conducted and the challenges and experiences gained by the researcher during the fieldwork.

8.1 Cross-cultural/national Research

This research involved cross-cultural studies with SBEs in Wales with a “drill down” approach to reviewing the biggest cities in Wales, Cardiff and Swansea. A small number of studies have informed this aspect of the research. For example, a study of teleworking adoption in Estonia, Ireland and Wales (Angove, 2007) highlighted that teleworking is not for everyone and every profession, industry, occupation or sector. The reality is that not all sectors will fit into the teleworking framework, however teleworking if properly implemented and applied, will offer a huge potential to deliver positive business outcomes and improved financial incentives for businesses, by reducing overhead costs and reduction in work related travel, and most importantly the ability to attract and retain quality staff in difficult labour markets. Studies in Australia and Denmark (Australia Bureau of Statistics, 2009) shared similarities and also differences in terms of owners’ characteristics, government policies and environmental factors — customer pressure and quality of ICT services. Preliminary studies were conducted by Chong (2008) in both Australia and Singapore on perceptions of small businesses regarding their experience with Internet-based e-commerce and

teleworking. Chong (2008) developed a model of electronic commerce implementation success for small and medium-sized enterprises (SMEs). There were differences in influencing factors of teleworking and e-commerce success. It was found that five factors contributed to the success of teleworking: observability, communication channel, customer pressure, supplier pressure, and perceived governmental support. For Singapore only three factors contributed to the adoption of teleworking, firm size, perceived readiness of the market, and observability. Similarly, Mac Gregor & Vrazalic (2005) conducted a study that developed a basic model of e-commerce and teleworking adoption barriers to small businesses in developed countries. In Wales, there are a large number of small businesses represented, however the government of Wales has not been able to adopt and promote a teleworking adoption programme for small businesses, rather what has been highlighted is flexible/home working which is more public sector focused than small business focused (Angove, 2007). Ariwa & Micheal (2010) in their paper, highlighted the challenges faced by businesses in establishing and promoting their business, validating the view point that more needs to be done to create a better environment for business to thrive especially by using teleworking as a business expansion and growth catalyst.

8.2 Selection of the cities

This section describes the selection of the cities in this research and will describe SBEs in Cardiff and Swansea in Wales.

A background analysis was performed before entering the field research. An analysis was conducted, particularly on the current state of affairs in these cities. According to Dawson (2009), background analysis is important to help in explaining any emerging themes. In the case of Cardiff, extensive documentation was available. For Swansea, the equivalent documents were not always available.

8.2.1 How selection of the cities in Wales was made

Cardiff and Swansea are presented as example cities in Wales that have a decent amount of SBEs. There are a number of reasons why these cities were selected. The main reason was the revised research focus on developing a framework of teleworking adoption for only SBEs in Wales. Cardiff and Swansea were selected as the research sample as they were in a convenient location for the researcher. Teleworking adoption rankings and statistics, that other teleworking active practicing cities of the world use to measure the adoption and wide spread use of teleworking in their cities, are not readily available and nearly non-existent in Wales. The researcher acknowledged that there was a limitation in using the home-working / flexible working template in understanding the telework adoption levels in small business enterprises and this is primarily because their focus has been on the public sector which is not the focus of this research, hence will not apply. Other indicators used were GDP, tele-density¹⁷ and other related ICT indicators.

For Cardiff and Swansea there was not much difference in terms of culture, religion and geographic location (55 kilo metres), local government type. However, there was a difference in the cosmopolitan dynamics even though they are both cities, Cardiff has more development over Swansea because it is the capital city of Wales and so a lot more businesses are based there. Another difference is the fact that Swansea has more rural set villages and towns than Cardiff.

The selection of Cardiff and Swansea presented a convenient choice to the researcher in terms of geographical location. Refer to Figure 22 for their geographic location.

Figure 22 - Geographical locations of the selected cities in Wales



Source: http://www.cardiff.university-guides.com/university_map_cardiff.html

Internet and broadband use which is the main catalyst for teleworking to function has not grown significantly in Wales since 2006. However, broadband take-up rose from 43% to 45% over the period and Cardiff and Swansea lead with higher broadband penetration in Wales (Cardiff 58% and Swansea 56%), (OFCOM, 2012), which highlights another key reason why this research is concentrated in these two cities.

8.2.2 The Background of Cardiff and Cardiff Telework

Cardiff is the biggest city in Wales and the capital city. It is also the tenth largest city in the UK. Cardiff hosts a lot of international organisations and businesses and is the seat of government for Wales with the Welsh Assembly situated in the capital. It is the biggest commercial centre in Wales. It is ranked as the sixth in the world in National Geographic alternative tourist destinations and the most popular tourist destination in Wales with 19.1 million visitors in 2013. Cardiff is governed by the local council called the Cardiff City Council and the city is divided into communities and they are Lisvane, Old St. Mellons, Pentyrch, Radyr and Morganstown, St Fagans and Tongwynlais. According to the last count, Cardiff has an estimated population of 350,000 in

2014 which is an increase from 346,00 in 2011 and making it the 9th largest city in the United Kingdom, making it a city with a population density of 6,400 people per square mile (which translates to 2,500 square kilometres) (Welsh Assembly Government, 2014).

Cardiff is a greatly diverse city and such a city usually has a very diverse population especially with the large number of foreign students who attend all the universities in Cardiff in addition to its historical connections on international trade and the deeply documented post-war immigration into Cardiff. The racial composition according to the 2011 census highlighted that more than 54,000 individuals are in the non-white ethnic demographic in Cardiff. The ethnic and racial composition of Cardiff was: Arab: 1.4%, Black: 2.4%, Asian: 8%, White: 84.7%, Mixed White and Asian: 0.7%, Mixed White and Black African/Caribbean: 1.6%, Mixed other: 0.6%, Other Ethnic groups: 0.6%. Migration has been attributed to the 90% growth of Cardiff and not natural growth. Cardiff is perceived as a city for the youth as it has the smallest percentage demographic of people over the age of 65 in Wales at 13%. Cardiff is not a city that places a lot of emphasis on religion going by the census feedback where the Muslim population is 4%, 19% of the Cardiff residents have no religion. However, the Roman Catholic Christian group is still the biggest population in relation to religion in Cardiff followed by the Jewish community. Cardiff used to be the biggest coal exporting port in the world, however because of the economic decline and recession in the 70's and 80's this has become a past glory with human capacity taking the "front burner" as a key Cardiff sector. Cardiff's population is just about 10% of the total Welsh economy, however it is classed as the foremost contraption of economic growth and development in the Welsh Economy. Cardiff makes up nearly 22% of the total Welsh GDP and most of the city's working population reside outside the city and daily commute on the trains from the towns that surround Cardiff and from the Valleys. Cardiff's port has faced a renaissance in recent times and in the last couple of years, more than 3 million tonnes of deep sea cargo have been processed through the Cardiff docks (Welsh Government, 2013). Cardiff's economic growth in recent years can also be attributed to the city's strategic location and as a choice business destination as the capital city of Wales for financial institutions, public administration,

business services, the health sector, education comprising of universities and colleges and all these have increased Cardiff's economic growth by 75%, making it one of the top destination cities for investment in Europe in addition to its pull to attract foreign direct investment. Major employers and companies in Cardiff include, the National Assembly, NHS Wales, SWALEC electricity company, British Gas, HBOS, Brains, British Telecom, ING Direct insurance, Legal and General Insurance, 118-118, Admiral Insurance, Principality Building society and a host of others. Cardiff is also the home to a lot of hospitality and tourist sites hence the location of a lot of major hotels in the city such as the Hilton hotel group, The Radisson blu hotel, the Marriott hotels, the Park Plaza hotel and the St David's hotel. This industry has generated over 880 million pounds for the city's economy and attracted more than 19 million visitors in 2013 highlighting the prominent role played by the sector to the economy. Cardiff also hosts a large media division that has contributed about 360 million pounds to the city economy. ITV Wales, BBC Wales, SC4 and a host of medium and large production and independent media companies, carry out their business in Cardiff (Cardiff Business Council, 2014). Cardiff city has no official teleworking adoption policy. However teleworking activity is very active in the city. According to the Office of National Statistics (2005 & 2011), the practice of teleworking was prominent in key sectors namely, Manufacturing, Construction, Banking, Finance and Insurance, Other services, Transportation and Communication, Agriculture and Fishing, Energy and Water, Education and Social services. The above list highlights the true possibility of private and public organisations implementing teleworking adoption and practice. On the other hand, the factual reality is that not all sectors and professions can adopt teleworking. However, the advantages outweigh the disadvantages because if teleworking is adequately applied, the direct positive potential will manifest in enhanced business practice, improved financial incentives and viability, reduction of overhead costs, and increased productivity. According to Cardiff City Council, there is provision for flexible working hours and home working hours, and the practice of these should not be unappreciated as it offers public city workers a certain level of stability and flexibility to plan their lives around work (Welsh Government, 2013). Teleworking in its entirety will be great to

harness officially when backed by legislation for Cardiff especially for public sector employees. One of the key aims of this thesis is to ensure that this study will be added to the teleworking body of work and recommendations and summary a will be passed to the Cardiff City Council authorities and to the Welsh Assembly to ensure that the right legislation is passed to give employees and employers better options for working in this era. The growth of ICT in Wales has progressively transformed the country towards a better knowledge based economy and society. This has enhanced the way business and work is carried out in Wales especially in Cardiff. According to the House of Commons Welsh Affairs Committee (2013), 64% of people in Wales have access to broadband ranging from 62% in urban areas to 69% in rural areas and this is below the UK average of 71% making Wales a disadvantaged zone in low ICT and broadband use which are key ingredients for teleworking to function effectively. It is hoped that the two main providers of internet and broadband ICT services which are BT and Virgin Media will be able to expand and assist in providing a better platform for a knowledge based economy that uses Information Communication Technology as a strategic driver to support and contribute to the growth of the economy. Substantial investments on communication infrastructure need to be increased for better accessibility between urban and rural areas among different segments of society. The reduction is “not-spots” areas where even though connected to the BT or Virgin service provider exchange, are unable to receive broadband. Not all customers of BT are able to receive a broadband service due to the length of the line from the exchange to the customer’s premises. According to OFCOM research in the Welsh Affairs Committee report, 16% of premises in Wales are situated further than 5km from an exchange (compared to the UK average of 13%)(House of Commons Welsh Affairs Committee, 2013).

Small business enterprises in Cardiff

Small and Medium Enterprises (SMEs) have been recognized as the backbone of Cardiff’s economy with a contribution of 20% of the Welsh Gross Domestic Product (GDP) (ONS, 2011). There are 24,400 small and medium sized enterprises in Cardiff employing over 46% of the city’s workforce (Cardiff Council, 2014). This means that SMEs are an important driver of Cardiff’s

growth. SMEs in Cardiff are mainly in the Food, ICT, Energy and Environment, Advanced Materials and Manufacturing, Creative Industries, Life sciences, Financial and Professional Services, Tourism and Construction. These sectors were highlighted when the Welsh Government Economic Renewal Programme (ERP) was established in 2010. Its key primary aim was to re-energise the Welsh economy. It was also set up to examine the rationale for a regional robust economic policy that will focus on the key sectors of the economy as highlighted. Another important focus of the Economic Renewal Programme was the examination of specific issues that affect SME progression in the sectors that have been given top priority embedded in the Welsh Government Economic Renewal Programme (ERP) (FSB, 2013).

In the Cardiff Council report on the economy and culture scrutiny report (2014), the Government committed to enhance the growth and innovation potential of SMEs. Accordingly, the Government developed several initiatives to be undertaken:

- Strengthen support systems for SMEs.
- Enhance access to financing SMEs.
- Reduce the regulatory costs borne by SMEs.
- Build capacity and capability of SMEs.
- Support the creation of an entrepreneurial culture.

Cardiff City Council acts as the central agency in coordinating any collaboration with other relevant agencies such as the Welsh Assembly that are particularly related to the development of SMEs in Cardiff. Cardiff City Council in conjunction with the Welsh Assembly coordinates and manages programmes including any funding offered by various agencies, to minimize redundancy and inefficiency as well as to keep track and assess the effectiveness of the programmes.

Many SMEs suffer with many regulatory issues, as typically, they do not often have the financial resources to deal with regulatory requirements in a cost-effective manner. Consequently, Cardiff City Council proposed exemption from some of the most costly business regulations for businesses employing

eight or less employees until the business expands beyond ten employees. The exemptions of regulations to these businesses are certain city centre tax exemptions, reduced business rates and reduced rent in council run facilities (Cardiff Council, 2014).

8.2.3 The Background of Swansea and Swansea Telework

Swansea is a small city however it is the second largest city in Wales with a population of 232,500 where 2,215 are Asian and mainly Bangladeshi (1,015), 218,000 are white, 1,195 belong to other ethnic persuasions and 300 are black (Swansea Council, 2011) 78% of the population were born in Wales (ONS, 2011). Swansea city is an area of 378 sq. kilometres with approximately 34% urban and 66% with a population density of 635 people per sq. km (ONS, 2011). Swansea is the regional centre for South West Wales and is highlighted as a centre for learning in Wales as major educational institutions are located in the city such as Swansea University, University of Wales Trinity St. David and Gower College Swansea with a full-time student strength of 20,000. Sadly, 12% of Swansea's local areas fall within the top 10% most deprived in Wales according to the 2014 Welsh Index of Multiple Deprivation (Welsh Government, 2014). GVA (Gross Value Added) per head is £17,445 in Swansea which is 3.3% above the Welsh level however 25.4% below the UK average (ONS, 2015). Some statistics of note about Swansea are highlighted such as that the average (median) earnings for full-time workers in Swansea stand at £504.80 per week – which is £25.40 above the Wales equivalent (ONS, 2014). Some 106,000 people work in Swansea, mostly (89.0%) in the service sectors with 30.9% (32,800) employed in the public sector, with an estimated 29,300 people commuting into Swansea every day (ONS/WG, 2013). According to the Office of National Statistics (2015), 75% of Swansea's working age (16-64) residents are economically active, with 107,000 in employment (67.9% of working age), however, 8,800 people (7.8% of the economically active population aged 16 and over) are unemployed (ONS, 2015).

Teleworking in Swansea is not defined as it does not have a formal adoption policy, however what occurs in the public sector and particularly by Swansea

City Council is 'homeworking' which is a type of work pattern limited to the home environment using information technology, however not the same as teleworking that is a form of work pattern carried out anywhere and not just in the home using information and communication technology. Sadly, teleworking is not seen as a "front burner" innovative form of work by the policy makers in the city going by the lack of a formal policy initiative in the private or public sector in the city. This may be linked to the words of David J. Skyrme as far back as in 1993 where he opined in his work on Teleworking - achieving the business benefits, saying "... *The need for management attitudes to change, particularly among middle managers. This, in the opinion of many, represents the single most important hurdle to overcome. Traditional organisation hierarchies engender cultures built around position, status and control. Teleworking needs a culture of delegation autonomy and empowerment in which to thrive. Workers must not be told how to carry out tasks but have the authority and responsibility for planning and monitoring their own work. Many middle managers feel uncomfortable about not seeing and closely supervising their workers. There needs to be a shift from management by input (hours at work) to management by output (managing by results). These issues like many of the other problems that arise in this category, are symptoms of poor management 'systems' and the organisation of work. These include not having people around to cope with unexpected changes in workload. On the other hand, a teleworker doing concentrated work at home is generally more productive than a worker in the office who is constantly interrupted or confronted with changing demands. Teleworking requires a basic rethink of some key aspects of work management – assigning and changing work priorities, communication and message routing, handling information, support services*" (Skyrme, 1993).

The government in Swansea has embraced a lot of e-government programmes that enhance their small and medium enterprises through e-business, enabling the provision of high quality online customer service, and building human and institutional capacity in ICT applications (Swansea Council, 2014). Nevertheless, the adoption of SMEs in ICT is still limited as it is mainly limited to email and productivity applications only and not as a working pattern. It is the hope that this thesis will inform the policy makers on the need

and importance of the adoption of teleworking as an innovative tool to enhance business performance and ICT appreciation in the region.

Small business enterprises in Swansea

The Government has recognized the contribution of small and medium enterprises to economic growth. SMEs have become a major player in industrial development and have great potential to contribute towards a diversified economy in Wales. Swansea Council has developed several initiatives to boost SMEs' growth, such as financial assistance schemes, access to grants, and business counselling, which includes training and workshops, seminars and consultation. However it is important to understand the importance of small business enterprises in Swansea in the context of Wales. To quote directly the words of Davides (2013) *"...it is positive to note that there were an estimated 210,700 enterprises active in Wales in 2012 – the highest estimate since the data has been collected – and these businesses are employing an estimated one million people. The much-quoted headline figures remain largely unchanged, showing that 99% of businesses in Wales are SMEs, 95% of which are micro-businesses employing up to nine people. Around 60% of private sector employment in Wales is with SMEs, more than one-third of which is with micro-businesses. The contribution of our SMEs to the Welsh economy must not be forgotten or their vitality left to chance and delivery on the ground is key for the Welsh Government.Continuing to overlook the needs of Wales' SMEs in favour of a misguided and out-of-date infatuation with key sectors or chasing elusive foreign direct investment alone will not help the economy of Wales. The Welsh Government's own statistics show that much of our economic prosperity rests with SMEs and this is where its focus should lie"*.

In view of the above quote and highlighting the deep importance of SMEs to the Welsh and directly to the Swansea economy, Swansea council has undertaken several initiatives to support the development of SMEs and they include:

- **Swansea Enterprise Park**

The Government developed a park with a retail, industrial and business setting to drive businesses to open in the park for major patronage. It is a hub of sorts that houses a lot of SMEs.

- **Business funding**

This is a grant that is used to give SMEs a quality building front to enhance the looks of the city. It is called the **Building Enhancement Programme** (BEP) and it is disbursed on a case by case basis with consideration for the environmental and economic framework of the projects. Items eligible for the grant include signage, roofs, shop fronts, building façade and professional status. There is also the **Local Investment Fund** where businesses in Swansea through a local investment fund, benefit from a grant for business support in order to grow and expand. Funding of up to £5,000 is given to 400 new start-ups and 1,400 existing businesses.

- **International trading opportunity**

The city of Swansea designed trading links in conjunction with the West Wales Exporters Association to partner with a number of countries such as China, Sweden, Denmark, France, and Ireland to encourage an increase in international trade and enhance international business opportunities between countries. First time and experienced exporters are given an opportunity to interact all year long with events and meetings hosted by the city to enhance this objective.

- **Apprenticeships**

The apprenticeship scheme of Swansea City Council is used to target young people and adult learners on how to train in a real job, gaining the needed qualifications and experience in order to lay a solid foundation for their future. A minimum wage is paid to the apprentice in the city to ensure that apprentice's basic needs are met. It takes between one and four year to complete the programme. The city has partnered with colleges in

the city to ensure that a certificate is issued after the training (City and County of Swansea, 2014).

8.3 The selection of small business enterprises

The participants in this phase of data collection were small business owner/managers of small business enterprises. The participants were selected from urban and rural areas in order to gain comprehensive findings for revising the framework. The main criteria used in selecting the participants were that the enterprise uses teleworking to run their business and reach their clients and target market. In addition, the enterprise also needed to fulfil two other conditions in order for them to be eligible in this study:

- have less than 20 employees
- an independent business that does not belong to another company or subsidiary

The selection of enterprises was conducted using the assistance of The Telework Association UK. The Telework Association is a not-for-profit charity organisation that is funded by some commercial sponsorship and membership subscriptions. There is no government funding of the Association. It was founded to assist corporate and individual members in their implementation of telework. Founded in 1992, the Telework Association was established to support organisations and individuals that practice and implement this form of work. *“The practice of teleworking has grown slowly whilst the technology has changed dramatically”* (Borrett, 2011). The Telework Association has a database of companies and businesses that practiced teleworking and this came in very handy and useful as it listed a host of small business enterprises that fit the demographic of the research. In addition to the database sourced from the Telework Association, I was able to tap into a research project I was part of in 2007 with the European Union called the Equinex project titled as the “Comparative study on the concept and practice of teleworking in Estonia, Ireland and Wales – UK” and reviewed my database on some Small and Medium Enterprises in Swansea and Cardiff and

it was a good resource because of the Small Business Enterprises directory that the research had presented. I was able to follow up and leverage on those business contacts for the purpose of this study. The multiple directory source for small business enterprises in Cardiff and Swansea was able to create a more robust framework for business contacts and tap into their experiences.

8.3.1 Overview of the selection of small business enterprises

The interviews were conducted between 19th April 2013 and 26th June 2013. The first batch of interviews (five participants) began in Cardiff on 19th April 2013 and ended on 27th April 2013. Later, on May 18th 2013 the second batch of interviews followed when the researcher headed to Swansea, for data collection (five participants). Finally, the third batch of interviews (eight participants) continued after the researcher returned to Cardiff; these began on 26th May 2013 and ended 26th June 2013. As per Purcell et al. (2004) data gathered from the selected participants were through the interview method and the invitation emails were sent to invite selected participants to participate in this study.

In order to avoid language bias, provisions were made for the interview to be conducted in two languages English and Welsh to accommodate potential Welsh speakers and to provide options for participants, however there was no need for that eventually as there were no Welsh speakers in the group interviewed in Cardiff and Swansea. Introductory emails, which have the possibility of creating a bias, as they may be ‘Internet enthusiast’, were then sent to the potential participants. However, it is almost impossible to avoid the perspectives of this group emerging, especially when contacting participants through the Internet (Menou, 1999).

The researcher was looking for small business enterprises in urban and rural areas. To achieve this target, invitation emails were sent based on group. The purpose of this method was that it was easier for the researcher to manage the responses and determine the group of responses either urban or rural areas of small business enterprises. Each batch of invitation emails consisted of ten

potential participants. The next three sections will explain further details on the selection of participants from Cardiff and Swansea.

8.3.2 Selection of Cardiff Small Business Enterprises

A large number of email addresses were gathered from the Telework Association and European Union funded Equinex project database business Directory of SME Information and commercial businesses archives. Nevertheless, the researcher needed to verify if the selected enterprises were still in existence as small and medium business enterprises evolve a lot and go through multiple changes of identity, address, structure and focus (FSB, 2013). A total of 30 invitation emails were sent to the potential participants. However, five of the emails bounced back due to invalid or discontinued email addresses. Some of the potential participants used third-party email addresses such as Yahoo or Hotmail that became invalid email addresses when they had not accessed the email account for a certain period of time. The online tool (www.checkdns.net) was used to identify the validity of email address/domain. The delivery problems related to the domain could be traced by this tool. Figure 23 shows an example of a response from the Domain Test tool.

Figure 23 - Responses from the Domain Test Tool

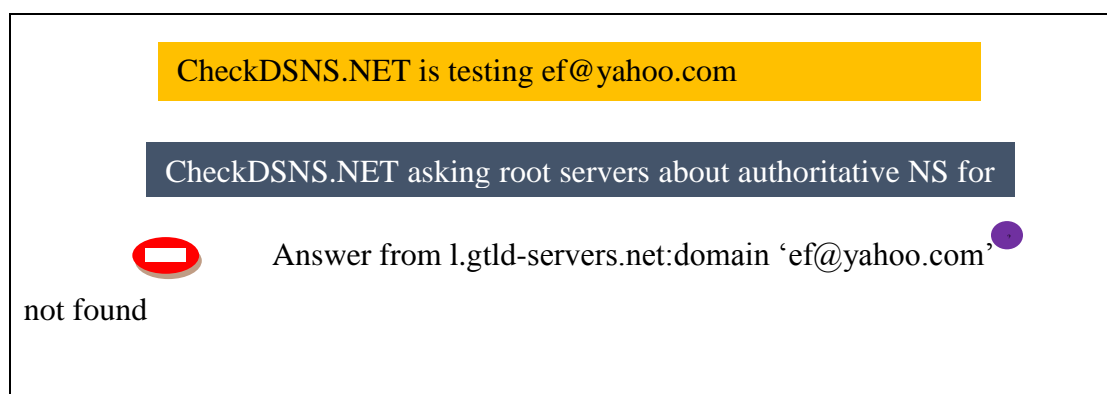


Table 13 below indicates the response rate of the emails (the number of emails sent, the number of emails that bounced back and the positive responses).

Table 13 - Summary of Cardiff response rate

Items	Quantity
Number of Invitation Emails sent	30
Positive Responses Received	13
No Response	12
Invalid Email Addresses	5
Actual Interviews Performed	10

Figure 24 illustrates geographically the location of the small business enterprises where the interviews took place. As observed, the interviews were conducted in Cardiff Bay.

Figure 24 - Map of Cardiff



Source: <http://www.keytothecity.co.uk> (2014)

In this research five rural and five urban small business enterprises were selected to be interviewed. Most of the small business enterprises selected were micro- sized businesses (less than five employees). The selected small business enterprises were from the inner city/ city centre area. For rural areas, two different areas were selected: Cardiff North and Vale of Glamorgan. These areas are classed as rural because of the country life living around them and the expanse of farm land and farmers in the area. Rural areas in the Vale of Glamorgan are situated about 14km outside Cardiff city centre.

Urban areas involved one respondent from Cardiff West, three from Cardiff city centre, and one from the Cardiff Bay area. As observed, participants from urban areas were based in the city. All the urban locations could be accessed by air or land.

Meanwhile, the rural locations could only be accessed by land i.e. train, bus or car.

Table 14 displays the profile of selected Cardiff small business enterprises. It consists of their location, type of services, the category (urban or rural) and their ID, which will be used for referring to the business.

Table 14 - Profile of Cardiff Small Business Enterprises

Numbers	Location	Services	Category	ID
1	Cardiff North	Inbound Travel Agent	Rural	CR - Tour (01)
2	Vale of Glamorgan	Adult sex worker	Rural	CR - Sex (02)
3	Cardiff Bay	Graphic Designer	Urban	CU -Graphics (01)
4	Cardiff West	Call centre manager	Urban	CU - Call (02)
5	Cardiff North	Public Relations manager	Rural	CR - PR (03)
6	Vale of Glamorgan	Life coach	Rural	CR - Coach (04)
7	Cardiff North	Website Designer	Rural	CR – Website (05)

8	Cardiff city centre	Business Administrator	Urban	CU – Admin (03)
9	Cardiff city centre	Information Technology support technician	Urban	CU - I.T. (04)
10	Cardiff city centre	Fashion Designer	Urban	CU – Fashion (05)

8.3.3 Selection of Swansea Small Business Enterprises

Email addresses were gathered and invitation emails were sent to small business enterprises in Swansea. The invitation emails were sent accordingly based on group. For the first group, ten invitation emails were sent and only one participant was interested in participating in this research. Thus, the researcher made an effort to send more invitation emails to the second group in order to receive more responses. From the second group, two positive responses were received. The researcher decided to create a third group invitation email to meet the target of five participants. Finally, five participants agreed to participate in this research (after three groups of invitation emails were created) out of the total of 31 invitations.

Table 15 shows a summary of the Swansea response rate (the number of emails sent, the number of emails bounced back and the positive responses).

Table 15 - Summary of Swansea Response Rate

Items	Quantity
Number of invitation emails sent	31
Positive responses received	6
No response	20
Actual interview performed	5
Invalid email addresses	5

Five Swansea participants participated in this research. As Swansea is a small city, these participants were randomly selected either from urban or rural areas. The Swansea participants were very cooperative and welcomed the researcher for the interview. Some of the positive responses from participants were:

“Hi, first of all we would like to thank you for your interest in interviewing us. We are very happy to receive your visit at our premises. Hope that you could inform us in advance (date and time) in order for us to prepare for your visit”.

“Sure no problem, SMS me first before you come and appreciate you don’t come during 12am to 2pm as it’s my lunch break. My handphone: xxxxx. Thanks!”

“Hello, No problem, always happy to help. I should be available anytime in the day would be fine but I am just busy this Friday and Saturday 22nd and 23rd May. Hope to hear from you soon.”

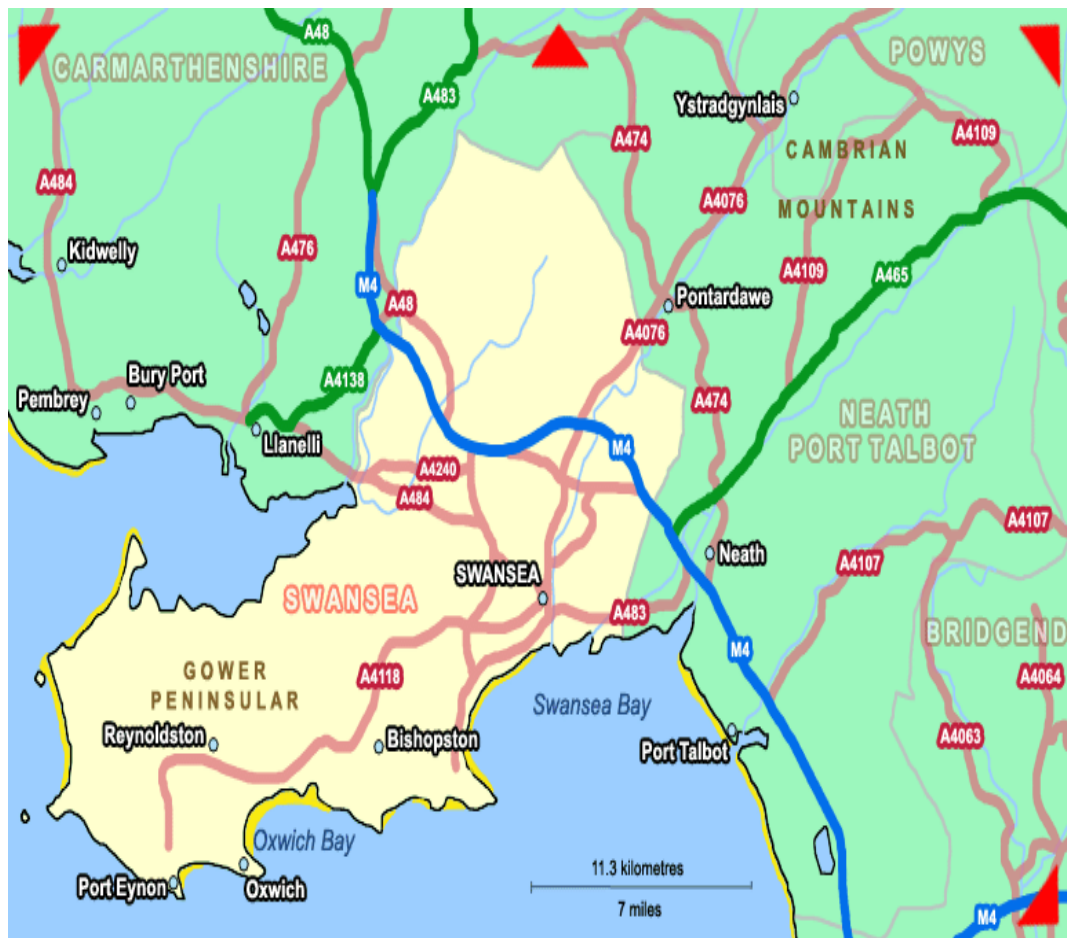
Swansea is a small city (figure 25). Swansea is divided into four districts: North Swansea which is the Lliw uplands with open moorland bordering the Black Mountain. The west with the Gower Peninsula with a rural flavour of farms and villages. The east houses Swansea Bay which is a coastal area and urban in nature. Then Swansea city centre which is south east to North West of Swansea stretching through the middle of Swansea. For this research, participants were from Swansea city centre(four participants), and Gower bay (one respondent). Swansea bay and Swansea city centre houses the majority of the population in Swansea. It is a “melting point” for a lot of businesses and bustling with business activities and people. The Gower Peninsula is the first area in the United Kingdom to be designated ‘An Area of Outstanding Natural beauty’, and has a rural setting with great picturesque nature (City and County of Swansea, 2015).

Table 16 displays the profile of selected Swansea small business enterprises that consists of their location, type of services, the category (urban or rural) and their ID, which will be used later in the discussion.

Table 16 - Profile of Swansea Small Business Enterprises

Numbers	Location	Services	Category	ID
1	Swansea City Centre	Learning development administrator	Urban	SU - Learning (01)
2	Swansea City Centre	Architect	Urban	SU – Architect (02)
3	Swansea City Centre	Bakery	Urban	SU – Bakery (03)
4	Swansea City Centre	Adult Sex Worker	Urban	SU - Sex (04)
5	Gower Bay	Tourist coordinator	Rural	SR - Tour (05)

Figure 25 - Map of Swansea



Source:

http://www.walesdirectory.co.uk/maps/Map_of_City_of_Swansea.htm (2012)

8.3.4 The conduct of the interviews

The interviews started in Cardiff with four interviews. The researcher then decided to commence the interviews with Swansea small business enterprise owner/managers even though the interviews in Cardiff were not yet completed. The main reason the researcher had to speed up the interviews with Swansea small business enterprises owner/managers was because it was summer time and a lot of the participants had family and children on holiday hence the need for them to go home early. Thus, half of the interviews with Cardiff small business enterprise owner/managers were conducted after the interviews in Swansea were completed. The selected participants were contacted by email to organize interview times. However, some of the participants were contacted via a telephone call, as there was no response to the email. The interviews provided a challenge to the researcher as some of participants changed the appointment schedules, which required the researcher to rearrange the appointment date. Due to tight schedules or being unable to allocate time for the researcher to visit the premises, a few participants requested to be interviewed over the telephone. Davidson et al. (2006) indicated that telephone calls have been used as a back-up in other small business studies.

In Cardiff, two of the participants agreed with the appointment date. However, when the researcher arrived at his/her business premises, he/she was away in the city. This required the researcher to reschedule the appointment, which was initially in the morning, to the evening. There were three participants that agreed to be interviewed but they were unable to be contacted (emails and telephone calls). They had stopped corresponding with the researcher, were away (meetings and/or holidays) or were busy with business operations.

Nevertheless, the researcher received positive responses from the Swansea participants. They were very welcoming of the researcher to visit their home premises. One of the participants was prepared for the researcher's visit and welcomed the researcher to visit his office as well. While visiting their office,

the researcher was able to see and gain further information on how the business operated and how teleworking assisted his business to do better. The researcher had also been given an opportunity to try some of the products as well. The participant also invited the researcher to a home cooked lunch which was enjoyable and very kind. It assisted the researcher to ask a lot more questions in an informal setting and the participant was more open. Public transport was erratic and expensive if one needs to take a taxi in that part of Swansea as most of the people in that area have their own means of transport. It was difficult to access public transport, however, one of the participants assisted the researcher to move around in the city and assisted the researcher to reach the train station after the interview session ended. The participant was a friendly person and also provided the information on places of interest in Swansea. Another Swansea participant requested the interview to be conducted over the telephone as she was on maternity leave at that time. The particular interview was accordingly conducted over the telephone. Research in Wales sometimes runs into language barrier challenges as some part of the population in the cities are Welsh speaking, however, for these interviews there were no language barriers, as the researcher is fluent in English, and the participants were able to speak and understand English for the interviews.

In this research, semi-structured interviews were applied. A set of semi-structured interview questions were developed and generally the interview questions were derived based on the refined framework from Phase One (attached in Appendix Two). There were no time restrictions for the participants to speak in the interviews. During the interviews, the researcher probed or asked questions to gain more detailed responses on particular issues. The interviews ranged in length from 30 minutes to one and a half hours. The longest interview was with a participant in which the interview session was disrupted by his staff with queries pertaining to office matters. The researcher was conscious of not occupying more of a participant's time than was necessary.

8.4 The summary

This chapter discussed the structure behind the interview sessions in the second phase of data collection. The chapter explained in detail how the selection of the cities was made and provided overviews of the selected cities' economic development and the development of SBEs. The description of the order in which this research was carried out was to ensure that a proper documented and detailed process is outlined and due process and ethics were followed. The following chapter will discuss in detail the data gathered in the field of research conducted in Cardiff and Swansea.

CHAPTER 9

PHASE TWO/DISCUSSION

AND ANALYSIS OF IN-

DEPTH INTERVIEWS

CHAPTER 9 :

PHASE TWO/DISCUSSION AND ANALYSIS OF IN-DEPTH INTERVIEWS

9.0 Phase two/discussion and analysis of in-depth interviews

This chapter will discuss the data gathered from the interview sessions with Cardiff and Swansea owners of SBEs in phase two of the data collection. The chapter will provide an insight into how these interviews were conducted. The first section of this chapter will present the findings gathered from interviews with Cardiff and Swansea SBEs. The analysis of the findings will be discussed in the second part of the chapter. Finally, a summary of the second phase of the data collection will be discussed.

The structure of the discussion will be as follows:

- Summary of each interview
- Discussion of Innovation factors
- Discussion of Small business aims and strategies
- Discussion of Teleworking
- Discussion of Teleworking adoption performance evaluation
- Reflection and presentation of the final framework

9.1 Overview of the field interviews in Cardiff and Swansea

This section summarizes the researcher's field journal of the actual interviews in Cardiff and Swansea. It discusses how the interviews involving different cities, mind-sets, cultures were conducted. Pseudonyms are used when discussing the interview data. The first pseudonyms refer to the name of the city. For instance, C: Cardiff, S: Swansea. The second pseudonym refers to the location of the business, either urban (U) or rural (R) areas. The third pseudonym displays the type of business. The fourth pseudonym shows the sequence of the interviews. For example, a fictional business name is "Red Travel and Tours", located in a rural area of Cardiff, would be referred to as CR-Travel (01) (if it was the first interview). The same type of pseudonym

will be used if the name of the fictional business is Sweet Bakery”, located in an urban area of Swansea (and it was the second interview). It will be referred to as SU-Bakery (02). The next section will discuss the interviews conducted in Cardiff and Swansea.

9.1.1 Interviews in Cardiff

The list of potential Cardiff SBEs was gathered from the Telework Association database and the Equinex European Union funded project on Teleworking in Cardiff and Swansea. Based on the gathered list, 30 invitation emails were sent to potential participants. The potential participants needed to meet certain criteria for this study: a business that uses ICT with focus on the computer and internet in their operations, employs less than 20 employees and is independently owned or partly owned. Out of 30 invitation emails, 13 positive emails were received. However, only ten interviews were performed in this study as three of the participants withdrew at the last minute. Participants were from various parts of Cardiff – urban and rural areas. As the interview locations were from various parts of Cardiff, some of the interviews required the researcher to travel by car or to take the train or bus to their locations.

For the interview session, the researcher tried to make the session quite informal and make contact with the participants before the interview. The researcher then allowed them to select the interview’s time and venue based on their convenience. The researcher believes that it is important to provide an opportunity to SBEs to choose a convenient time and venue as they are usually busy and conduct more than one task in a time. All of the interviews in Cardiff were conducted in the English Language as most of them preferred to do so and there were no Welsh speakers amongst those interviewed. Most preferred the interview sessions not to be recorded.

The researcher believes that they felt that if the interview had been recorded, they would not be comfortable to share their business experience. Only one respondent allowed the interview to be recorded.

The majority of participants were aware of the benefits of the adoption of teleworking for their business and tailored their business according to customer needs and wants. Cardiff SBEs that participated in this study were open to share their business experiences with the researcher. A few participants were not from business backgrounds but they were involved in business due to their passion. One participant who was interviewed by the researcher had managed to buy his own house above the business premises in order for him to monitor and manage his business (fashion designer) at the same time. His wife sometimes acts as a part-time tailor at the fashion shop if there is any event that requires them to add extra hands to finish a large tailoring order, which helps him to reduce the cost of hiring a tailor. This situation provides an insight into the challenges faced by SBEs, particularly for long-term survival. The interviews in Cardiff began on 19th April 2013 and were completed on 26th June 2013.

Details of each interview are as follows:

Interview with CR-Tour (01)

The first interview in Cardiff started with an interview session with the owner of an inbound tour operator. The business was located in Tongwynlais which is located in the River Taff valley and is about 8 km north of the city centre in Cardiff and is seen as a rural extension of Cardiff as it is considered the entrance to the valleys in South Wales. It is surrounded by a big forest called Forest Fawr and some hills to the east. It is seen as a part of Cardiff that creates a rural balance for the city and is definitely part of the Cardiff North rural area and houses a football club, rugby club, golf course, several shops and pubs and a famous landmark Castell Coch by its hillside. The legendary Welsh Taff Trail cycling route passes through the village and hosts quite a number of tourists. The name Tongwynlais came from the word Ton which means field and Gwynlais being a local family and interpreted as Field of Gwynlais.

The interview with the owner of CR-Tour (01) lasted for 45 minutes. The owner was one of the well-known travel and tour operators in that particular area. The interview took place at his business premises. For this interview

session, the owner offered tea and biscuits which were accepted and the owner said he was happy the researcher accepted the refreshment as that showed he was a hospitable man. The interview ran smoothly but sometimes it was interrupted by his staff, who needed his attention to deal with certain matters. This was because the interview was conducted around a busy time of the year which is when the summer holiday makers travel and need his assistance especially with booking problems or hotel issues, thus it caused a break in conversation. He introduced the researcher to employees that practice teleworking because they have young families and need to work from home and in holiday destinations when they go on tours.

The CR-Tour (01) website mainly provides information on the services that they currently offer to the tourists, travellers and holiday makers. The owner explained that the purpose when he decided to develop his business website, was to cater to the domestic and international markets. He commented that since he has his own business website, he is able to introduce teleworking as a working practice because it gives him and employees the opportunity to work in different locations away from the office. He initiated his own business website two years after he opened the business as he was enthusiastic about the benefits of ICT and how teleworking can be incorporated into it. The interview was conducted in English Language.

Interview with CR-Sex (02)

The second interview was conducted with a sex resort owner, located in the biggest town in the Vale of Glamorgan which is called Barry. Barry is one of the towns that are part of the Vale of Glamorgan. Other towns in the Vale include Penarth, Llantwit Major and Cowbridge which are all in rural Vale of Glamorgan. It may come across as strange that a sex resort owner will be interviewed for this process and stage, however it is interesting to note that teleworking is deeply practiced in this line of work. The interview appointment was made on the selected date; however, it had to be re-scheduled due to the owner having a few urgent issues to attend to. The re-scheduled appointment was made for the following day. The researcher

arrived at his resort late afternoon and was welcomed by the owner. The owner was an open, chatty and friendly person and was enthusiastic in running her business. The owner shared with the researcher her business experiences in terms of owning the business and how she makes an effort to sustain the business. The owner also indicated that she took the initiative to learn by herself how to develop the business by introducing new ways to reach clients and meet client needs. This was highlighted by the owner showing the researcher how couples or individuals come to the resort for different services such as sex addiction treatment, sex lessons for couples and an active website where different women cater to the needs of men in different parts of the world using teleworking.

The CR-Sex (02) website mainly displays information concerning the business, facilities, and services offered. The owner decided to develop her own business website with the purpose of catering to a wider segmentation, particularly from outside the Vale of Glamorgan. Her staff can sign up to her business site and customers can log on to speak or view anyone on site. The local people prefer to make a telephone call to make a booking or visit the sex resort personally (especially for social events or for sex advice or therapy) before making a booking, however the vision of not just running a local business but an international brand that can be assessed by everyone in Wales and the United Kingdom, is one that the owner articulated and executed. The interview with the owner lasted for 50 minutes.

Interview with CU-Graphics (01)

The interview with CU-Graphics (01) was conducted after the researcher came back from Swansea for the data collection. The owner was a fresh graduate from a local university who had decided to set up a business, which was opposite from her academic background. Due to a strong interest in graphic design and business, she decided to become seriously involved in the industry. Currently, she is not only designing documents and materials but also her own designs for sale and conducting graphics classes.

Her business website displays a variety of designs, logos and graphic material, which the customers may browse and select before they place an order. On her website, there is also a timetable that shows the availability for customers to make a booking for their logos or other items. The owner also offers a delivery service to customers, which they prefer. The website is interactive and has a picture of each type of graphic material. The owner received positive business support from employees and the local businesses that patronise her, as not many businesses offer this kind of business in Cardiff because of her business availability 24 hours of the day in Cardiff. The interview was conducted in the office of the owner and lasted for 45 minutes.

Interview with CU-Call (02)

The interview with the owner of CU-Call (02) was held at a small café, close to the owner's business premises. The owner preferred the interview to be conducted in a casual mood, as his business premises were quite busy with some renovations were going on to redesign the building. The business premises of CU-Call (02) were located in one of the prime business areas in Cardiff. The owner graduated in engineering and worked as an engineer with a local engineering firm before he became a full time call centre owner. Previously, working for a call centre was seen for the owner as a holiday job and a job to save money for holiday trips but it turned out to be his career after he decided to quit his job.

According to him, the first time he stepped into the business, he did not have much experience managing and organizing the company himself. He had to struggle to get client's confidence with his abilities to handle a call centre of this nature. When he started the business, he could not afford to rent business premises and worked from home. As time went by, he managed to gain the confidence from the public and potential clients. All his hard work paid off as now he has his own call centre and works with diverse partners through teleworking to move his business forward.

The interview lasted for 45 minutes. The CU-Call (02) structure is described on a simple website, which shows the list of businesses represented as clients

of the owner and also details of how employees log in and take calls via the website of the company. The display showcases the potential of the business and how it is structured where employees can be in the comfort of their homes and receive phone calls from customers and deal with their enquiries remotely or from any location in order to showcase the unique way business is done and carried out.

Interview with CR- Public Relations (03)

The interview with the owner of CR-Public Relations (03) was supposed to be conducted at her business premises in Cardiff. However, the owner preferred the interview to be conducted in London as the researcher and the owner (on a business trip) were in London at the same time. This was convenient for the researcher, as the researcher was in London for a research conference at the time and so it worked perfectly for both parties. The interview was conducted at the hotel restaurant where the owner stayed. The owner was a friendly person and very supportive during the interview session.

The owner was new in public relations when she started her business in July 2010. She decided to have her own public relations business immediately after she quit working for a newspaper company as she realised that there are organisations and individuals that run their small businesses and have no public relations framework. She commenced her business due to the current trend of public relations and the rise in legal issues and compensations being paid by companies unjustly as there was no one speaking up for them and expressing their viewpoint. She believed that marketing her clients online with her website enabled her to reach her clients in a deeply bespoke way and it was easier for her to manage public relations orders from the customers and revolutionise the costs and ways businesses see and perceive the role of public relations. Her business website displays the various types of services offered to the customers and the price of the services offered. According to the owner, public relations on pushing the companies' view points and giving organisations a voice especially in an age where customers feel they can sue or ask for compensation unjustly and in the age of new media with twitter,

Facebook and Instagram, attract the highest demand compared to other services. The interview lasted one hour.

Interview with CR-Coach (04)

The manager of CR- Life coach (04) was a counsellor in Scotland but moved to South Wales to run his business. Nevertheless, the interview was conducted in rural Cardiff and weirdly conducted in a client's business premises as that was the only time available to the business manager. According to the manager, his parents owned the business and he just took over managing their family business. The manager had graduated in Psychology and Guidance Counselling Management, which aligned with the nature of his business.

The website was newly developed after the manager took over the business management. The purpose of setting up their own business website was to cater for a wider market as well as to promote their business. The manager believed that having a business website allowed them to stay competitive in the market as nowadays most people prefer to get basic information via the Internet before making an order, calling or scheduling a life coach session for further information regarding the products or services. The interview lasted for 40 minutes.

Interview with CR-Website (05)

The interview with the manager of CR-Website designer (05) was conducted at her business premises. The manager was a fresh graduate in website design management from a local university in Cardiff. According to the respondent, the business was owned by her parents who had run the business to a point where they were not progressing much anymore, hence the transfer of the business to the manager who changed the face of the business. The business premises were located approximately 20 kilometres from Cardiff city centre in the rural part of Cardiff. According to the manager, her father had struggled to survive in the business.

In order to stay competitive in the market, the management decided to develop their business website. They believed that they were able to provide more information to their potential customers and it also allowed them to reduce their marketing costs. The manager also stated that they have to keep up to date with the latest technologies and colour coding for websites, as, nowadays, many young people and businesses are more interested in bright and appealing sites to attract new business. The business has a number of website designers under their business label that interact in remote locations via the business website. The interview lasted 50 minutes.

Interview with CU- Admin (03)

The interview was conducted at the owner's business premises in Cardiff city centre. It was a small office owned by a hardworking lady. The business location of CU-Business Administrator (03) is in one of the prime business areas in Cardiff city centre. Previously the owner was a housewife and working from home as a cold calling online sales agent. However, due to her passion for business, she decided to open her business premises with the hope that she could gain more experience and expand her business.

Her business was particularly focused on sourcing for specialists through the submission of videos, social media and review of CV's. She decided to develop her business website after she realized it was the current trend in marketing the business. The customers do not necessarily need to visit her business premises for consultations. The owner of CU-Business Administrator (03) was an optimistic entrepreneur as she was always updating herself on the latest trends in head-hunting specialists. According to the owner, it is important for her to provide the best service to her customers, as by doing so she is able to maintain a long-term relationship with the customers. Perhaps the word-of-mouth from satisfied customers also helps to promote her business. The interview lasted for 45 minutes.

Interview with CU- I.T. (04)

MU- Information technology (I.T.) (04) is a business that offers solutions to customers that need information technology solutions for some of their business challenges. The interview with the owner was conducted at his business premises. The business premises are located in the business area in Cardiff Bay. The researcher spent some time to study the map to locate the premises, as he was not familiar with the location. The owner was a friendly gentleman and very welcoming of the researcher's visit. According to the owner, previously he was a computer technology expert at Admiral Insurance (one of Wales biggest insurance companies). After his wife had her third baby, he decided to quit his job and focus on supporting her and his children. However, being a working dad before made him feel bored staying at home. After being tutored by his brother on information technology online business operations, he made an effort to study more on his own concerning how to start a business. He struggled during the first phase of the business, but he received full support from his family. The main reason he started the business online element, was that he was able to work from home and have more flexible time for the family. The online business went well and finally he decided to merge the online element and own business premises to expand his business.

According to the owner, he represents authorized dealers to sell their products. He also receives the orders to advise, repair, maintain and service computer components based on customers' needs. The business also adds to its product range from time to time. Currently the owner is waiting for his business trademark registration. The interview session lasted for one hour.

Interview with CU-Fashion (05)

The appointment with CU-Fashion (05) was supposed to be conducted at her business premises. However, the interview was held during the lunch hour at a café. According to the owner, she received many emails asking about her products. Having a 'click and mortar' business,²⁰ she needs to manage her time, particularly in managing the orders from online customers, preparing to

package the orders and posting the orders. The owner stated that being involved in the apparel business she needs to be aware of the current trends and fashions. The price offered must be competitive in order to compete. This was because the customers might shift to another online store that may offer better products and prices. Therefore, the owner has to build a good reputation with her customers in terms of the quality of the products and also service and delivery. The interview session lasted for 45 minutes.

20 A Click and Mortar business is a type of business that operates online and offline business operations; typically includes a physical store and a website.

9.1.2 Interviews in Swansea

The journey started on 13th May 2013 following a train ride to Swansea from the researchers base in Cardiff , Interview sessions with Swansea small business enterprises started a day after the researcher's arrival in Swansea (14th May 2013) and were completed by 25th May 2013.

A total of five interviews were conducted with Swansea SBEs. Out of the five interviews, two interviews were conducted by telephone while the other three interviews were face-to-face. One of the key characteristics of Swansea SBEs observed by the researcher was that they were very happy to receive a visit and felt proud to be a part of the research process. The main language in Swansea is the English language even though Swansea has a high level of Welsh speakers. However, the English accent was spoken deeply and the researcher had to listen more intently to some of the interviews to get all the words right. Nevertheless, it did not present a problem to the researcher.

Details of each interview are as follows:

Interview with SU-Learning (01)

The first interview was conducted a day after the researcher arrived in Swansea South Wales. The participant requested the researcher to visit his business

premises, which is also his house. A night before the interview, the researcher called the respondent to obtain the directions to his premises. As the researcher was not familiar at all with rural Swansea, the researcher decided to use hotel transport to travel to the interview location. The participant was a Swansea man (manager) who was the son of the business owners. The business was a learning development centre, which not only focuses on making clients improve on their technical and non-technical knowledge but also caters for people who need to speak better English and improve their presentation skills. The interview ran smoothly. The participant was very cooperative in the interview session. The business was currently busy in the work premises as there were a lot of clients (20 clients) that needed training in the English language as they were asylum seekers contracted by Swansea City Council. He was in-charge of managing online orders, replying to emails from customers and managing business operation. He also promotes and updates their services via Facebook and sends out pod casts. He claimed that he still needed training regarding managing staff working online and highlighted that Facebook was a more effective in making people more aware of what the business is about and how best to market the business website. The interview lasted 30 minutes. The researcher was invited to visit his learning centre and was introduced to the clients learning how to speak English and the researcher also went online to chat with clients that were training on presentation skills via video online.

Interview with SU-Architect (02)

The second interview was conducted on the third day the researcher was in Swansea. The interview ran smoothly and the respondent requested the interview to be held with her assistant who was a new member of staff so that she could mentor the assistant on the business. The participant was a French woman who married a Swansea man. She decided to develop her business and her business website to cater for local and international businesses that cannot afford big architecture prices and offers a highly discounted service that solely caters for small business enterprises. Through the Internet, she believed that she would be able to reach more businesses and minimize her marketing and

travelling costs for any travel exhibitions to gain new clients. The interview lasted for 35 minutes. The participant offered the researcher a ride to the city, as it is difficult and expensive to get a taxi.

Interview with SU- Bakery (03)

The interview with the owner of SU-Bakery (03) was conducted at her business premises. The business premises location of SU-Bakery (03) was right beside the hotel in which the researcher stayed, which was convenient for the researcher. The owner of this business was a Swansea lady. Previously she worked as a chartered accountant in Cardiff. She decided to quit her job and followed her husband, who had been offered work in Swansea. While in Cardiff, she had attended many bakery courses in Cardiff and London due to her passion for the bakery industry. In Swansea, she did not want to become a full time housewife and decided to open her own bakery. She has done well in her bakery business. The researcher asked the respondent whether the business website contributed to her business. The answer was 'not that much' and she explained that most of her customers preferred to visit her shop and select the type of cake that they wanted rather than order them online. The participant stated that even though her web site provides information about the cakes and other information, the customers still prefer to make a phone call to talk to staff. However, the purpose of her website is to cater to the young generation as most of them prefer to obtain information via the Internet before making a purchase. Otherwise, the purpose of the website was to build the business image and stay competitive in the market. The interview lasted for 40 minutes.

Interview with SU- Sex (04)

The interview with SU- Sex (04) was conducted over the telephone. The participant requested a telephone interview, as she did not have adequate time to accept the researcher's visit to her business premises. This was due to her tight schedule in moving into a new house. The participant was a friendly person and had been involved in running an adult sex toys and chat business since 2009. According to the participant, her business was initiated by her eldest sister after she saw her talent for collecting sex toys and chatting with

mature lonely men. Her passion for chatting to different people and meeting their emotional needs encouraged her to open the business. She needs to keep up to date with the current trends and sex toys as the market is fast moving and diverse. In order to do that, she normally goes to London and sometimes China to add to her business stock and learn new things and innovative ideas. According to the participant, she prefers to go to China to get new stock, as the currency exchange and value for money is much better than from London where costs are higher. Thus, it is more cost effective to her business to purchase the stock from there.

Interview with SR- Tour (05)

The final interview was also conducted over the telephone as the participant indicated she was unable to receive any visit as she was on maternity leave. The participant was a Swansea woman and involved in organising tours for diverse groups. She told the researcher that, generally, she focused more on religious groups as according to her, most local Swansea clients prefer to walk in to arrange a tour and speak directly to her as well as local corporate organisations that like to have the bespoke experience with her. However, she also runs a very interactive site that caters to her clients mainly outside South Wales. They prefer to look at the content and quality of her offerings and purchase online. Normally, most of her online customers were from outside Swansea. However, with respect to international orders, they have recently overtaken the local demand for her services. The interview lasted 28 minutes.

9.1.3 Summary of the interview descriptions

This section presented details of the actual interviews conducted in Cardiff and Swansea. As observed, participants owned their business website or marketed their products and/or services online and carried out some form of workplace innovation through teleworking, which constituted the main criteria required for each of the participants involved in this study.

9.2 The data analysis

This section will discuss the data gathered from the interview sessions with the SBEs in Cardiff and Swansea. The discussion will cover the components of teleworking, business aims and strategies, teleworking strategies, innovation, and the teleworking adoption performance evaluation. The reader is reminded that there are six attributes related to the teleworking component, which consists of infrastructure, financial resources, skilled workers, culture, government policies, and owner's attitude. For business aims and strategies, the components consist of growth strategy, strategic alliance, cooperation, and lifestyle; teleworking adoption (consisting of customer, cost, convenience, and communication) and performance evaluation (employee satisfaction, value for money, lower business overhead costs). Each component and its context will be briefly described and discussed according to the interview data. There will be two parts of the discussion: the first part will discuss the interview data gathered from the selected cities (Cardiff and Swansea); and the second part will be the summary of all interview data.

9.2.1 Component One: Innovation

Innovation refers to the fact that an organisation's survival cannot be overemphasised as innovation is extremely vital to the success of business organisations and this argument is supported by the European Institute of Technology Management (EITM, 2004) where the term 'innovation management' is defined as: the actions taken to efficiently identify, acquire, develop, select, protect and exploit the technologies, products, business models, processes and infrastructure that are required to grow, maintain and achieve a strong market position and enhanced business performance in line with the organisations objectives. Rutten and Boekema (2007) strongly believe that innovation does not occur independently but is strongly reliant and thrives upon several types of knowledge such as technological knowledge. In this study, innovation is viewed from a micro perspective in which it refers to the innovation of the businesses to use ICT through teleworking in developing their business. This study looks particularly at the scope of SBEs towards their

innovation approach to adopt teleworking in the business. The following attributes are discussed based on the data gathered from the interviews.

Infrastructure

The infrastructure attribute in this study particularly refers to the telecommunication infrastructure related to ICT, such as the hardware, software and network, being used in the business.

Cardiff

There are several ways to get connected with the Internet in Cardiff: Digital Subscriber Line (DSL), Analogue (Dial-up), wireless Internet connection (broadband) or 3G. Many participants accessed the Internet for their business purposes by using personal computers (PC), laptops and mobile phones. Five of the participants had chosen DSL as the way to get connected as well as their employees to the Internet for teleworking purposes. The main reason for them to select DSL as their main choice of Internet connection was that it came in a bundle package of fixed telephone line and Internet line; offered by Sky Media, Virgin Media, Talk-Talk and British Telecom. It was also easier for them to manage their bills. They also claimed that the DSL Internet connection provided by the service providers was stable with a fast speed of connection. Mobile broadband was also the top preference of six of the small business owners/managers to access the Internet at anytime and anywhere. Participants who used mobile broadband claimed that overall they were satisfied with the service provided and no major problems occurred. Only rarely did a situation happen in which they had a problem to connect to the Internet for teleworking purposes. Several participants also carried out their businesses through their mobile phone if they were out of the business premises practicing teleworking.

Overall, participants (either urban or rural areas) did not have much problem with their Internet connection and were satisfied with the service provided. This is because most of them had at least two types of Internet connection: DSL and mobile broadband to keep online and make their teleworking

operations viable. The CR-Coach (04) claimed that he had to use the DSL connection provided by Virgin Media in his area, the Internet coverage for the mobile broadband was not consistent and it was hard to obtain an Internet connection and was considering getting a more reliable connection or switching to mobile broadband. The CR-PR (03) a public relations expert was the only participant who used only mobile broadband to access the Internet; she claimed that it was easier for her to access the Internet anywhere for teleworking in her line of work. She had prior experience with a few Internet Service Providers (ISPs) until she found one of the best Internet providers that could provide better Internet coverage. According to her, the location of her place probably impacted the ability to access the Internet except when she was away travelling with work, as it was located out of the city (in a rural area). She found it hilarious that teleworking was an even better form of work for her as she had better connections to her site and clients while away from her primary place of business. In terms of the obstacles of infrastructure affecting the small business enterprises to adopt teleworking in their business, all the participants answered ‘No’ and indicated that they did not face any problems in adopting teleworking for their business.

Swansea

Based on the findings gathered from Swansea participants, most participants used their laptops to perform teleworking. Only SU-Learning (01) accessed the Internet using a personal computer and laptop. The Swansea participants prefer to use DSL and/or mobile broadband for their Internet connection. In terms of Internet connection problems as part of the infrastructure for teleworking, all participants agreed that they did not have many problems with the Internet connection. However, none of them were satisfied with the Internet speed provided. They claimed that the Internet speed seemed too slow for them. SU-Learning (01) stated that the Internet speed was not appropriate with what he had paid, as it seemed expensive. SR- Tour (05) claimed that the speed was slow, and she needed to connect a few times in order to get the Internet connection. Four participants indicated that the Internet connection that they received was not appropriate with their business’s need, except for

SU-Sex (04). For the Internet Service Provider (ISP), three of the participants; SU-Learning (01), SU-Bakery (03), and SU- Sex (04) had chosen Virgin Media as their ISP and the other two participants had chosen private ISPs (Talk-Talk and British Telecom). The main reason for them choosing virgin media as their ISP was the same as the Cardiff participants, a bundle package with fixed telephone line. SU-Architect (02), who used mobile broadband for accessing the Internet, had chosen Vodaphone Mobile as it had been recommended by someone to her. SR- Tour (05) had chosen Sky for her ISP, as previously she was not satisfied with the service provided by Talk-Talk. Consequently, she decided to switch her ISP from Sky to Virgin Media. Most of the participants were satisfied with their chosen ISPs except a minor issue mentioned by participant SU-Architect (02), who faced a problem in monitoring the gigabytes of data that she had already used.

“I cannot monitor the numbers of gigabytes that I already use. My Internet prepaid balance is always missing”

SU-Architect (02)

In terms of the obstacles of infrastructure that might affect the SBEs in adopting the use of teleworking to make their business expand and progress using the internet, most of the participants claimed that they did not have many obstacles except if the signal might be weak or hard to get on a rainy day. SU- Architect (02) used mobile broadband to access the Internet and claimed that she would have a problem to access the Internet if out of the city as there was the possibility of having problems getting the signal or being out of coverage as her base business premises would not be able to let her connect.

Financial resources

Adopting teleworking as a workplace practice in business involves additional cost in business operations. However, several scholars claimed that the cost of adopting teleworking on the Internet only has a minor impact on SBEs (Ariwa, 2014; Rizk, 2006; Sadowski, et al., 2002; Wresch, 2003).

Cardiff

According to the interview data, nine out of ten participants claimed that adopting teleworking only had a minor impact on the cost of running their business operations. Most of the participants paid an Internet cost of approximately £60 (sixty pounds) per month. They considered the cost was reasonable and affordable in respect of the impact on their business. However, CU-Call (02) considered that the cost of the Internet in Cardiff was slightly expensive and not appropriate based on the service, speed offered and not a lot of data bundle deals offered.

Swansea

For Swansea participants, four of the participants claimed that adopting teleworking in their business did not affect their business cost, except for SU-Architect (02). She indicated that the price charged to her was not reasonable compared to the service that she received. SU- Sex (04) felt that the benefit received from the use of teleworking was greater compared to the cost that she paid. SU-Learning (01), even though he claimed that the cost of adopting teleworking did not affect his business cost, considered the teleworking cost overseas was cheaper than in Swansea for the price and speed that was offered. SR-Tour (05) said that she only pays on average £65 (sixty five pounds) per month for unlimited usage of the Internet, which did not / significantly affect her business cost.

Skilled workers

Skilled workers in this research refer to the workers/employees that have skills in communicating with any form of computing systems, telecommunications for the Internet in order to ensure the smooth operations of teleworking.

Cardiff

Most of the participants preferred their employees to have at least basic computer knowledge (such as MS Word, MS Excel or the Internet). However, CR-Tour (01) did not really, need employees that had basic ICT knowledge, as

most of the management teleworking tasks were done by the owner 'himself. The same thought was also gathered from CU-Call (02) since it was not necessary to have employees with these skills. He stated that it depended on what type of job management was looking for. Also stating that teleworking is fairly easy to adopt and will not need a long training time for employees. CU-Admin (03) was probably not looking for employees that have ICT skills, as most of the tasks involved in teleworking were undertaken by herself, highlighting that employers always like to be in control. CR-Website (05) needed employees who had ICT skills for teleworking to work smoothly. This was because the transactions in her business involved computerized transactions such as uploading pictures and updating stocks and this can be done through teleworking by the employer or any of the employees.

Nine participants claimed that they did not have much problem in gaining access to ICT skilled employees. CR-Sex (02) explained that acquiring employees who have basic ICT skills was not a problem for him. However, to hire a skilled employee who was expert in ICT might be a problem, as most of them demanded higher salaries, which matched their skills accordingly. So the best approach was to offer new employees teleworking as a work place practice option as compared to a 9-5 job. CU-Call (02), even though his business location was in the metropolitan area, faced a problem in gaining employees who had specialized in ICT skills, particularly in getting trainings completed and the time it takes to get every employee educated on teleworking operations. Three participants came out with the same thought, that basically most of the younger generation has at least basic knowledge about ICT or computers (CR-Website (05), CU-Admin (03), and CU-Fashion (05)). Related to ICT and teleworking, seven participants agreed that they did not provide any related training to their employees. CR-Sex (02) explained that he was interested to give teleworking training to his current employees, however, so far all of his employees were interested in learning. Another three participants —CR-Website (05), CU- I.T. (04), and CU-Fashion (05) — explained that they provided in-house training. CR-Website (05) stated that normally the training involved senior employees teaching and explaining to new employees the computerized systems relating to teleworking in the

business operations. CU-I.T (04) also trained her new employees on the telework computerized system in the business operation, phase by phase. For example, in the first month the new employee will be trained how to receive clients' enquiries and orders received from the Internet and the second month probably on collecting the order and responding to customer orders via the Internet reinforcing the appeal for teleworking.

Swansea

Four participants agreed that they need employees who have the necessary skills to communicate with any form of computing system, telecommunications and/or the Internet especially for teleworking purposes, except for SU-Architect (02). SU-Architect (02) claimed that she did not really need those skills for her employees as she herself managed all of the ICT related tasks, such as replying to emails and handling all the teleworking elements. SU- Learning (01) also claimed that for his employees who work in the factory, it was not necessary for them to have teleworking/ICT skills, as they were only involved with manufacturing tasks. Three participants (SU-Learning (01), SU-Sex (04), and SR-Tour (01)) indicated that they did not have much problem in gaining access to telework/ICT skilled workers. However, another two participants —SU-Architect (02) and SU-Sex (04) — claimed that they faced difficulties in gaining access to skilled workers. Three participants —SU-Learning (01), SU-Architect (02), and SR-Tour (01) — did not provide any ICT teleworking training to their workers, while another two participants —SU-Bakery (03) and SU-Sex (04) — claimed that they provided internal training to their workers. Normally, the senior workers will train and teach new workers to work in their new work environment.

Culture

Culture in this research refers to the level of acceptance and openness of the employees in accepting the use of ICT and the application and adoption of teleworking in business-operations.

Cardiff

Most participants (except CR-Sex (02)) stated that their employees were well adapted to the use of teleworking, computers and the Internet in the businesses. They were very positive and willing to learn ICT. For CR-Sex (02), his employees did not bother with teleworking application in the business. This is because his employees were involved with non-management work, such as housekeeping and maintenance work which defeats the spirit of teleworking.

Swansea

In terms of employees' acceptance of the use of teleworking in business operations, four participants claimed that their employees were well adapted to these new technologies. Only the respondent for SU-Architect (02) claimed that her employees did not really accept the use of teleworking computers and the Internet in business operations. This was because her employees were not involved in clerical work due to their low level of education.

Government policies

Government policies refer to the support and assistance provided by the government to encourage SBEs growth. Government policies include training and support programmes, financial assistance and the policies themselves.

Cardiff

The government of the City of Cardiff puts great effort into strengthening the performance of SBEs by developing and initiating several development programmes such as the Cardiff Business Technology Centre (CBTC). Almost half of the participants knew and had read about the government policies that encourage Cardiff SBEs to use ICT, Internet and by extension teleworking for the business. Another four participants — (CR-Tour (01), CR-Sex (02), CR-Coach (04), and CU- I.T. (04)) — did not know about government policies concerning the use of ICT and the Internet. CR-Sex (02) stated that he could not wait to receive the incentives from the government. He also stated that he

had to struggle by himself with his employees to survive in the business. According to the participants, they did not receive any incentives in terms of monetary support from the government. Nevertheless, five participants — (CR- Sex (02), CR-P.R. (03), CU-Admin (03), CU- I.T (04), and CU-Fashion (05))— agreed that they received support from the government in terms of training and seminars. CU- Call (02) noted that although he knew about the incentives provided by the government, he did not know how to apply for or join such programmes. All participants agreed that government policies did not create barriers for them to adopt teleworking in their business.

Swansea

Four out of five Swansea businesses — (SU-Learning (01), SU-Architect (02), SU-Sex (04), and SR-Tour (01)) - suggested that they knew about government policies that encouraged SBEs to use ICT, the Internet and by extension teleworking in their business. SU-Architect (02) added that most of the government agencies also diverted their transactions online. SU-Learning (01) and SU-Sex (04) were in agreement that the government now actively encouraged SBEs to shift from traditional business to technology based businesses and technology supported businesses. In terms of receiving any support or incentives from the government, four participants did not receive any support or incentives from the government, except SR- Tour (01), who had attended training organized by the government agencies. SR- Tour (01) felt that it was hard to apply for incentives from the government as many procedures had to be followed and bureaucratic bottlenecks and hoops were too much for the SBEs to even consider participating. All participants agreed that government policies did not create a barrier to them in adopting teleworking in their business.

Owner's attitude

Owner's attitude involves the perception and acceptance of the owner-manager of SBEs in adopting teleworking and new technologies in their business operations.

Cardiff

CR-Tour (01), CR- P.R. (03), and CR- Coach (04) claimed that with the use of teleworking and Internet in the business it makes all of their business transactions easier and more manageable in terms of responding to customers (replying emails, enquiries and delivering services). CR- Website (05) also added that she was also able to monitor her business premises by using CCTV while she was at home or away on business by connecting to the Internet as a teleworking practice. The Internet also helped the participants to effectively telework — CR-Sex (02), CR- P.R. (03), CR-Coach (04), CR-Website (05), CU-Admin (03), and CU- Fashion (05)— to explore a wider business market and reach a wider customer business base . CR-Sex (02) stated that “I feel that the Internet has an excellent and positive impact on teleworking practice in my business. Almost 70 percent of my new customers are from the Internet and 90 percent are from other parts of the UK and overseas”. Some of the participants also enjoyed themselves exploring with the new technologies. For example, CU-Graphics (01) claimed that “I am very positive about teleworking and it helps me stay in touch with new innovative technological ideas and I enjoy the internet and appreciate exploring new things. I consider teleworking as a new thing and new approach to reach my customers and making new clients. It is also cheaper”.

All participants agreed that the use of computers and the Internet had a major, positive impact on teleworking in their business. It helped to improve the business sales and provided more opportunities for the business to enter a wider market.

“Teleworking using the internet and mobile technology helps me to widen my market, quick in terms of information (update new products), exposure to a new world and good approach for clients and introducing new products “.

CU-Call (02)

“My business becomes better known by the public because of teleworking. I received many

emails asking about my business packages, and clients are always happy I am and my employees are very accessible.”

CU- Admin (03)

“The use of the teleworking has a big impact on my business. I started my online business at home and now I am proud that I managed to open business premises through online business.”

SU- Sex (04)

Swansea

Most participants were positive regarding the use of teleworking especially through the use of the Internet in their business except for SU-Bakery (03). SU-Architect (02) was positive about the use of teleworking in her business; however, she admitted that her business via the Internet was progressing slowly as she did not pay much attention to getting her business listed on the top lists in the web and so her clients were primarily more on a face to face and referral basis. She claimed that the name of her business did not seem suitable to the industry that she was involved in. Most participants agreed that teleworking through the use of computers and the Internet had a positive impact on their business except SU-Bakery (03). SU-Bakery (03) claimed that teleworking did not really impact on her business, as most of her customers prefer to visit her business premises rather than purchase online or call in using mobile technology. She felt that selling products via blogs face to face is more useful rather than the business website. SR- Tour (01) stated that the online business helps SBEs to reduce their costs.

Summary of component one: Innovation

Most Cardiff SBEs use DSL and mobile broadband for access to practice teleworking. For the infrastructure, they were satisfied with the Internet connection provided in Cardiff for teleworking in terms of speed and Internet

coverage. In Swansea, most of the interviewed SBEs indicated that they did not have much problem with the Internet connections to carry out teleworking. However, they were dissatisfied with the Internet speed as they claimed that the Internet speed was too slow for them and that affected how they reached clients. Both Cardiff and Swansea SBEs agreed that adopting teleworking did not affect the cost of running their business operations. Cardiff and Swansea SBEs preferred their potential employees to have at least basic computer knowledge for teleworking to work. It also depended on the type of jobs that the management were looking for, or their employees were embracing it and whether or not they needed basic computer knowledge. Both Cardiff and Swansea SBEs agreed that they did not have much problem in gaining access to ICT skilled workers for teleworking purposes. Most of them did not provide any related training to their employees except for internal training for teleworking to be efficient. Both Cardiff and Swansea SBEs also claimed that their employees were well adapted to the use of computers and the Internet in the business operations for efficient teleworking practice. Under the Cardiff Business Technology Centre (CBTC), the government developed and initiated many development programmes and incentives for SMEs, such as strengthening the support systems to SMEs and enhancing financial access to SMEs. The Cardiff participants indicated that they knew and had read about the government policies and development programmes. Participants received support from the government through training and seminars but not in terms of monetary support. The same situation also applied to the Swansea participants who did not receive any monetary support from the government, only training and seminars. The response received from the Cardiff and Swansea participant's shows that they were very positive concerning the use of teleworking in their business except SU-Bakery (03) who claimed that most of her customers prefer to visit her business premises themselves to purchase cakes or pastries instead of purchasing online. Overall, participants were ready for the use of teleworking in their business operations. The factors of infrastructure, availability of skilled workers, financial resources, culture, government policies and owner's attitude tended to support SBEs in adopting teleworking in their business.

9.2.2 Reflections on Innovation

The data gathered through the interview sessions with the owners and/or managers of SBEs provided an in-depth insight into the innovation factors. At a macro level, it was found that the innovation through teleworking of SBEs in terms of infrastructure, availability of skilled workers, financial resources, culture, government policies, and owner's attitude had a moderate impact on the innovation through teleworking factors. As observed, the Cardiff City Council has actively geared up their effort towards a knowledge-based society and a value-driven economy. The Cardiff City Council government considers the ICT sector to be one of the important strategic drivers for positioning Cardiff as a competitive knowledge based economy and global ICT hub. In the case of Swansea, the city government's innovation on teleworking can be described as lower compared to Cardiff, as not much has been done to assist SBEs.

A number of studies found that external factors, such as infrastructure, skilled workers and government policies influenced SBEs to adopt the use of teleworking, ICT and the Internet for the business. Karanasios & Burgess (2008), in their cross-study of SBEs found that half of the participants in the study experienced challenges of telecommunication infrastructure problems and limitations. A study of the factors affecting the adoption of electronic commerce technologies by Australian SMEs found that the lack of skills, knowledge and poor training of staff are the barriers that contribute to a lack of teleworking adoption in the organization (Lawson, et al., 2003). A few scholars have agreed that the government plays an essential role, in creating a favourable environment for ICT development (Montealegre, 1998; Mujahid, 2002; Pradhan, 2002; Rizk, 2006; Sadowsky, 1993). In Phase One of this study, the experts suggested that government policies had a major impact on innovation for SBEs in adopting teleworking. SBEs are reluctant to invest in ICT and embrace teleworking, probably due to a fear of changing policies to suit changes of government affected by political barriers (Kapurubandara & Lawson, 2006). However, Al-Qirim (2007) argued that government policies and strategies only have a small impact on the adoption of teleworking via the

Internet in SBEs. This is supported by Chong & Ooi (2008) in that the government's influence did not pose a significant barrier to adopting teleworking.

The results from the fieldwork found that the external factors — inadequate infrastructure, availability of skilled workers and government policies - only had a moderate impact on SBEs adopting teleworking for business purposes. This is in line with the continuous and growing interest in telework ICT adoption in South Wales. It has been discovered that the cities that enjoy higher GDP per capital, literacy rate, well established telecommunication infrastructure and political stability typically enjoy higher diffusion of teleworking and the Internet. For innovation through telework development, advanced economies, such as Canada, Germany, Sweden, The United States, lead telework growth, followed by countries like Wales, Ireland, Brunei, and Thailand (Hao & Kay, 2004).

The cost for subscription for telework to be efficient through internet and mobile technology in Cardiff is more or less the same as Swansea. Other studies suggested that the cost will be an issue for adopting teleworking and internet applications (Cloete, Courtney, & Fintz, 2002; Costa, 2001; Lake, 2000). However, this study found that the cost did not have a major impact on SBEs. This was supported by Rizk (2006) and Wresch (2003). Sadowski, et al. (2002), in their study on the strategic use of teleworking by small and medium enterprises, found that telework adoption did not require a high cost of investment or an advanced pre-existing communication infrastructure.

It was found that owner's attitude plays a major role in adopting new technology in the business. The owner holds the key decision of whether they are willing to accept new technology in the business or to maintain their business with a traditional approach. This study found that Cardiff and Swansea SBEs were open and interested in trying new business approaches, particularly in shifting their "bricks and mortar" approach to a teleworking approach. The adoption decision is subject to the attitude of employees and may relate to the social and cultural characteristics of the business (Erumban & Jong, 2006). This is in line with the findings in which several employees of

SBEs were reluctant to learn and adopt the use of ICT in the business for teleworking as they considered that the nature of their job did not require them to do so. The openness of employees to learn and adopt new technology also depends on the sector that they are involved with.

Both Cardiff and Swansea SBEs are enthusiastic and very positive concerning the adoption of telework and ICT, and the Internet for their business. Nevertheless, the different types of telework infrastructure provided, culture and government policies reflects the level of teleworking adoption in these cities. As mentioned earlier, this study was conducted in Cardiff and Swansea. Based on the results, the location of SBEs (urban or rural areas) has a minor impact on the innovation level of these businesses in adopting teleworking. Naidu (2007) has stated that there is a wide disparity between the levels of development within Cardiff. Cardiff city centre and Cardiff bay remains much more developed compared to rural Cardiff which includes the Vale of Glamorgan and other surrounding towns and villages in Cardiff North (Naidu, 2007). Cardiff Business Technology Centre (CBTC) proposes the government to aggressively concentrate on upgrading the physical infrastructure including broadband networks, double-track railway lines, which will enhance access and connectivity throughout Cardiff and South Wales. The government is targeting to increase the penetration of broadband to 95 percent by the end of 2017 by introducing two main initiatives: High Speed Wireless City Service (HSWCS) and Rural Broadband Initiative (RBI). HSWCS is mainly focused on high population and high economic impact areas (state capitals, large urban and industrial zones). The HSWCS will complement the RBI to cover semi-urban and rural areas (Cardiff City Council, 2014). The City council in Swansea is actively gearing its efforts to tackle the connectivity issues by revealing Broadband Wireless Access (BWA) for under-served areas (non-urban areas). Swansea also highlighted infrastructure development as one of the key strategies, particularly communication infrastructure.

Based on the results gathered from the field interviews, the framework has been refined to identify the significant level of innovation through teleworking

factors. A small number of changes have been made to the framework. All the innovation factors will remain for the final framework. Changes have only been made to the level of innovation through teleworking impact in respect of the results and the literature review. Details of the refined framework on the Innovation through teleworking indicator are presented in Table 17. The changes in terms of level of innovation impact on infrastructure, financial resources, and government policies were applied in the refined framework. The level of impact of innovation may vary from one city to another depending on the type of technology, market sector, economic conditions, and so forth.

Table 17 - Details of refined framework for the e-readiness indicator

Factor of innovation through teleworking	Wales and Developing countries	
	Urban	Rural
Inadequate infrastructure	XX (X)	XX (X)
Availability of skilled workers	XX	XXX
Limited financial resources	XX	XX
Culture	XX	XXX
Government policies	X(X)	
Owner's attitude	XXX	
The symbol: X minimal impact XX some impact XXX major impact X (X) / XX (X) - might have more impact in "less developed" country		

Summary of the e-readiness indicator

In this section, the discussion presented the innovation through teleworking indicators of the framework in accordance with the findings from the interviews. The factors of innovation were examined, and, subsequently, the innovation through teleworking components of the framework were refined.

The next section will discuss the interview data with the second indicator in the framework — business aims and strategies.

9.2.3 Component two: Business aims and strategies

Component two discusses the business aims and strategies applied by small business enterprises. Based on the initial framework, the listed business aims and strategies are growth, strategic alliance, cooperation, and lifestyle. All of the listed business aims and strategies were proposed based on the literature and findings from the previous phase of data collection (Phase One). Not all of the listed business aims and strategies were applied by SBEs.

Cardiff

All participants had short-term and long-term business aims except CR-Tour (01), which only had short-term business aims. Most participants had a business growth strategy to achieve their business aims. Among the short-term and long-term business aims were:

*“I plan to settle the bank loan that I took to buy my business premises”
(Short-term business aim)*

“I want to improve my interactive online presence, such as every 10 -15 years we would need to change and upgrade and update our systems successfully and transform our financial position to a more positive one.” (Long-term business aim)

CR-Sex (02)

“I want to train my workers who know how to interact better with clients and discover new ways of reaching them using technology” (Short-term business aim)

“I plan to open another branch in the city“. (Long-term business aim)

CU-Graphics (01)

“I want to expand my business to Swansea and London with new business premises” (Short-term business aim).

I also want to be one of the major suppliers to other businesses and clients that will buy my products and seek my services on a massive scale and in bulk and be the leading brand in my sector” (Long-term business aim).

CR-P.R. (03)

“I am in the process of making new deals and meeting new clients it is still not signed and sealed yet” (Short-term business aim)

“I would like to produce my own brand and have more outlets for my business. I am also thinking of franchising this business so more people will know about my business” (Long-term business aim)

CU-I.T. (04)

All participants had a plan to grow their business for betterment in the future. However, not all participants had any strategic alliance with other businesses. Some participants had a cooperation strategy, particularly with their suppliers or their business networks. For example CR-Tour (01) had a cooperation strategy with taxi services and “meet and greet” hospitality services, as CR-Tour (01) was a tour operator that managed any reservations to holiday destinations. CU-Call (02) had cooperation with Bermuda call centres in relation to establishing tax free havens for clients. Whilst for CU- Admin (03), she stated that she did not have any proper cooperation with other businesses. She suggested that her clients refer to her colleague’s business for other services, such as finding key specialist staff to fill in key positions. All participants agreed that the use of computers, mobile technology and the Internet assists them to achieve these business aims and strategies.

Swansea

All participants have short-term and long-term business aims. They were enthusiastic about growing their business. Some of the examples of the short-term and long-term business aims were:

“I want to complete the big project from Trendy-rhyno International enterprises”

(Short-term business aim)

“I want to expand my learning development centres” (Long-term business aim)

SU-Learning (01)

“I want to be patient and survive in this business” (Short-term business aim)

“I would like to expand the business and have more business networks and get more sub-contracts” (Long-term business aim)

SU- Architect (02)

“I want to increase my sales and get a larger customer base” (Short-term business aim)

“I would like to expand my business and have more associates and employees working for me for bigger business profits” (Long-term business aim)

SU-Sex(04)

All participants agreed that they would like to grow their businesses in the future. Several participants have developed a cooperation strategy with the suppliers or business networks. For example, SU-Learning (01) has a cooperation strategy with other learning development suppliers, particularly in getting bespoke learning needs attended to, whilst SU-Architect (02) had a cooperation with related networks in the architecture industry, such as design services, engineering services and surveyor services. According to SU-Architect (02), the main reason for her to develop a cooperation strategy with

other architects was that she could easily design and draw based on the clients specification and pass it to other architects that will add better value to the clients request especially if it was beyond her company capabilities. None of the participants had developed any strategic alliance strategy for their business. Participants agreed that the use of teleworking in the business had assisted them to achieve their business aims.

Summary of component two: business aims and strategies

Based on the results gathered from Cardiff participants, most of them have short-term and long-term business aims, except CR-Tour (01) who only has short-term business aims. All participants stated that they applied a growth strategy for their betterment and business growth in the future. Several participants also applied a cooperation strategy. They cooperated with their suppliers and business networks to expand and strengthen the businesses in the market. Swansea participants were enthusiastic in growing their businesses in the future. They applied a growth strategy and several of them also applied a cooperation strategy for their businesses. None of the participants applied an alliance strategy or lifestyle strategy in their business.

9.2.4 Reflections on business aims and strategies

Business aims and strategies are the drivers for business growth. The results gathered from the field interviews with the Cardiff and Swansea participants indicated that most of them have short-term and long-term business aims and strategies. Most of the participants considered a growth strategy as a main driver to boost the business and also a cooperation strategy to sustain operations in the market.

A study by Burke & Jarrat (2004), based on an empirical study on SBEs in Australia, indicates that strategy is an explicit plan and an implicit pattern of behaviour. It is related to the attitudes and decisions of the owners or managers of the SBE's, and, thus, influences the growth strategy of the business. Majumdar (2008) suggested that motivation of the owners or managers of SBEs governs the attitude and decision concerning growth. A

growth strategy might vary amongst SBEs even if they operate in similar markets (Matthews & Scott, 1995).

Cooperation networks by Cardiff and Swansea participants are often related to their business market. For instance (CR-Tour 01), which is a tour operator, built a cooperation strategy with a taxi service operator. This cooperation strategy strengthened the market and provided more opportunities for the business. This is supported by Pesamaa & Hair (2007) who claimed that the formation of cooperative networks could be one of the solutions for small businesses to survive in the business marketplace. Pesamaa & Hair (2007) also indicated that a cooperative strategy is needed as relatively small businesses face difficulties in competing in the market due to business locations located in remote geographical areas. Relatively small business markets minimize the number of businesses with similar product strategies (such as two bakeries with the same pastry products). However when the businesses are too dissimilar, it minimizes their ability to develop a strong shared strategy and eliminates possible long-term product development. Thus, it contributes to negative attitudes in discouraging new ideas and a lack of determination to succeed. The decisions are often based on limited resources with inadequate competencies, such as higher transportation costs or a smaller customer base, thereby creating challenges to improve the products and services and also the marketing strategies (Pesamaa & Hair, 2007). Felzensztein & Gimmon (2007), in their studies on the influence of culture and size upon inter-firm cooperation for the salmon farming industry in Scotland and Chile, found that small businesses in that industry in Scotland were more proactive in building inter-firm cooperation for international business activities. However, in Chile, they seemed to be constrained in that respect, as they were too small to afford the membership of the national salmon-industry trade association that facilitates cooperation and interaction among its members. According to Ussman & Franco (2000), the Portuguese textile and clothing sector was monopolized by SMEs, and the majority were family businesses. However, some of them failed to tackle obstacles adequately, thus, cooperation between SMEs can be one of the strategies to overcome the constraints and improve market position. Ussman & Franco (2000) argued that the cooperation process was difficult and

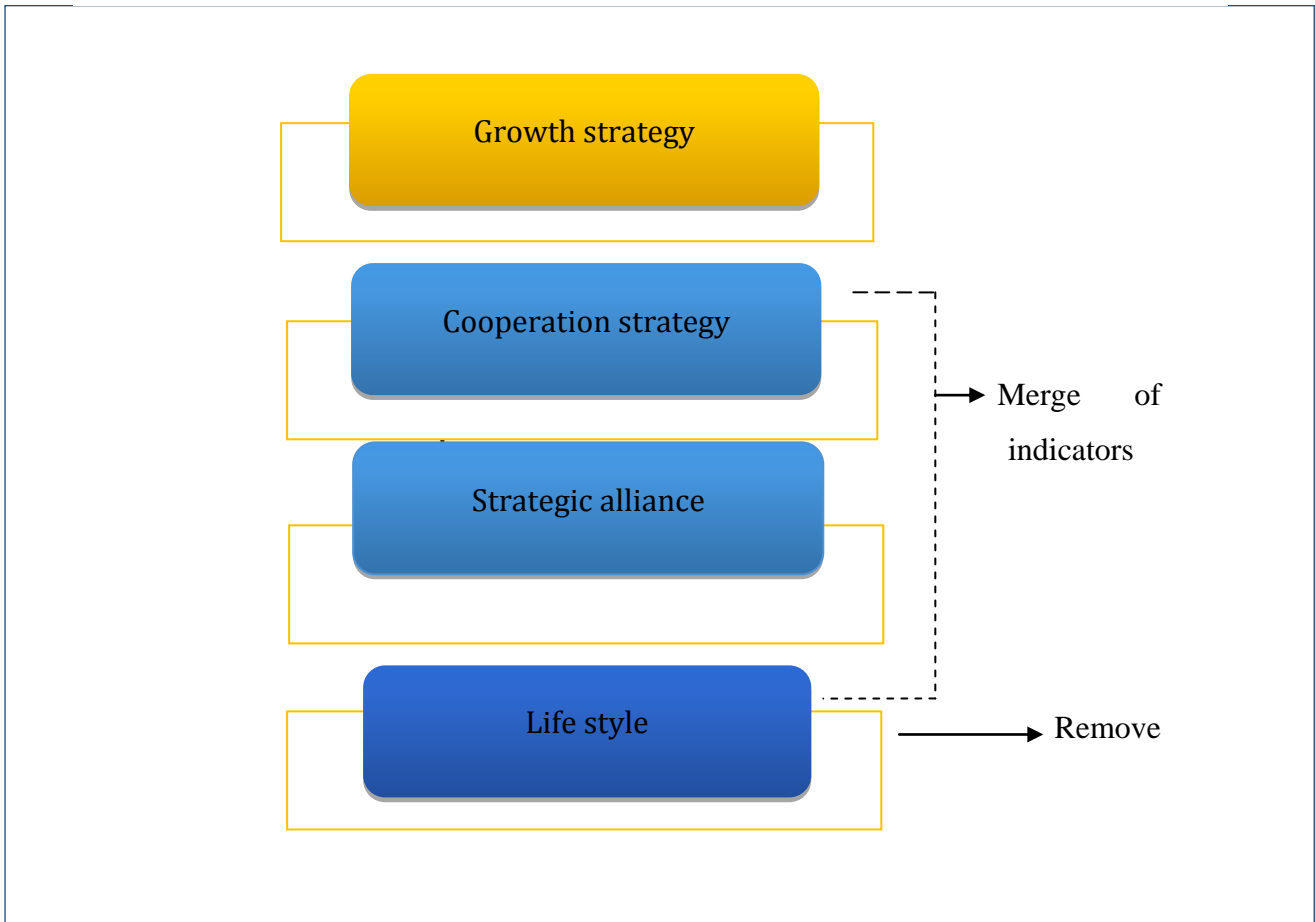
complex, but it also had some positive results that can be useful to businesses to improve competitiveness.

Based on the refined framework from Phase One, four business aims and strategies were proposed: growth, cooperation, strategic alliance, and lifestyle. However, based on the findings gathered from field interviews with SBE owners or managers in Cardiff and Swansea a minor alteration is considered. The findings from Phase One (expert panels) indicate that it was accepted that cooperation strategy and strategic alliance were among the business aims and strategies for SBEs. Nevertheless, based on the particular business environment (city's economic growth is considered) many SBEs had not yet reached a position where a strategic alliance is seen as one of the options for business strategies. The findings in Phase One also agreed that although it is an ideal achievement for SBEs to link their businesses with a strategic alliance for global markets, in reality not many SBEs practice it. The experts considered that there was an overlap between cooperation strategy and strategic alliance. The alteration for the final framework based on the findings from the interviews (Phase Two), the feedback from expert panels (Phase One) and the literature are considered. For the final framework, both business aims and strategies (cooperation strategy and strategic alliance) will be merged into one strategy.

The expert panels (Phase One) commented that lifestyle strategy could not be considered as a business strategy. It was more of a reason for the owner-managers of SBEs to get into the business. The researcher decided to maintain this strategy for further refinement in Phase Two. This strategy was tested in the fieldwork interviews (Phase Two). Based on the results of the interviews, the findings support the arguments made by the expert panel in Phase One. The findings found that lifestyle strategy did not exist as a business aim and strategy. A study by Majumdar (2008) on lifestyle and business growth of small business owners in New Zealand found that small business owners had desires to grow their businesses but with certain limits. Typically, their limits for business growth were related to their lifestyle and family oriented routines.

Thus, it was decided to remove the lifestyle strategy from the final framework. Figure 26 shows the business aims and strategies indicator that will be maintained for the final framework.

Figure 26 - Business aim and strategy indicators based on findings in Phase Two



9.2.5 Component three: Marketing strategies

Teleworking strategy is about the process of achieving business goals primarily by considering how teleworking lifecycle functions and the end satisfaction of the employers, employees and customers in a competitive environment. In component three, which is teleworking strategies, four attributes were listed: telework development, diversification, teleworking penetration, and product development (Chaffey, et al., 2006). The attributes were discussed in the interviews.

Cardiff

Most participants indicated that their teleworking strategies, particularly to the wider business environment, provided current information concerning how teleworking functions, how teleworking has been able to enhance their products and services delivery to the customers using an ICT platform, and improved their work flexibility. Below is some of the feedback from the participants concerning their teleworking strategies:

“My teleworking strategies are to widen my business frontier, either domestically or internationally. I also plan to improve my teleworking strategies via the Internet”.

CR-Tour (01)

“My target market is all over Cardiff. I also would like to have a specific recognised brand. I want the services provided to not be restricted to regular working hours but be able to answer client’s requests and provide services at any time of day and being a recognisable brand. I also target in the future to expand my business reach and client base etc.”

CU-Graphics (01)

“My teleworking strategy is to provide current information on business services to my clients through teleworking.”

CU- Call (02)

“My teleworking strategy is to create an online centre that uses state of the art technology in order to meet customer needs.”

CU- Admin (03)

All participants agreed that their teleworking strategies were derived from the business aims and strategies. Most participants have their own target clients that teleworking is meant to reach. Each of the target client or customer of participants was based on the type of business. Nevertheless, several

participants may have different teleworking strategies for different types of customers or businesses. The other participants only had one teleworking strategy for different types of customer. For example, CU-Graphics (01) offered

different packages and prices for different types of customer, such as for designs, colour separations for graphic designing and website development designs, where there were different prices compared to normal orders.

This is because teleworking was able to allow work to be carried out even in unconventional times as clients wanted speedy delivery for their services and orders. CU- Call (02) also offered different kinds of call centre packages and prices. He had three focuses in his business: small business division, blue chip companies division, and marketing division. All of these divisions offered different packages and prices, and had different target markets all catered for because of the strategies applied through teleworking. However, CR-Sex (02) offered a teleworking business package based on the customer's request or need. For example, if clients made a request for sexy dancers in another country or city, requests were sent out through online mediums and using technology, clients pay for services at any time regardless of time zone on a cam-chat cam-dance basis (camera chat, camera dance) such as is requested.

All participants agreed that client loyalty was important to support their business services. More than half of the participants were concerned with delivering the best customer service in order to maintain customer loyalty as a teleworking strategy to remain competitive in business and most importantly to remain in business: CR-Tour (01), CU-Graphics (01), CU-Call (02), CR-P.R. (03), CR- Coach (04), and CR-Website (05).For example, CR-Coach (04) stated that she tried to provide the best service to her customers. She also believed that by delivering the best coaching service to her customers and using the best delivery method which includes the use of ICT through teleworking, she was able to retain her customers and attract more new customers through word-of-mouth promotions but more through online recommendations.

Swansea

There were several teleworking strategies taken by the participants to promote their business products and services. Below is some of the feedback received from the participants concerning their teleworking strategies:

“I have set up an affiliation with two colleges in Swansea and I have also joined the Young Entrepreneur Expo and promoted my business through my business website and Facebook”.

SU-Learning (01)

“I have invested in teleworking activities in the Swansea business market. I also joined the Trade Fair (TF) and road show with Swansea City Council Tourism”.

SU-Architect (02)

“Teleworking is important to the services we provide for customers”.

SU-Sex (04)

All participants agreed that they derived their teleworking strategies from their business aims. As every participant came from a different type of business, each of them has their own business target clients and customers. For example, SU-Learning (01) targeted refugees, students, state supported unemployed youths, basic business skills deficient clients to focus on as clients using teleworking and conventional work practice and strategies to push the brand. SU-Architect (02) targeted small businesses primarily to offer discounted architectural services for her business. SU-Bakery (03) targeted middle to higher income customers to visit her business premises and order through the online or mobile phone app platforms.

SU-Learning (01) and SU-Architect (02) have developed different teleworking strategies for each client and customer type. SU-Learning (01) offered different packages and prices including discounts depending on the client, so for refugees and students, a different price and service was offered as

compared to employed clients with a higher income bracket who demand an ‘on-demand bespoke’ service. For SU-Architect (02), the segmentation was slightly varied as it depended on the type of client. For example, she offered different packages for small business enterprises in Swansea and South Wales who probably would not be able to afford to pay big prices that clients from Asia and other parts of Europe will pay as they work in different time zones and teleworking has been able to bridge the gap. SU-Bakery (03), SU-Sex (04), and SR-Tour (01) said that they did not have a different teleworking strategy for different types of customers.

All participants agreed that they were concerned with customer loyalty in supporting their business sales and continuity. SU-Sex (04) maintained long-term relationships with her clients in order to gain customer loyalty towards her business. SR-Tour (01) offered a price discount to her regular customers and the customers who purchased in bulk as a part of encouraging customer loyalty.

Summary of Component Three: Teleworking Strategies

Most Cardiff and Swansea participants indicated that their teleworking strategies were expanding their business markets, providing current and latest information to their customers and improving the packages, services and products offered to clients. They claimed that the teleworking strategies were derived from their business aims and strategies. As participants run different types of business, each target client varies. Several participants had different target customers for each type of service and product that they offered, whilst some only have one target client for all the services and products that they offer. Participants also agreed that customer loyalty assisted them to improve business profitability.

9.2.6. Reflections on teleworking strategies

Teleworking strategies are often related to business practices and activities, particularly to attract more customer awareness, gain new client segments, improve customer loyalty and provide added value to customers through the

use of ICT making teleworking a workplace practice and partner that is very important in the business value chain. As listed in the Phase One refined framework, all proposed strategies will be maintained for the final framework: telework development, diversification, telework penetration, and product development.

Telework development strategy relates to target clients and segmentation. The target clients could be considered as individuals or organizations that have a need for products and services of a bespoke and unique nature and an ability to purchase such (Pride, et al., 2006). Segmentation is important in dividing a client base into smaller groups with different needs, characteristics, or behaviour that might require separate teleworking strategies or mixes (Kotler & Armstrong, 2010b, p. 191). In the case of Cardiff and Swansea SBEs, most of the participants were considering a customer development strategy to present the products and services offered. According to the findings gathered from the interviews with Cardiff and Swansea SBEs, several of them developed different approaches for different target sectors. The business approaches were in terms of packages, design, quantity or price.

Teleworking penetration involves and relates to establishing and retaining customer loyalty and client share. According to the findings gathered from the interviews, customer loyalty is important to support their business. McMullan & Gilmore (2008) concur that the SBEs' environment becomes more competitive as many companies are aware of the importance of establishing and retaining current customers.

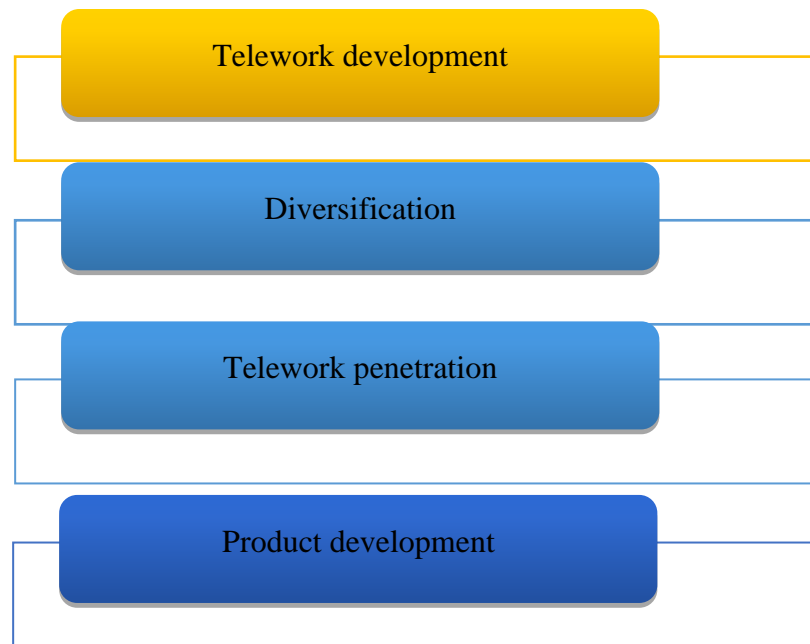
Product development strategy is related to product added value to existing products or increasing a range of services. Otto & Wood (2001) defined product development as "the entire set of activities required to bring a new concept to a state of client business readiness". The findings gathered from interviews support the product development strategy, as participants attempt to offer their products or services differently from competitors. Thus, it involves product added value to create the uniqueness of products or services which is what teleworking as workplace practice helps to present, because of its

bespoke approach to adding value to a business brand and applying ICT to offer more options to clients in order to retain them.

Diversification is where new services and products are extended and sold into new client bases. Diversification could be divided into related business, unrelated business, upstream integration, or downstream integration (Chaffey, et al., 2006). Forming linkages with the local councils and large multi-national organisations is one of the popular methods of bringing SBEs to learn quickly about innovation and improve their ICT knowledge (Kaloo, 2010). In his study on SBEs in Cardiff, Kaloo found that in recent years government agencies had facilitated the formation of linkages between local SBEs and the Chamber of Commerce's and the city councils. For instance, local SBEs (like ICT-based enterprises) collaborated with multinational companies such as BT in Wales to partner on research, and rural ICT infrastructure development.

Even though the results from the interviews did not support the diversification strategy, the researcher has decided to maintain the indicator for the final framework due to its support in the first phase of the study. The indicator of telework diversification strategy will be tested in future research. Three strategies (telework development, telework penetration, and product development) are appropriate to be applied for teleworking strategies as the findings from field interviews with SBE owners or managers supported these proposed strategies. Thus, the teleworking strategy indicators in the final framework are: telework development, diversification, telework penetration, and product development. Figure 27 shows the teleworking strategy indicators for the final framework.

Figure 27 - Teleworking strategies based on findings in Phase Two



9.2.7 Component four: Telework Adoption

The fourth component in the proposed framework is Telework adoption. This component consists of the four Cs attributes: customer/client, cost, convenience, and communication. The attributes of the four Cs were derived from the marketing mix: place, promotion, price, and product (four Ps).

Cardiff

All the participants agreed that the use of teleworking in the business helps them in expanding their business offerings, products and services. They commented that teleworking adoption as a workplace practice has benefited them in terms of more coverage, enhanced awareness with clients and providing convenience to the customers to access employees and services, the latest information, anywhere and anytime. CR- P.R. (03) indicated that teleworking adoption and practice was a better way to reach clients with different services and most times cheaper. This is supported by CR-Coach (04) and CR-Website (05). CR-Website (05) added that teleworking adoption was

about a new trend to purchase products online. It is more convenient and customers have more time to select and browse products before making any purchase and even if there were issues at any time with clients and services, there was always the flexibility to answer such queries regardless of circumstance.

There were several reasons that prompted SBEs' owners or managers to set up their own business website as part of what they felt was value added service in enhancing teleworking as a workplace practice. Teleworking primarily thrives with ICT as a backbone and so setting up a website is key. A few SBEs decided to set up their business website due to the influence by customers and competitors: CR-Tour (01), CU-Sex (02), CR-Website (05), and CU- Admin (03). Other participants: CR- Sex (02), CU- Graphics (01), CR- P.R. (03), CR-Coat (04) and CU- Fashion (05) were influenced by customers who pursued them to have a website to meet their needs. Customers insisted that these SBEs have a business website in order for them to view the latest products or services and to easily interact with them (interactive videos, skype connect and emails). CU- I.T. (04) was influenced by her brother to set up the business website for teleworking advancement reasons. Otherwise, for CR- Coach (04), she stated that she decided to develop her own business website through her own initiative and that customers had also influenced this decision so she can reach them better more flexibly too.

“This is my own initiative to develop my business website after I noticed that many businesses already have their own website. The customers also influenced me to be flexible with the website”

CR- Coach (04)

(This relates to Customers, and Communication in the 4C's)

Most participants agreed that teleworking adoption as a workplace practice helped them to cater for new geographic areas and new clients. Some of the feedback received from participants in the interviews includes:

“I gain more bookings and reservations from the international and also the domestic market”.

CR- Tour (01)

(Communication, and Convenience)

“Since I have my own business website, I have had a lot more customers’ local or international customers signing into my website platform and experiencing my business services”.

CR-Sex (02)

(Communication, and Convenience)

“I received bookings from all around Cardiff and also from around South Wales who stay in the same region and also international clients who want to get discounted deals on graphic designing services.”

CU-Graphics (01)

(Customer, Communication, Cost, and Convenience)

“There were orders from out of Cardiff city centre, like Newport, Bridgend and also Bristol and Swansea.”

CU- Admin (03)

(Customer, and Convenience)

“My clients are from all over Cardiff. I also received orders from Ireland, Scotland, England and Germany.”

CU- I.T. (04)

(Customer, Communication and Convenience)

“I received orders from all over Wales, Scotland, Ireland and England.”

CU-Fashion (05)

(Customer, Communication and Convenience)

As teleworking involves communication, interaction and delivering information and services to clients and customers, all participants updated the information on their products or services through their website and/or online newsletter. Most participants updated their business website based on their new business items or any promotion involved.

Basically they updated the website once a week, fortnightly or depending on their needs. Overall, they communicated with customers via phone calls, email, videos, or SMS. In terms of responding to customer feedback, they often gain a quick response in terms of replying to emails within a day. The adoption of teleworking is enhancing this workplace practice where there is a near instant, flexible and bespoke response to clients' queries.

All participants agreed that they were able to minimize their costs by adopting teleworking as a workplace practice. Several participants — (CR-Tour (01), CR-Sex (02), CU-Graphics (01), CU-Call (02), CR- Coach (04), CR- Website (05) and CU- Admin (03)) — did not offer special services or offers to clients regarding their teleworking offering or availability in delivering their business obligations. CU- I.T (04) gave special discounts for her regular customers who used ICT as a means of reaching her for services required. Half of the participants —CR-Tour (01), CR-Sex (02), CU-Call (02), CR-Coach (04), and CU-Admin (03) — did not offer product or service value added through teleworking practice. The other half of the participants did offer product or service value added to their customers by using ICT and by extension teleworking.

Swansea

Most participants except SU-Bakery (03) agreed that their business strategies did support the adoption of teleworking. Among the reasons were:

“Teleworking helps me to keep up to date with trends, it is cheaper and easy to manage the customers’ orders and feedback even at night and 24/7”.

SU-Bakery (01)

(Communication)

“Cheaper and easy”.

SU-Architect (02)

(Cost, and Convenience)

“Via the web and checking my site when I am home or on holiday through teleworking, I could interact with my clients and attend to their personal and bespoke requests. Cheaper and faster.”

SU-Sex (04)

(Communication, Cost, and Convenience)

“Through the teleworking I am able to have a flexible lifestyle, I am able to cater to a wider business market and reach customers and able to reduce my overhead costs.”

SR-Tour (01)

(Customer, and Cost)

SU-Bakery (03) claimed that her business strategies did not support the adoption of teleworking completely as a work place practice as most of her customers preferred to visit her business premises rather than make the orders

online which to some extent defeated the teleworking concept that advocates flexible working using ICT.

Employers, employees, competitors and/or customers have influenced SBEs to adopt teleworking for their businesses. SU-Learning (01) decided to adopt teleworking for his business. He also agreed that customers did influence him to adopt teleworking. This is supported by SU-Architect (02). Adopting teleworking in the business was her own initiative and employees, customers and competitors also became the main reason for her to adopt teleworking for business operations. Both SU-Bakery (03) and SU-Sex (04) were influenced by employees, customers and competitors to adopt teleworking in their business. SU-Learning (01) claimed that competitors influenced her to adopt teleworking practice, as she has to compete with competitors in terms of value, business flexibility, price and content.

Most participants agreed that teleworking adoption helped them to target new geographic markets and new customer segments and make their employees happier and more content, except for SU-Bakery (03). All participants updated new information by themselves or through their employees for their customers and suppliers by updating their business website and database except SU-Bakery (03). Two participants updated their business website on a yearly basis: SU-Architect (02) and SU-Bakery (03). SU-Learning (01) updated his business website every two months, SU-Sex (04) updated her website based on the availability of new services and new products and SR- Tour (01) updated her website once a month. All participants managed online feedback from their customers by replying to emails, online queries, and video pod requests except for SU-Bakery (03). Participants usually took 1-2 days to respond to customer feedback. None of the participants offered special offers for clients. Three participants —SU-Bakery (03), SU-Sex (04), and SU-Learning (01) — offered a catalogue on their website, displaying all of their products, services and business packages, making it easier for customers to choose before deciding on what service to request.

Summary of component four: Teleworking Adoption

Both Cardiff and Swansea participants agreed that teleworking adoption helped them promote their products and services. They claimed that teleworking assisted them to have wider market coverage, create customer awareness, identify new market segments and provide more customer access to the latest information via the Internet. Employees, customers and competitors were the factors that influenced SBEs to shift from a traditional work place practice approach to teleworking adoption. There was also a self-initiating factor that prompted SBEs to adopt the teleworking option for SU-Learning (01). Most of the Cardiff participants updated their business website based on their needs (new services, promotions or new items only). However, Swansea participants based their updates on a scheduled period, once a year or every two months. They communicated with customers through mobile calls, video pods, email or SMS and usually responded to emails within 1-2 days. They also agreed that teleworking adoption helped to reduce their business costs. In terms of special offers provided to customers, not all participants offered special discounts to those who purchased services or products. Almost half of the participants offered e-catalogues on their business websites which highlights the teleworking work place availability focused on customers' needs.

9.2.8. Reflections on Teleworking Adoption

Teleworking adoption is a work place practice that can assist in ensuring the retention of employees and expansion of new businesses to service customers' needs for flexible solutions to their ever dynamic requests for products and services. It is one way to reduce some business overhead costs, improve customer loyalty and manage orders systematically. A study by Selitto (2004) on teleworking adoption using the internet for business practices experienced the benefits of ICT through teleworking and the Internet in business processes activities. The use of teleworking had allowed businesses to increase their sales to new customers even though located in remote areas. Canavan, Henchion & O'Reilly (2007) supported that teleworking also can be a

significant channel for managing information and developing customer relationships.

The refined framework from Phase One listed the 4Cs - customer, cost, convenience, and communication — as the attributes for Teleworking adoption. Based on the findings from the field interviews, the owners or managers of SBEs in Cardiff and Swansea agreed that the attributes of the 4Cs supported Teleworking Adoption. For the final framework, all the listed attributes of the 4Cs were retained. Thus, no changes were made for Teleworking adoption attributes for the final framework. The antecedents of customers and competitors will also be maintained with an inclusion of employers and employees under the ‘convenience’ indicator for the final framework. Figure 28 shows teleworking adoption indicators that will be retained for the final framework.

Figure 28 - Teleworking adoption indicators based on findings in Phase Two

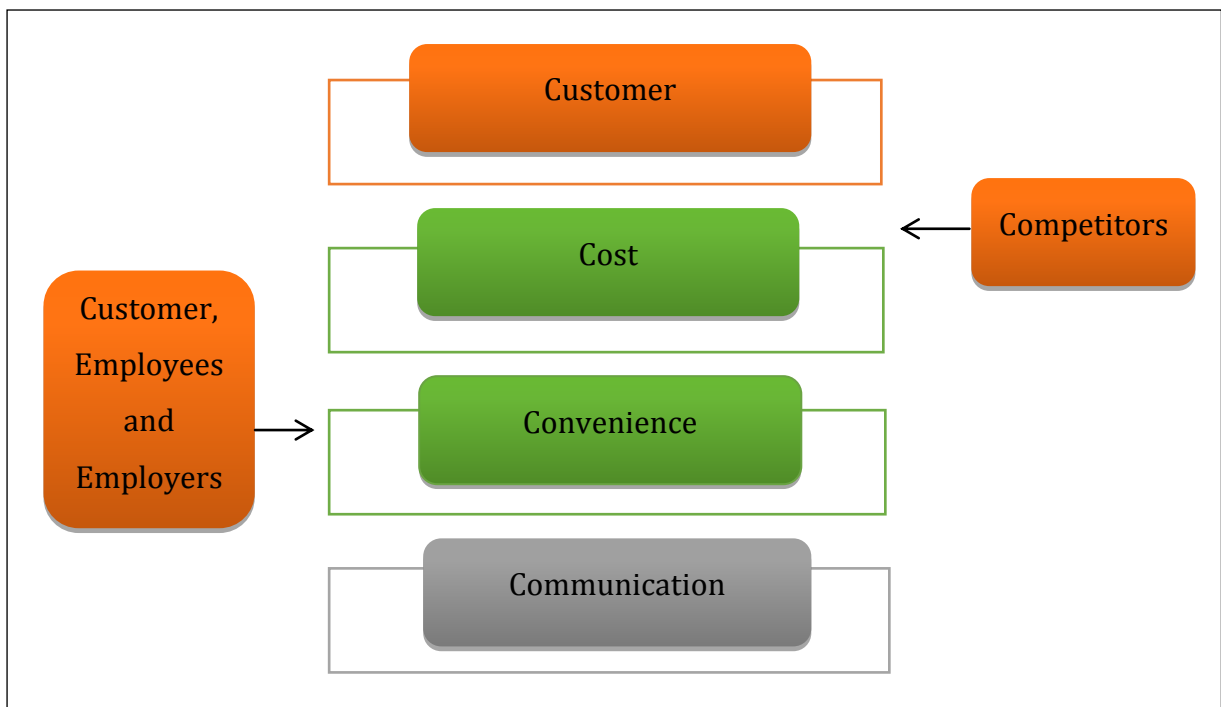


Table 18 shows how the teleworking adoption indicators (the 4C’s) were applied by participants.

Table 18 - Summary of indicators based on interviews

Indicators	Responses
Customer	CR-Coach (04); CU-Graphics (01); CU-Admin (03); CU-I.T. (04); CU-Fashion (05); SR-Tour (01)
Cost	CU - Graphics (01); SU- Architect (02); SU- Sex (04) SR-Tour (01)
Convenience	CR-Tour (01); CR- Sex (02); CU-Graphics (01); CU-Admin (03); CU-I.T. (04)
Communication	CR-Coach (04); CR-Tour (01); CR-Sex (02); CU-Graphics (01); CU- I.T. (04); CU-Fashion (05); SU Sex (04); SU-Learning (01)

9.2.9 Component Five: Teleworking Adoption Performance Evaluation

The fifth component in the proposed framework is Telworking adoption evaluation. This component consists of employee and customer satisfaction, lower business overhead cost and revenue, value for money, work life balance and inventory. The evaluation of teleworking adoption performance is essential for SBEs. The purpose of the evaluation is to measure the effectiveness of teleworking adoption in contributing to business performance.

Cardiff

Most SBEs measured their telework adoption performance through the response received by the employees and customers, the increase of sales and demand, business savings and the number of business customers. Overall, teleworking adoption did affect their revenue and value for money, sales and reduced business overhead and customer and employee satisfaction.

Swansea

Only SU-Learning (01) and SU-Sex (04) measured their teleworking adoption performance. Through the adoption of teleworking, they were able to have better value for money and improve profits, increase in demand for orders and

services, and more people were aware of their business. The adoption of teleworking helped them to increase revenue and value, sales and lower business overhead costs and employee and customer satisfaction. SU-Sex (04) suggested that another measure that could be considered in measuring the performance of teleworking was web visitor traffic because most of the participants' business is based on the internet when customers log on to receive services.

Summary of component five: Teleworking adoption evaluation

Both Cardiff and Swansea participants received positive business growth with the adoption of teleworking in the business. Nevertheless, not many of them formally evaluated the success of their new teleworking business approach. The evaluation of teleworking adoption performance is important to review and evaluate the success of this new approach. The participants perceived that by adopting teleworking in the businesses they were able to have better value for money and increase revenue, sales and improve their customer and employee satisfaction (based on their informal evaluation). A few participants also suggested that the performance of teleworking adoption could be measured by the number of web visitors because it related directly to their business.

9.2.10. Reflections for Teleworking adoption evaluation

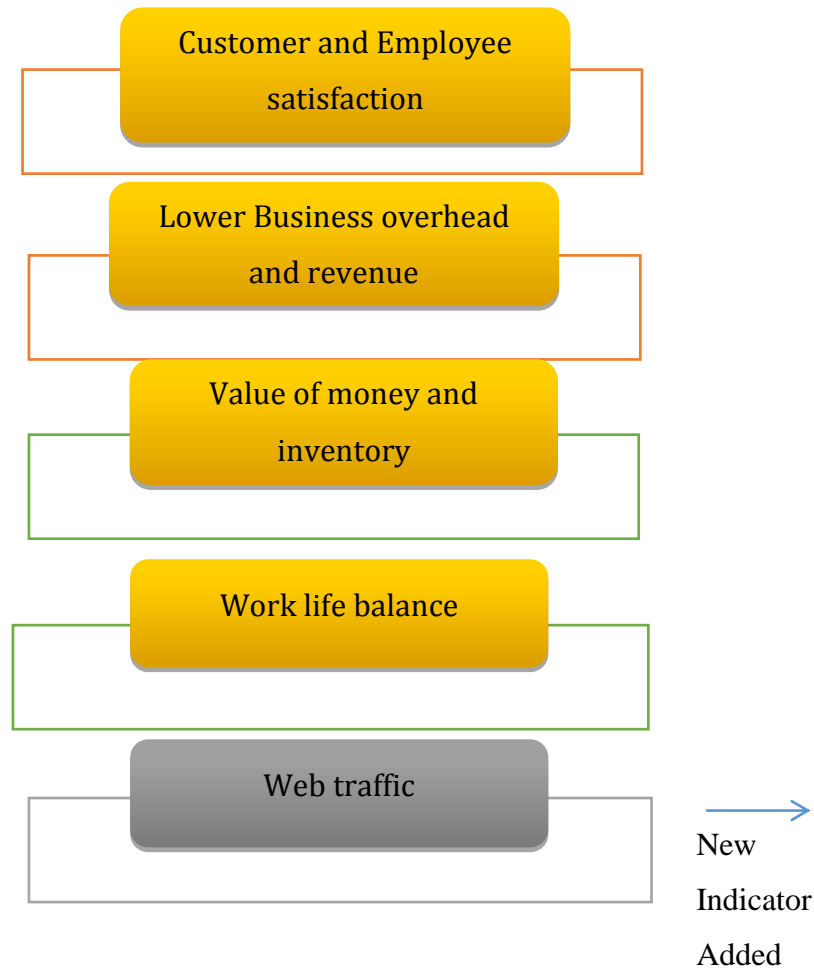
Teleworking adoption evaluation is important, particularly for SBEs in evaluating the success of teleworking adoption in business operations and as a workplace practice. In the refined framework (Phase One), attributes are listed: customer and employee satisfaction, revenue and value of money, and lower business overhead cost, work life balance and inventory. Based on the findings gathered from the field interviews with SBE owners and managers, most of them indicated that teleworking adoption contributes to increased customer and employee satisfaction and sales revenue and value for money. Chaffey et al. (2006) classified the measurement of teleworking adoption into different categories, business effectiveness, business promotion effectiveness, and ICT effectiveness. Customer and employee satisfaction and revenue and

value for money indicators are considered under business promotion effectiveness. One participant suggested that web traffic could be considered as another method to evaluate the success of teleworking adoption.

For the final framework, four attributes will remain. Even though the results from the interviews did not support the inventory indicator as one of the methods to evaluate teleworking adoption performance, it was decided to maintain the attribute to be tested for future research based on the feedback from the experts in Phase One of the data collection.

A new attribute will be added for the final framework, web traffic. This is based on the findings gathered from the interviews where the participants suggested that web traffic could be considered as one of the ways to measure the effectiveness of teleworking adoption. Web traffic is categorized under ICT Internet effectiveness feeding teleworking (Chaffey, et al., 2006). Studies by Evans & King (1999), Sterne (2002), and Stout (1997) indicated that website performance can be evaluated through network statistics, such as hit rate and log analysis. In addition, Suh, Lim, Hwang, & Kim (2004), in their study of real time web evaluation, used automated tools to analyse and numerically measure data (such as traffic-based and time-based data from websites). Figure 29 shows the attributes for teleworking adoption performance evaluation.

Figure 29 - Teleworking adoption evaluation indicators based on the findings in Phase Two



9.3 The revised framework

Figure 30 presents an overview of the revised framework for this study. This refined framework was based on the findings from the data collection in Phase Two (interviews) and considered the revised framework in Phase One (an online discussion). Each attribute is presented in detail in Figure 31.

The framework discusses the innovation indicator that contributes to the factors of adoption of teleworking by SBEs. The level of business innovation in the listed factors provides the impact on the adoption of teleworking as a workplace practice. The results from the study indicate that one new antecedent does influence SBEs in adopting teleworking in the business: *type*

of business or sector. The impact of the factors of innovation might vary according to the city and country (developing or less developed). The framework also suggests that four business aims and strategies can be applied by SBEs in respect of their business development. Two indicators were merged: the cooperation strategy and strategic alliance. The rationale to merge these indicators is that the experts considered that there was an overlap between cooperation strategy and strategic alliance. Based on the experts, these two indicators are applicable when different business environments are considered.

For teleworking strategies, four of the teleworking strategies were incorporated in the final framework — teleworking development, diversification, teleworking penetration, and product development. No changes were made to the final framework, as including the customer and competitor antecedents except the inclusion and putting together of customers, employees and employers on the same box because they primarily want the same thing which is satisfaction and can influence SBEs in adopting teleworking. There are changes in the listed teleworking adoption performance evaluation attributes for the final framework. A new attribute, web traffic was added for Teleworking adoption performance evaluation.

Figure 30 - Overview of final framework

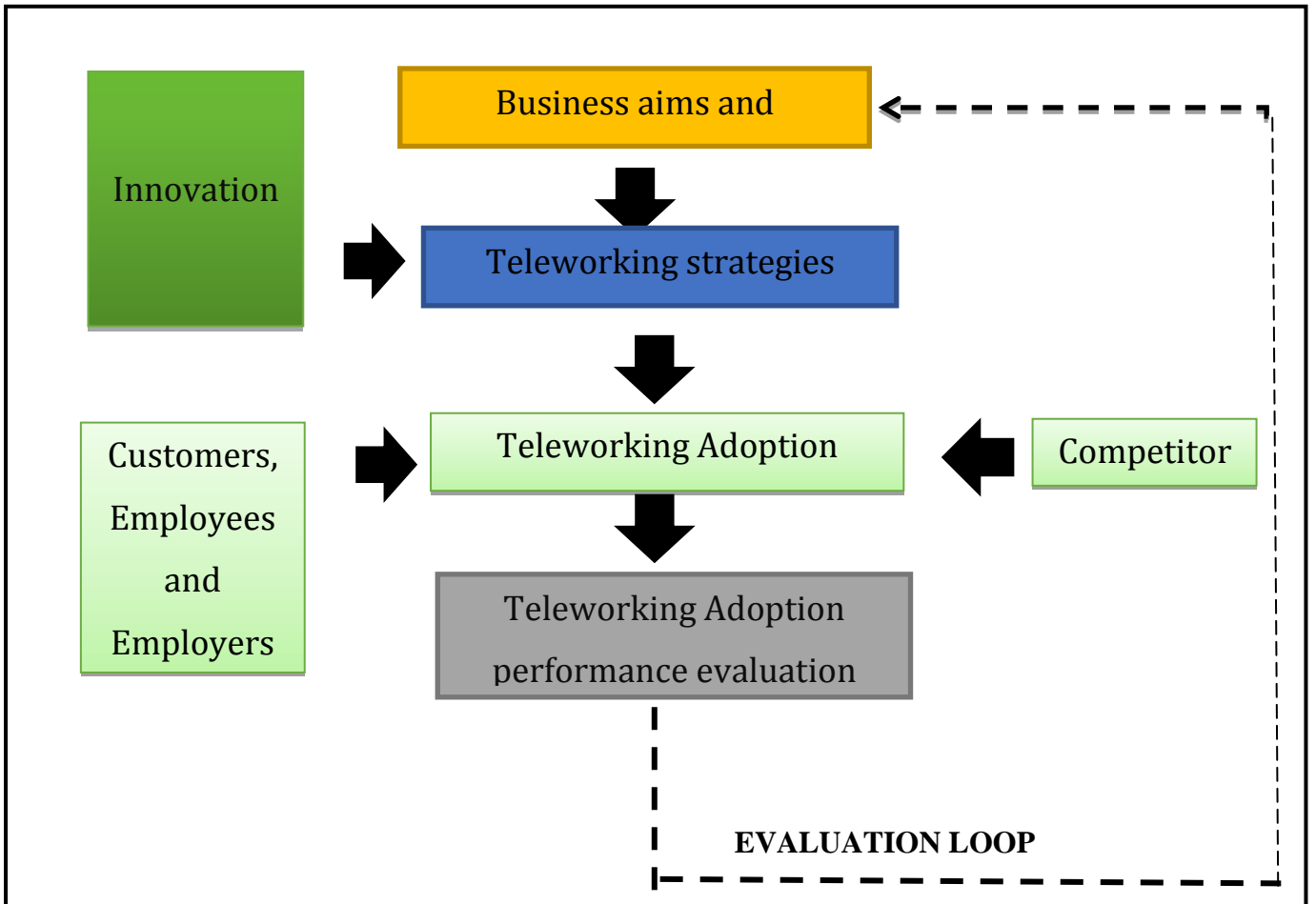
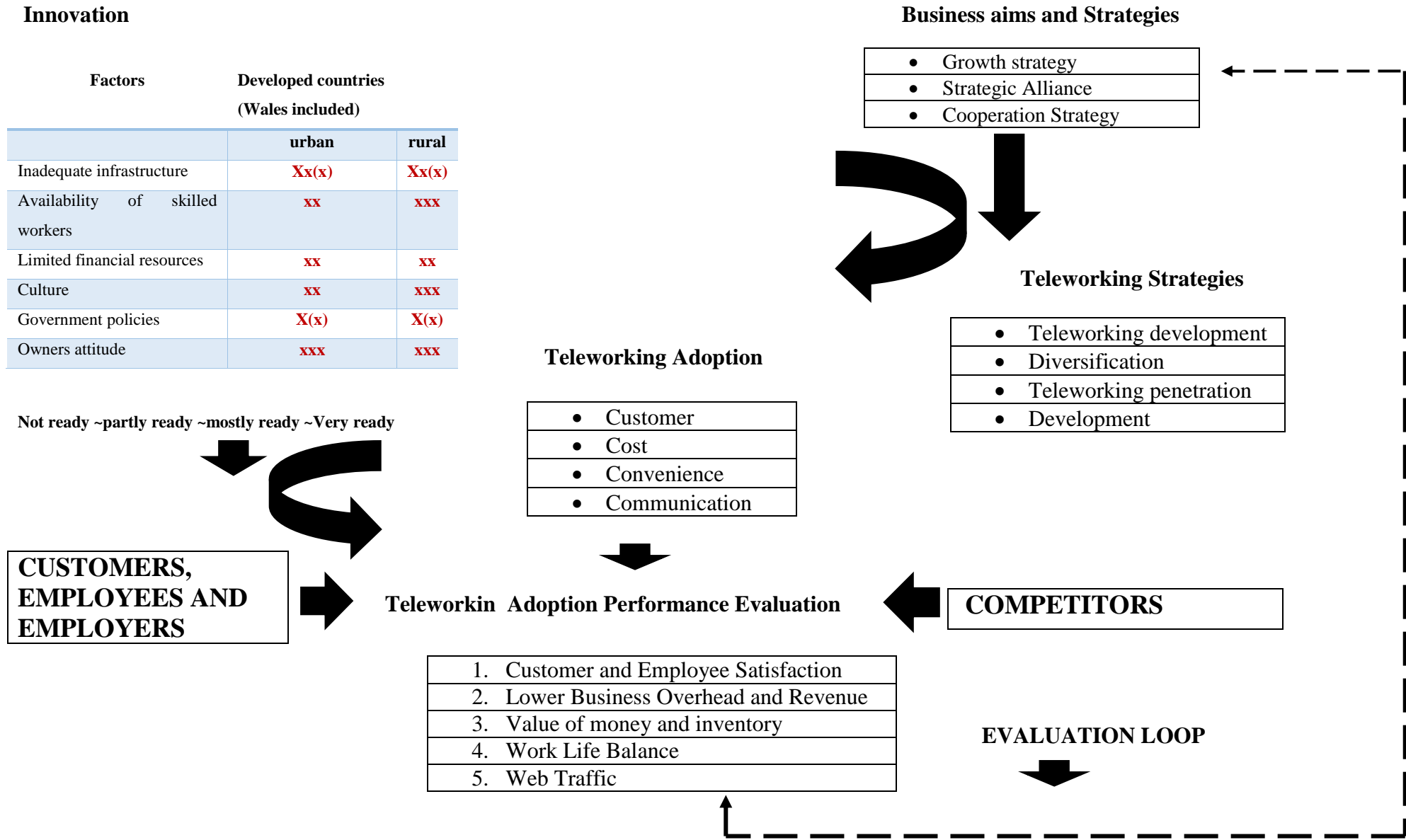


Figure 31 The Final Framework Innovation



9.4 Summary of the field research

The study initially started by developing the initial framework based on the existing literature. The study involved two phases of data collection. In Phase One, the framework was refined using the expert panel. Based on the expert panel discussions, a few alterations were made to the framework. The alterations involved narrowing the macro perspective of the study to a micro perspective where the teleworking strategies indicator was added in the refined framework. An evaluation loop was added as suggested by the experts. New antecedents were also added in relation to the Teleworking Adoption Performance indicator: customers, employee and employers and competitors. Further refinement of the framework was continued in Phase Two, where the interviews with SBEs owners and/or managers took place. The interview sessions involved SBEs' owners and/or managers from Cardiff and Swansea. In this phase, a new antecedent was added (type of business/sector) that relates to innovation in adopting teleworking.

This study has presented a number of contributions for research and provides greater insight to SBEs in adopting teleworking as an innovative work practice in their businesses. The final framework is designed for SBEs; however, it also offers benefits to researchers, development consultants, and policy makers. Even though this study has involved developing the telework framework for SBEs, it also presents the similarities and differences between the two cities examined. The study showed that SBEs' in Cardiff adopt teleworking better as an innovative work practice compared to their counterpart, Swansea. In terms of business aims and strategies, and teleworking strategies it found that there were a number of similarities concerning the strategies applied by these SBEs (Cardiff and Swansea).

This study contributes to the development of the body of research in the area of innovation and teleworking adoption in SBEs in South Wales. The study also raised a number of questions for future research. As a result, it provides greater input to the results of this study and the framework itself. Thus, the study can be applied to SBEs in other parts of the United Kingdom as well.

CHAPTER 10

SUMMARY AND CONCLUSION

CHAPTER 10

SUMMARY AND CONCLUSION

10.0 Summary and Conclusion

This chapter presents the summary and conclusion of this study. The chapter includes a summary of the discussion concerning the research findings, the contribution of the study, and the application of the framework to small business enterprises. The study limitations and future areas of study are also discussed in this chapter.

10.1 Summary of the study

This study proposed the telework adoption framework as an innovative work practice for small business enterprises, particularly in Wales with focus on key Welsh cities. The framework was initially developed based on the literature. The proposed framework could be incorporated as part of the business strategies for small business enterprises in order to assist owners and managers (who are often not futuristic in their planning) to adopt teleworking as an innovative workplace practice. This study presents the main indicators in the framework, which are teleworking, Wales teleworking aims and strategies (which will lead to the adoption of this work pattern as the standard, but most especially the small business enterprises), small business enterprises strategies, the innovation strategies, and finally, the evaluation of teleworking performance and infiltration.

In adopting qualitative research approach, an online focus group and in-depth interviews were conducted in this study. In the first phase of data collection, an online focus group consisted of experts from various disciplines. The main areas of expertise sought in this study were teleworking, e-commerce and small businesses, innovation, ICT, and small businesses in Wales and its cities (or a cross-section of these areas). Some academics, policy makers and business owners were selected for the expert panels for the discussion, as it provided greater thought and perspective in terms of the theory and knowledge base. The selection of experts was based on publication records and experience from the regulatory and business perspective: journal articles, conference papers, book chapters, other relevant literature and recommendations by peers. The discussion was conducted in five rounds. Each round was

conducted on a weekly basis: one round per week. Each round discussed a different topic based on the structure of the initial framework. The topic of discussion was designed according to the structure of the initial framework. The results from the discussion were used to refine the proposed framework. The second phase of data collection occurred after the modification of the framework from Phase One. Phase Two consisted of in-depth interviews; fieldwork interviews were conducted among small business owners or managers.

For this study, businesses in South Wales with focus on Key cities Cardiff and Swansea were selected. The interview questions were developed from the first phase based on the feedback from the expert panel. The results from the fieldwork interviews were analysed and the final framework was presented.

10.2 Discussion of the Findings

The growth of teleworking adoption with special focus on South Wales has been increasing rapidly, and provides greater opportunities for SBEs to be more efficient and focus more on cutting cost but maximising profit and still being effective in their offerings and service delivery. Teleworking as an innovative work practice creates a new platform for SBEs in South Wales to innovatively offer their products and services through cost savings in terms of innovative and dynamic and most importantly, flexible working patterns and operations, and improved relationship with customers and employees.

In this study, several challenges to the successful appropriation and the use of teleworking were articulated. These are the issues mentioned across the 'digital divide' literature. The main purpose of this study is to create awareness among SBEs in Wales to adopt the innovative work practice called teleworking that will assist them in delivering their products and services and be more efficient. This study also provides a lesson to non-adopter SBEs to shift their traditional business approaches to a more innovative approach using teleworking to make their businesses run better. It also relates to the business aims and strategies and teleworking innovative strategies of SBEs to provide direction and to advise the potential of their businesses.

The potential utilisation of teleworking for SBEs is primarily to ensure that they are more effective and competitive in South Wales and internationally to enable them reach their local and international customers, and also be fair to employees who would appreciate flexible

working times regardless of circumstance. The high and low ICT penetration of certain countries also contributes to the growth of the adoption of teleworking and this is the case of South Wales. Also, the type of business or services offered by SBEs can influence the adoption of teleworking as an innovative practice. For example, some customers of SBEs prefer the face to face approach in their business dealings while some employees are only able to telework and not be part of the everyday nine to five crowd. To each category, teleworking fused with innovation, ensure that the workplace in the SBE environment, caters to all needs.

The positive impacts from the use of the adoption of teleworking by SBEs identified in this study provide sufficient justification to encourage non-adopter SBEs to overcome the challenges and make use of teleworking as a new channel for workplace innovation and propagating the ICT infusion in the workplace. In this case, the Government plays a role in enhancing and supporting SBEs with their use of the adoption of teleworking. For instance, several examples of incentives and support allocated to SBEs in South Wales include the promotion of SBEs “flexible working” or “home working” alternatives for employees with interest in teleworking adoption through government-agency official websites, training and workshops for SBEs through the Welsh Assembly and the local Councils, assistance with ICT equipment training, and expert advisory centres. SBEs represent the backbone for economic growth by offering employment opportunities, which is also key to poverty alleviation and economic development for a country like Wales. The Government is outspreading rights to request a disparity in the time and place of work to all employees, and employers must consider these requests in a rational manner, while retaining the right to decline this request for business reasons. Therefore, the importance of teleworking adoption to SBEs cannot be overemphasised and can assist their viability.

This study discussed the benefits of telework adoption, and highlighted the importance of ICT however; many SBEs in Wales and other economies with the Welsh structure are hindered and slow in their use of ICT to effectively adopt teleworking as a workplace practice. The emerging question raised is how to encourage the adoption of telework as an innovative work practice in South Wales and Wales in general. The idea is to address the development of teleworking through the strengthening of ICT infrastructure and skilled human capital. It is important to pursue these development objectives via the appropriate channels. There are several opinions on how this matter can be geared up in terms of political

will and resources. For instance, the support from industry can reduce some of the pressures faced by SBEs.

10.3 Contribution to Knowledge

Theoretical Contribution

This study contributes to the body of knowledge in respect of the use of teleworking as an innovative tool by SBEs in South Wales. It has been observed that more attention is needed to support SBEs in adopting teleworking as an innovative workplace practice. Many previous studies have focused on the use of teleworking and on a larger scale, ICT in general by larger enterprises in developed countries and less concentrate on SBEs. SBEs have unique characteristics, which make them different from larger enterprises. Also, SBEs in semi-developed countries like Wales have different needs to SBEs in developed countries. In response to research question 5 (RQ5), this study has involved the development of a framework for the use of teleworking as an innovation tool and workplace practice, particularly for SBEs in Wales and highlighting the rural and urban divide of businesses.

The use of teleworking is a welcome alternative or option to the traditional nine to five work routines and services. In response to research question 1 (RQ1) for SBEs, the adoption of teleworking offers many benefits and opportunities to enhance the business growth. The findings of this study in response to research question 2 (RQ2) contribute to a better understanding of teleworking and innovation in SBEs in South Wales, and research question 3 (RQ3) particularly focused on owners and managers in performing a transition from traditional to a new work practice approach, which can help to improve their productivity as well as to stay competitive in the market and flexible and attractive to high quality employees. In response to research question 4 (RQ4) the new approach to teleworking by SBEs can assist in making innovation the framework on which modern businesses are built, especially in respect of personalizing services and providing more added value to encourage employees better, to be at the cutting edge of technology by teleworking application to business and to encourage repeat customers or customer loyalty with good flexible business service.

Empirical Contribution

The study has made an empirical contribution through providing greater insight to SBEs in adopting teleworking as an innovative work practice in their businesses. The final framework offers benefits to researchers, development consultants, and policy makers. The study showcased that the evolved Delphi method approach which isn't conventional can be used and applied by other researchers seeking new areas and aspects of research.

As well as the study involving the development of a framework for SBEs in South Wales, it also presents the similarities and differences between the two cities investigated in the research. The study showed that SBEs' in Cardiff adopt teleworking better as an innovative work practice compared to their counterpart, Swansea. In terms of business aims and strategies, and teleworking strategies it found that there were a number of similarities concerning the strategies applied by these SBEs (Cardiff and Swansea).

The study makes an empirical contribution to the development of research in the area of innovation and teleworking adoption in SBEs in South Wales. The study also raised a number of questions for future research. As a result, it provides greater input to the results of this study and the framework itself and the study can be applied to SBEs in other parts of the United Kingdom as well.

Ethical Contribution

In terms of the ethical contribution, a greater understanding of the ethical pitfalls associated with doing research in adult associated industries was an important contribution to knowledge.

The research took into consideration that ethics is a complex subject, but in professional contexts its four central concerns are:

1. To treat people FAIRLY
2. To respect the AUTONOMY of individuals
3. To act with INTEGRITY
4. To seek the best RESULTS - by avoiding or minimizing harm and by using resources as beneficially as possible".

During the research, none of these concerns were violated at all. The Research was undertaken in accordance with the university ethical Code of Practice for Research Students (See <http://gro.southwales.ac.uk> October 2015 page 21 section 12). In accordance with the guidelines the panel discussions and interviews were taken into consideration and involved the findings anonymously reported (Section 12, bullet point 2 and 3 Code of Practice). Ethical clearance was checked with the Graduate Research Office Code of Practice in conjunction with the University of South Wales Research Degree Regulations and from all documented research work, in the particular context and relation to the sex industry that formed part of the research, there was no contravention since there was no direct contact with sex workers at all. The above considerations are an important contribution to knowledge since these can be taken into consideration by future research studies in order to make the ethical aspects on these types of research easy to deal with.

Practical Contribution

There are many ways to apply this final framework. From the perspective of SBEs, this framework can be applied by SBE owners or managers to evaluate the performance of the adoption of telworking. The owners or managers could revise their business aims and strategies, and innovation strategies if the adoption of teleworking in the workplace does not contribute to the outcomes as expected. The framework will provide better insights to professional consultants or development for assisting adopter and non-adopter SBEs to focus on which areas they need to concentrate if any complexities arise. This framework can be presented as an instructive manual for policy makers. Through this framework the policy makers could determine the areas of teleworking innovation in SBEs in Wales that require support.

10.4 Applying the Framework

The application of the framework is through the ICT infrastructure, government, skill workers and the organisation environment and these are discussed below.

Teleworking

Information and Communications Technology(ICT)

ICT infrastructure refers to the facilities and networks employed to transmit and receive information by electrical or electronic means. For every country, the level of telecommunication infrastructure provided is different. SBEs need to know what telecommunication infrastructure is available in their area to have a better understanding of the type of teleworking that they can have access to and can make their business more efficient.

There are various types of teleworking through ICT infrastructure connection that is offered to SBEs depending on the availability. Some examples of common ICT connections are Digital Subscriber Line (DSL), Wireless Internet Service Provider or Mobile Broadband. Each of the connections offers a different type of Internet speed and price. If the users have a reliable telephone connection, considering the DSL might be the best (most expensive). However, mobile broadband has the advantage that the users can use it to access the Internet anywhere (dependent on whether the users have access to the 3G, 4G and in recent times 5G network).

The other alternative to access the Internet is from a public access point, such as a tele-centre, places, Wi-fi zones that offer the Wi-fi or Internet cafés. These can be commonly found in nascent times on trains, buses, shops, hotels, holiday resorts, ships, boats, clubs, schools, and in diverse places where business takes place. This alternative is a common option for rural areas SBEs users to get connected to the Internet in order for them to effectively have teleworking as a workplace practice.

Government

The government is the agency that can provide many kinds of support programmes and incentives to assist SBEs in the adoption of teleworking. For example, the Welsh government has introduced some major components of support programmes, which cover infrastructure, financing, advisory services and information, health and safety, technology, and human capital. These are some components created to assist and enhance the growth of teleworking in SBEs in Wales.

These support programmes and incentives provide greater opportunities for SBEs to gain an advantage. For instance, SBEs may seek advice on adopting and using teleworking. In addition, SBEs may consider the incentives offered by the government such as grants offered

and given to start new businesses with no little or no taxes paid on ICT equipment and workplace developmental programmes, skills growth and management skills development, which supports the adoption of teleworking. Wales is classed as very favourable with government incentives, support bodies and business growth intervention programmes as in some countries, this type of support programmes will not exist. SBEs can refer to their small business councils or chambers of commerce to identify what support programmes and incentives are being offered by the council or in their cities.

The government website for small and medium enterprises is the appropriate means for SBEs to promote their businesses. Some governments have an official SBE website that provides a list of legitimate small enterprises under the government's supervision. This will help SBEs to be recognized and allow them to be promoted by the government without any cost incurred. For SBEs that do not have an option of a government's website (an official government website does not exist), SBEs may find an alternative solution to promote the business via a well-known or top list portal website of the country/region.

Financial resources

The cost of the adoption of teleworking as an innovative work practice can be an issue for SBEs. It will result in start-up costs that have to be borne by the SBEs; however, in the long-run the adoption of teleworking will reduce the operational costs drastically. For example, through teleworking as an innovative workplace practice, SBEs can reduce the cost of printing of materials (letters, brochures, pamphlets or forms), manager customer orders systematically remotely and from any location, and be able to answer any response from customers promptly (replying to e-mails). Below are a few recommendations that SBEs could consider to reduce the cost of adopting teleworking as a workplace practice:

- SBEs practicing telworking may utilize free services, like free website templates to design the website, free e-commerce checkout tools for payment facilities, free software for managing website content and free hosting packages. These free services allow SBEs to create a business website with minimal cost. SBEs can slowly replace the website with high quality for-pay services as teleworking applications and practices, reduce the cost of business overheads and grows and generate profits.
- SBEs can adopt the use of skype, go to meeting, face time (i-phone facility), yahoo messenger, msn messenger which are all free services in order to reduce cost however

still able to view clients, employees and customers through video conferencing regardless of location. This is a one of the benefits of teleworking.

- SBEs may ask close friends or family for ICT assistance, such as advice, technical problems in relation to communication and technical equipment for teleworking in order to ensure the smooth running of their business and also to keep active communication open between employees and customers rather than pay for professional assistance.
- SBEs could consider using collective deals with telecommunication firms as by using a bulk collective contract on phones, on internet and on online portals, the chances of reducing costs are higher as such deals most times, come at discounted rates thereby saving the SBEs valuable resources and ploughing it back into expanding the telework practice for better business.

For SBEs in rural areas, collaborating in developing a superior joint teleworking portal or site can be an advantage for SBEs (sharing the resources). Through this portal, SBEs can work together to promote their business as they do not have to pay to promote themselves individually. This is an innovative way of enhancing teleworking and supporting each other.

Skilled workers

There are certain issues to be considered before hiring skilled workers for teleworking to be practiced. Among these issues are:

- The cost of hiring skilled workers is expensive. Does it affect your business expenses?
- Can hiring one skilled worker be an asset to the business as he/she would be able to train others in the teleworking methods and application, thereby saving the SBE resources?
- For rural areas, there is a possible shortage of skilled workers. Thus, it diminishes the option of the skilled workers to be selected.

Organizational environment

Business aims and strategies

It is important to have appropriate business aims and strategies for each business. The business aims and strategies will determine the direction of the business and determine if the business is driven by positive innovation thereby applying teleworking as a workplace

practice. The aims guide the business in what to do and the strategies indicate how the business will do it.

Innovation strategies

Innovation strategies involve the process of promoting new ideas, products and services, which allows the organization to increase the sales and profits with limited available resources. It may also be seen to be the conversion of new knowledge into products or services thereby, creating value, increasing efficiency, and therefore growing a business.

Teleworking even though not very new can be classed as an innovation strategy for SBEs as it was formerly perceived to be just for large organisations. Without innovation, new products, new ways of carrying out business and new service delivery plans for employees and customers would never materialise, making organisations to remain stuck doing things the same way without positive change.

There are some guidelines to assist SBEs in developing innovative strategies. Some examples are:

- SBEs should know their unique selling proposition (USP) which would assist in giving competitive advantage
- It is important to identify your target markets as this will help in ensuring that the business focus is direct and not a 'jack-of-all-trades'.
- SBEs need to determine what are the benefits, specialty, and competitive advantage of products compared to those of their competitors as this will assist in sharpening the innovative strategies needed to survive in a very competitive market.
- SBEs should identify how to apply teleworking in order to do what other business competitors are not doing, thereby remaining relevant in the business market.
- Finally, SBEs need to determine the best innovative method to ensure the balance of satisfaction of employees who drive the business and work for the growth of the business and customers who make the business survive with their patronage. This is where the adoption of teleworking is seen as a relevant innovative method for businesses to apply in order to keep the happiness balance and satisfaction of all SBEs stakeholders.

Overall, these guidelines highlight the components of innovation development, diversification, innovative business ideas and penetration that drive SBEs to position themselves as leaders in their unique market and in this thesis, through teleworking.

Driving forces

Employees

Employees are the back bone of any business organisation and most especially the employees that make up Small Business enterprises. If the employees of an SBE are not happy with their conditions of service, work environment, direction of the business, innovative ideas for future business development, this will definitely affect the progress of such a business. Hence, the need for work practices such as teleworking to be implemented and sustained to ensure that working conditions are favourable as well as having the right workplace balance for healthy family life which if not managed properly will affect SBEs performance.

Employers

Employers are the employers of labour and have a full power to transform the direction of their businesses and transform the innovative direction of their businesses completely. Teleworking is advocated and employers embracing this workplace practice will do a lot to boost employee satisfaction, customer happiness because of the bespoke nature and pro-customer and pro-business outlook of teleworking.

Customers

Every customer might have different needs. Every SBE has a target audience and once that audience called customers are not catered to, the business will begin to see cracks that can affect its existence. For example, some local people in South Wales perhaps of the older generation may prefer to visit a business to purchase a service in order to have banter and chat and put a face to a voice and possibly build a relationship. In contrast, some other people, perhaps of the younger generation may prefer to speak on the phone or purchase a service online and may do so at hours that may be out of the conventional, which possibly require the SBE to be flexible in delivering such a service. The two classes of customers mentioned above showcase the fact that, young people prefer and seek information faster and want it whatever time of day and seek for it to be flexible to their unique modern day needs

before making a decision to buy the products/services, whereas the elderly prefer to go personally to the shop and get explanations or services from the salesperson. This scenario needs to be considered by SBEs as the innovation through teleworking allows for the flexibility for customers' needs in order to select the appropriate approach for the target market.

Competitors

It is important for SBEs to identify their competitors in the market especially in our ever changing world where needs and desires change per second and businesses and customers continue to seek better alternatives. The adoption of teleworking as a business practice can give a SBE a positive advantage over its competitors. There are two types of competitor: direct (selling the same products/services in the same market), and indirect (selling substitute products/services). It is common for SBEs to monitor the competitor's marketing activities and it will keep SBEs current with business trends. Wise SBEs take their competitors seriously and understudy their strategy framework in order to have competitive advantage in the market place.

Several of the recommendations that have been highlighted in this study are also applicable to professional consultants or developments, the government, and policy makers.

10.5 Generalisability

The main objective of the study was to develop a framework concerning the adoption of teleworking as a workplace innovation by small business enterprises in Wales. The framework is a generic framework and does not particularly focus on a particular industry. Thus, this framework is applicable for SBEs, researchers, professional consultants, and policy makers to assist them in making decisions concerning the use of teleworking as a workplace innovation. This study was conducted in South Wales, United Kingdom. Nevertheless, this study was not a comparative study of the similarities and differences in the cities in Wales. One issue that was highlighted is the available ICT telecommunication infrastructure to make teleworking an acceptable work form. The findings indicated that SBEs in urban Wales enjoy better ICT telecommunication infrastructure than their counterparts in rural Wales. Another finding is that the government policies in Wales are actively geared to the development programmes for SBEs and also becoming open to assisting SBEs in embracing more ICT

infrastructure which in turn will enhance the adoption of teleworking. The role of the owner or manager of SBEs is important to overcome the shortcomings and contribute to the use of teleworking as an innovative work practice. The driving forces – employees, customers and competitors – play a part in encouraging the use of teleworking in the workplace in the SBE environment as well as to meet current business trends. The framework could be applied in other countries to identify such differences.

10.6 Limitations

This study was conducted over four years during the course taken by the author. The study commenced full time 2009. In Phase Two, the fieldwork interviews were conducted with SBE owners or managers. The researcher was aware of the potential bias that may occur. However, it is almost impossible to avoid the bias, particularly in respect of the type of selection method applied (respondents were contacted through the Internet) when the emerging group took place (Menou, 1999). Time constraints and financial limitations restricted the scope of study. This is because the author had to complete the study within the time period given by the university. As this study required the author to travel to different cities, and an amount of cost was incurred, the author had to manage the costs with limited personal funds.

The study was also limited in terms of the absence of the viewpoint of offline' non-teleworking practicing SBEs, who have tried, but failed, to overcome the obstacles or choose not to adopt the adoption of teleworking as a workplace innovation.

10.7 Future Study

This study has produced, reviewed and refined a framework for the adoption of teleworking as a workplace innovation by SBEs in Wales. However, it does not mean the work is complete. This study has demonstrated that much of the 'engagement' literature comes from five major components: teleworking and small businesses, innovation, ICT, and small businesses in urban and rural Wales (or a cross-section of these areas). A framework has been developed and (as observed) it is useful for SBEs, researchers, development consultants and policy makers.

An approach that can be considered in the next phase of the study is to focus on both adopters and non-adopters, and to conduct a longitudinal study to investigate the period taken by existing non-adopter and their transition to embracing the adoption of teleworking. The next phase (post thesis) is to ensure that the framework could be applied to SBEs more generally. This requires extended fieldwork with teleworking and non-teleworking practicing SBEs. The application of this framework should be practical and not theoretical (nevertheless, the use of the framework should be rigorous, as developed in this study).

The purpose of this study was to gain an understanding of the adoption of teleworking as an innovative workplace practice with a limited number of participants, even though this study focuses on a small selection of SBEs in Wales. The findings of this study highlight the problems faced (to a large extent), and the solutions for (to a certain extent) SBEs practicing teleworking in Wales. In this study, the discussion and the framework are presented. The framework can provide guidelines for SBEs. For future research (post-doctoral), the researcher is planning to apply the framework in further real environments to evaluate its practicality. In addition, the researcher will also consider focusing the application of the framework in certain sectors, such as tourism, manufacturing, retail or others instead of generalizing the framework as a whole. For the time being, the framework presented in this study is very practical for SBEs, researchers, professional consultants, developers, and policy makers to use as a tool for the development of the adoption of teleworking in SBEs.

The author encourages the use of this study in respect of the framework being applied in other countries to focus the study on particular industries, and consider other determinants, such as type of business, maturity stage of the business, and others. Another important contribution to the research would be a comparative study with several other countries with the Welsh structure in the context of characteristics of owners/managers and how they adopt the technology in relation to teleworking. As this study is a qualitative study, the author encourages both qualitative and quantitative data collection to be applied as research approaches for further study.

This study highlights the emerging issues for further research. One emerging issue raised is how to encourage more small business enterprise in developed and developed countries to shift their traditional workplace style and behaviour to accommodate the adoption of teleworking. In relation to other adoption factors (such as infrastructure, financial issue, and government policies) there are some alternative ways to address and facilitate teleworking

adoption among SBEs in developed and developing countries. Another issue is how to educate SBE owners/managers and employees to apply appropriate business and innovative strategies for their business to grow and expand, which are often less formal. These issues are not only relevant to SBEs, but also to policy makers as they attempt to transform the perception, confidence, and ways of managing the business of the adopter and non-adopter teleworking practicing small businesses and enforcing and infusing technological innovative ideas. Finally, the author encourages more study in this particular area as it is important to support the development of SBEs as a domain and their economic growth overall.

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APPENDICES

APPENDIX 1

RESEARCH CONFERENCE PAPER FOR EMERGING THEMES IN BUSINESS
2014 NEWPORT CONFERENCE UNIVERSITY OF SOUTH WALES

A conceptual model of the contribution of Teleworking towards organizational development involving different leadership styles

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Abstract

The aims of the paper are to consider the strategic issues regarding teleworking and its contribution towards organisational development involving different leadership styles. A review of the teleworking ecosystem in terms of the environment, transport, location, office space and resource use for modern organisations and business sectors and the effect of a restrictive business organisational environment, a proactive business environment under an autocratic leadership style and a democratic leadership style on the overall framework of a business organisation. In fact, teleworking technologies are implemented for progressive initiatives and the many advantages include lower greenhouse gas emissions related to travel, greater worker satisfaction and, as a result of lower overhead office costs, and increased profit margins. However, the paper will also highlight the fact that in organizational development, if leadership is not properly managed, most of the advantages of teleworking in

an organisation will never be realised, thereby making an organisation deficient in its ability to attract “great” employees and attract good business because of the negative and ICT retrogressive practices of its leadership. The paper investigates the appropriateness of a working definition of teleworking with regard to organisational development and following this explores the benefits, and barriers, of the teleworking environment. The theoretical frameworks and models of teleworking are then considered and a conceptual model of the contribution of teleworking to organisational development is formulated. It is the intention of the paper to identify, and articulate, those teleworking and organisational development and leadership concepts that will be useful to academicians, scientists, business entrepreneurs, practitioners, managers and policy makers, and to indicate future research directions for research scholars and students with similar interests.

Key Words:Teleworking, Democratic Leadership style, Autocratic Leadership style, Organizational Development

Introduction

In relation to the aims of the paper, which are to consider the strategic issues regarding teleworking and its contribution towards organisational development involving different leadership styles; a review of the teleworking ecosystem in terms of the environment, transport, location, office space and resource use for modern organisations and business sectors and the effect of a restrictive business organisational environment, a proactive business environment under an autocratic leadership style and a democratic leadership style on the overall framework of a business organisation, the research has attempted to understand the factors and processes through which organizations develop and adopt teleworking in relation to their different leadership styles and approach. The study has surveyed and built upon the body of knowledge concerning teleworking, leadership and organizational development including applications and practice in the business research literature. In these terms, the key definitions, benefits and barriers have been considered and analyzed in addition to highlighting the key leadership styles. Preliminary research questions for this study which arise out of the literature include:

‘How does organizational development occur when adopting leadership styles that will support the adoption of teleworking?’

‘To what extent does leadership, and specifically positive leadership, contribute towards teleworking in organizational development?’

Research Approach

The research methodology has involved an extensive literature review into the fields of teleworking and leadership. The literature review has identified journals, articles and documents that define, describe, test and analyse the concepts of Teleworking and leadership in the context of organizational development. Definitions of teleworking and leadership have been analysed from research papers and articles in contemporary journals and a definition of telework and leadership styles has been given. The research design has involved a logical sequence from the thematic literature review to the study’s research questions, definitions, discussions and leadership table. This has been followed by formulation of the conceptual model, discussion of the usefulness of the model and future research directions, and the conclusions (Yin, 2004).

Discussion

The Australian Telework Advisory Committee (2005) adopted a working definition of telework to include work undertaken, either on a full-time, part-time or occasional basis, by an employee or self-employed person, which is performed away from the traditional office environment. This includes working from home, and which is enabled by ICT, such as mobile telephony or the internet. Sullivan & Lewis (2001) encapsulate most of the above definitions of telework in a brief definition which states that telework is work practice that takes place anywhere and anytime. However, for the purpose of this study, the definition of Ndubisi and Kahraman (2005) will be adopted. They define teleworking as ‘an information and communication technology aided work arrangement concerned with the use of personal computers, dedicated word processors or terminals, telephone, fax, e-mail, modem etc for work-related purposes from the employee’s home, a satellite or neighbourhood work centre or any flexible work location outside the traditional work’. Ndubisi and Kahraman (2005) have chronicled a list of these potential benefits and these are the balance between work, family and leisure is an advantage that teleworking offers to individuals. The flexibility issue, of caring for young children or an elderly family member while working from home, is addressed in conjunction with the balance issue in the family (Siha et al, 2006). Less

commute travel and more effective use of work time which translates to increased productivity results from eliminating the wasted time that a real commute requires and as a benefit of teleworking that is highlighted in studies by Davies (1995), Hill *et al* (1998) and Angove *et al* (2007). Some of the highlighted barriers of this study include The Sensis Report (2005) that suggests that some businesses that did not have employees teleworking said that the main barrier was a belief that it was not suitable for their type of work. Teleworkers may also think that their profession is being hampered by a lack of social contact with their contemporaries and managers and by being absent from the office (Australian Telework Advisory Committee, 2006). There are also some deeper unaddressed barrier issues as highlighted by Gundry and Slater (2005), which are trust, work management, information management, social and team aspects, visibility, health and safety issues, career development, communications and time management and isolation (Angove *et al*, 2007). Organisational development on the other hand is viewed differently by numerous authors, for example, Gibbons and Kennedy (2012) believe that organizational development is about creating sustainable improvements in business. Others augured that it is about work and achieving success outcome in the way (Green, 2006), and getting everything and everyone working together (Martins, 2007). Finally, Sunding and Odenrick (2010) viewed that it is about knowledge creating and problem solving and realising creative and individual potentials. Interestingly, all these view points are in line with the purpose, vision, integration, mission and values of a successful organisation. So for teleworking to thrive, organizational development has to be the driving factor and this is hinged on good leadership in the workplace. The leadership style of an organization can hinder and hamper the development of the organization and in turn encumber the adoption of teleworking. The study of leadership at Ohio State University and University of Michigan have stimulated a considerable interest in leadership theory and has lead the way with numerous authors of leadership such as Hersey and Blanchard (1969) leadership theory, Keith (1981) human behaviour at work and Blake and Mouton (1964) managerial grid. These studies identified two basic dimensions of leadership which resulted in four basic leadership styles which are: Autocratic Leader (with high emphasis on performance but very emphasis on worker warfare), Laissez Faire Leader (with low emphasis on performance and employees or subordinates), Human Relation Leader (with low emphasis on performance but high emphasis on people), Democratic Leader (with high emphasis on performance and people), see Table 17.

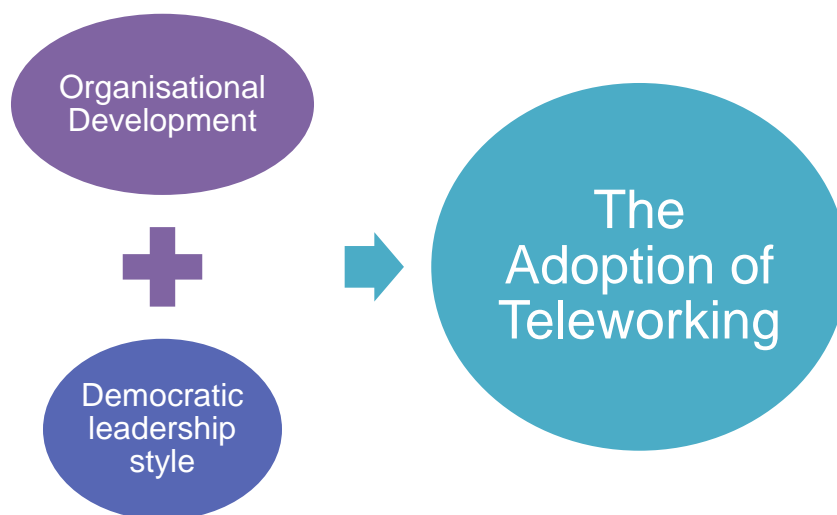
Table 7 - The Four Basic Leadership Styles

<p>Human Relations Leader</p> <p>Emphasized on low performance and high emphasis on people. They assume that people are honest, trustworthy, self-motivated and want to be involved and participate in a supportive work environment that can lead to a happy working system. This leadership style which is closely related to transformational leadership style relies on teamwork, human relations, participative decision-making and harmony and fellowship towards task completion.</p>	<p>Democracy Leader</p> <p>High emphasis on performance and people. These set of leaders assumes that most people are honest, trustworthy and are willing to work hard to accomplish meaningful achievement. They strive for a well organised and challenging workplace environment with clear objectives and responsibilities. They motivate and manage individuals and groups in using their full potential in reaching achieving the objectives of the organisation.</p>
<p>Laissez faire leaders</p> <p>Characterized on low emphasis on performance and people. They assume that people are unpredictable and uncontrollable and the leader's job is to keep a low profile and stay out of trouble or leave people alone as much as possible. But relies on abdicating to whoever will rise to the occasion to get the work done.</p>	<p>Autocratic Leader</p> <p>Low emphasis on people, but high on performance. They assume that people are lazy, irresponsible and can never be trusted therefore planning, organising, controlling and decision making should be accomplished by the leader with minimal employee involvement. They often rely on authority, control, power, manipulation and hard work to accomplish tasks.</p>

Yukongdi's (2005) study found that employees were comfortable and participative in a work environment with more democratic leadership behaviour than autocratic behaviour. This is because autocratic leadership behaviour is determined by a leader who has absolute power among team members in the organisation (Bosiok et al., 2013). More so, autocratic leaders are characterised with unidirectional communication channels and mostly not interested in feedback. On the other hand, democratic leadership behaviour is characterised with two way

communication such as exchange of feedback with subordinates and delegation of work and authority. Bosiok et al. (2013) conclude that the autocratic leader might be suitable if a group is undisciplined and poorly organised, whereas the democratic leadership style matches well with an organised and disciplined group (Northouse, 2004). From the literature above, teleworking adoption thrives more on democratic leadership style in the quest for organizational development and this is backed by the fact that teleworking is viewed as an attractive working arrangement among employees generally, as increased flexibility of working hours and location of work can be used to meet the changing needs of people throughout their lives (ATAC, 2006). This organizational development can only be possible under a democratic leadership style.

Figure 32 - Conceptual model of organizational development and democratic leadership style of teleworking



Conclusions and Implications

The paper has considered the strategic issues in the adoption of teleworking and leadership in the context of organizational development highlighting in terms of the different leadership styles that has formulated a conceptual model of the processes involved. The paper has investigated the appropriateness of a working definition of teleworking, highlighting its benefits and barriers and showcased the definition of organizational development and leadership styles. In relation to the research questions posed it has been found that for a

successful adoption of teleworking, leaders should embrace the democratic leadership behaviour and approach to ensure that both leaders and subordinates work effectively in one direction. More so, positive leadership which is strongly related to the democratic leadership styles is recommended to ensure adequate contribution to the success of the adoption of teleworking in organizational development. Finally, the literature and conceptual framework has clearly demonstrated that democratic leadership style has a strong relationship with the management and adoption of teleworking.

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APPENDIX 2

**RESEARCH BOOK CHAPTER ON GREEN TECHNOLOGY APPLICATIONS
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The contribution of Teleworking towards a Green Computing Environment

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ABSTRACT

The aims of the chapter are to consider the strategic green issues of teleworking in terms of the environment, transport, location, office space and resource use for modern organisations and business sectors and to formulate a conceptual model of the processes involved. In fact, teleworking technologies are variously implemented for green computing initiatives and the many advantages include lower greenhouse gas emissions related to travel, greater worker satisfaction and, as a result of lower overhead office costs, increased profit margins. The chapter initially investigates the appropriateness of a working definition of teleworking with regard to green computing and following this explores the benefits, and barriers, of teleworking in a green computing environment. The theoretical frameworks and models of teleworking are then considered and a conceptual model of the contribution of teleworking to

green computing is formulated. It is the intention of the chapter to identify, and articulate, those teleworking concepts that will be useful to academicians, scientists, business entrepreneurs, practitioners, managers and policy makers, and to indicate future research directions for research scholars and students with similar interests.

INTRODUCTION

In relation to the aims of the chapter, which are to consider the strategic green issues of teleworking in terms of the environment, transport, location, office space and resource use (Goodman et al, 2004) for modern organisations and business sectors, the research has attempted to understand the factors and processes through which organisations have adopted teleworking in relation to green computing. The study has surveyed and built upon the body of knowledge concerning teleworking and green computing including applications and practice in the business research literature. In these terms the key benefits and barriers of what is known as “green teleworking” in contemporary organisations have been considered and the various definitions and models of teleworking and green computing have been analysed. A review of the processes and dynamics of green teleworking as an innovative practice in modern organisations has been undertaken. Preliminary research questions for this study which arise out of the literature include:

‘How do organisations overcome the barriers to adopting green teleworking?’

‘To what extent does teleworking, and specifically green telework, contribute towards a green computing environment?’

Following the identification of the contemporary benefits and barriers of the adoption of green teleworking, a model that highlights the importance of the factors for organisations has been developed to highlight the processes involved. In fact, teleworking technologies are variously implemented for green computing initiatives and the many advantages include lower greenhouse gas emissions related to travel, greater worker satisfaction and, as a result of lower overhead office costs, increased profit margins. The chapter initially investigates the appropriateness of a working definition of teleworking with regard to green computing and following this explores the benefits, and barriers, of teleworking in relation to a green computing environment. The theoretical frameworks and models of teleworking are then considered and a conceptual model of the contribution of teleworking to green computing is formulated. It is the intention of the chapter to identify, and articulate, those teleworking

concepts that will be useful to academicians, scientists, business entrepreneurs, practitioners, managers and policy makers, and to indicate future research directions for research scholars and students with similar interests.

The research methodology has involved an extensive literature review into the fields of Teleworking and Green Telework. The literature review has identified journals, articles and documents that define, describe, test and analyse the concepts of Teleworking and Green Telework. Various definitions of Teleworking have been analysed from research papers and articles in contemporary journals and a definition of Green Telework has been given. The review has illustrated various trends and research gaps and has assisted in the formulation of a conceptual model of the contribution of Teleworking towards Green Computing. The research design has involved a logical sequence from the thematic literature review to the study's research questions, theoretical frameworks and models of Teleworking. This has been followed by formulation of the conceptual model, discussion of the usefulness of the model and future research directions, and the conclusions (Yin, 2004).

BACKGROUND

Teleworking definitions

The definition of telework proposed by the European Commission reads as follows: *'Telework is a form of organising work, using information technology, in the context of an employment contract/relationship, where work, which could also be performed at the employer's premises, is carried out away from those premises on a regular basis'* (Krzyskow, 2006). The role of technology is reinforced by the definition used in the Polish legislations labour code which defines telework as *'work done on a regular basis from the workplace, using means of electronic communication, i.e. technical solutions, including information technology devices and appropriate software tools, which enable individual communication over a distance while transferring data between information technology systems. A teleworker is a person who performs telework and passes the result of their work to the employer by means of electronic communication, especially by means of e-mail'* (Krzyskow, 2007). The Australian Telework Advisory Committee (2005) adopted a working definition of telework to include work undertaken, either on a full-time, part-time or occasional basis, by an employee or self-employed person, which is performed away from the

traditional office environment. This includes working from home, and which is enabled by ICT, such as mobile telephony or the internet. Australian Telework Advisory Committee (2006) research findings show that owing to the lack of a consistent definition of telework, it is difficult to assemble authoritative data when measuring the uptake of telework across industry sectors and between countries. Daniels et al (2001) define mobile telework as multi-location or nomadic telework as a brand of work that usually involves travel and/or spending time on the customer's work location with the teleworker probably utilising laptop computers and mobile phones to support their mobile work.

In an analysis of Daniel's definition of mobile teleworking, Hislop & Axtell (2007) suggest that the technology element of the definition leaves out jobs such as lorry driving, which involves considerable amounts of mobility however in some way necessitates minimal use to be made of information and communication technologies. Perez *et al* (2004) views teleworking as the organisation of work through the utilisation of communication and information technologies that facilitate managers and employees to access their work activities from distant locations including hotels, airports and other remote locations (mobile teleworking), managers and employees homes (home-based teleworking) and branch offices set up solely for the intention of lightening the employee's daily commute (telecentres or teleworking centres).

Niles (1994) definition of teleworking concurs with the work of Perez *et al* (2004), by defining telework as working outside the conventional work place and communicating with it by way of telecommunications or computer-based technology. Sullivan & Lewis (2001) encapsulate most of the above definitions of telework in a brief definition which states that telework is work practice that takes place anywhere and anytime. Ndubisi and Kahraman (2005) define teleworking as 'an information and communication technology aided work arrangement concerned with the use of personal computers, dedicated word processors or terminals, telephone, fax, e-mail, modem etc for work-related purposes from the employee's home, a satellite or neighbourhood work centre or any flexible work location outside the traditional work place will be adopted'. Building upon these definitions we define green teleworking as 'work undertaken away from the conventional office location using computer and telecommunications technologies involving green considerations of the environment, transport, location, office space and resource use'.

Benefits of Teleworking

Teleworking nowadays is considered as a flexible way to organize work and no longer as a technological innovation (Bridoux and Taskin, 2005). Teleworking represents an alternative work arrangement facilitated by information and communication technologies that allow the employee to work physically outside the conventional workplace, and, therefore, brings work to the worker (Fairweather, 1999) (Lake, 2013). This includes working away from the company premises (e.g. at home, in travel, in tele-centres), and is buttressed by the works of Watad and DiSanzo, 2000; Nilles, 1992; Olsen, 1983; that view telework as the inclusion of opportunities that employees are given to work from home rather than reporting to a centralised office site. Flexible, and in most cases unregulated, work time is another trait of teleworking which, according to Feldman and Gainey (1997), involves many workers making use of telecommunications technology to extend the workday after they arrive home, which in conventional terms will be classed as after office hours time.

Scott and Timmerman (1999) evaluated issues concerned with teleworking including communication technologies options and their role on virtual work and assorted workplace classification. The conclusion of the evaluation was that telephone is the most used technology and they further discovered that there are a number of differences between the telecommunication technologies teleworkers used for communication and interface with a range of other parties (Scott and Timmerman, 1999).

Work involving processing data such as text, graphics, video, etc (ENTER, 2007) are active teleworking mediums and these technologies are the backbone of any telecommuting programme and managing them is critical in the support of all teleworking programmes and initiatives (Siha *et al*, 2006). Byrd and Gulbro (1998) examined the significance of e-mail as a distributor and disseminator of information. However, they caution that e-mail should not be used to resolve employee crisis or to convey disapproval and they advise, that guidelines should be offered so that employees know when they should use face-to-face or telephone interactions (Byrd and Gulbro, 1998). Gornall *et al* (1999) highlighted the need for video conferencing and its unique benefits over emails and phone conversations in organisations which can be very beneficial to the Green Teleworking concept.

Telework allows employees flexibility and control over their schedules (Strum, 2001; Hill *et al.*, 1998). There have been different definitions of teleworking, however, summarizing all dimensions and conceptual criteria used by different authors, and admitting Qvortrup's (1998) claims that there is no reason to believe that an ambiguous and restrictive definition can be established for such a diverse phenomenon as teleworking. Huws *et al* (1990) argue that three components are mandatory to recognize somebody as a teleworker: working in a remote location from employer or contractors' premises; use of IT technologies to complete work; and use of communications technologies to communicate for work purposes (with employer, colleagues, clients, etc.). According to Kamerade and Burchell (2004), there are three basic dimensions along with the different types of telework that can vary in addition to the three mandatory components: the location of remote work (Lim and Teo, 2000), combining home and traditional office, in satellite offices, telecentres (Bussing, 1998); the proportion of working time spent on remote working (Daniels *et al*, 2001); permanent or occasional work at home (Bussing, 1998); and employment status e.g. freelancer, employed, self-employed etc (Daniels *et al*, 2001). There can be a wider variety of different types of teleworkers flexible enough to meet diverse analytical purposes and to concentrate on the teleworking specifics in different contexts (Kamerade and Burchell, 2004).

Another empirical study primarily associated with work that is repetitive, measurable and structured performed by DuBrin (1991), showed an increase in telework work-at-home by practicing employees. Chevron and Primeau (1996) examined teleworkers' behaviour and workers' attitude and found that teleworkers appreciate the freedom and feel more efficient; however they miss the socialisation aspect of the typical work arrangement. The average capacity utilisation for the centre is about 54 percent based on regular users (Alcott, 2001). Programmes can be designed to train and educate people with disabilities for work in knowledge-based sectors which may assist in overcoming limitations to employment possibilities for people with disabilities (Baker *et al*, 2006).

Ndubisi and Kahraman (2005) have chronicled a list of these potential benefits and these are the balance between work, family and leisure is an advantage that teleworking offers to individuals. The flexibility issue, of caring for young children or an elderly family member while working from home, is addressed in conjunction with the balance issue in the family (Siha *et al*, 2006). There are many flexible life scheduling methods to accommodate new tasks. Hill *et al* (1998) discussed the results of an empirical study where the influence of the

virtual office was examined and it was found that it has a great positive influence on productivity and flexibility.

Less commute travel and more effective use of work time which translates to increased productivity results from eliminating the wasted time that a real commute requires and as a benefit of teleworking that is highlighted in studies by Davies (1995), Hill *et al* (1998) and Angove *et al* (2007). A study by DuBrin (1991) showed an increase in productivity of work-at-home employees, this was primarily associated with work that is structured, repetitive and measurable.

Bailey and Kurland (2002) conclude that work/life balance is indeed a benefit of telework but that the effect is primarily a benefit for “dual-career” families. Tietze (2002) reviewed a series of case studies of the UK teleworker that provided additional support for the benefits of dual-career spouses. One male spouse was able to take on more family duties including ‘child rearing tasks’ as a result of telework opportunities. Work–life balance has become increasingly important for a number of social and economic reasons which are making organisations think about how they work, government think about how people balance paid and unpaid work and care, and individuals think about the role work has and will have at different stages of their life. Broadly, this shift is influenced by changes in markets, ways of working, the labour market and expectations of work (Miller *et al*, 2008).

Hopkinson and James (2001) evaluated self-completion questionnaires from British Telecom (BT) employees who were in the process of registering for the BT options 2000 teleworking programme (a programme by BT to enable staff telework and reduce organisational cost). It was discovered that some employees were already working at home an average of 1.9 days a week and, considering overall, respondents anticipated that in future they will operate from home an average of 3.6 days per week (average car mileage saved by pre-existing teleworking was 95 miles per week per teleworker) (Hopkinson and James, 2001).

Internal research by Hewlett-Packard Ireland showed that teleworking can increase productivity by 25%. Relevant factors include reduced distractions and interruptions among teleworkers, as well as fewer commuting problems and a reduction in absenteeism (Sweeny, 1998). Productivity improves due to increased work efficiency in their work environment and

the Telefutures report quoted figures of up to 50% reduction in sick leave (Bertin and O'Neill, 1996).

At an economic level, teleworking assists in the reduction of operational overheads especially accommodation and can provide a possible solution to the problems of rising office overheads, office expansion or situations where a high proportion of office desks are empty at any one time (National Advisory Council on Teleworking, 1999).

Barriers of Teleworking

The Sensis Report (2005) suggests that some businesses that did not have employees teleworking said that the main barrier was a belief that it was not suitable for their type of work. Also, in the Sensis report, 13 per cent of teleworkers report a negative impact of having to work longer hours (Sensis Report, 2005). Teleworkers may also think that their profession is being hampered by a lack of social contact with their contemporaries and managers and by being absent from the office (Australian Telework Advisory Committee, 2006).

In February 2005, the UK government announced a public consultation on extending the British flexible working laws that were introduced in April 2003 (DTI, 2005). In 2003, parents of children under six and disabled children under eighteen were given the right to request flexible working patterns, which included part-time working, variations in working hours and home working (DTI, 2005). Since employers have a duty to consider such requests seriously a government survey estimated that thirteen per cent of employees requested a change to working patterns in the first year of this law and eighty-six percent of those requests were wholly or partially accepted, meaning that around 80,000 people had new flexible working patterns (DTI, 2004). Ten per cent of those requests concerned working from home on a regular basis (DTI, 2004). If the home working ratio seen in the first year is a reliable predictor, this means perhaps 100,000 further people will be working from home on a regular basis (DTI, 2005). While the more formal aspects of teleworking are the subject of widely available advice concerning legal health and safety and some technology and work organization aspects (DTI, 2003), there are deeper unaddressed issues. These issues, as highlighted by Gundry and Slater (2005), are trust, work management, information management, social and team aspects, visibility and development, communications and time management and isolation (Angove *et al*, 2007). Technology is viewed as the backbone for

any teleworking programme and managing it is critical in the sustainability and support of teleworking and technology is the enabler of teleworking (Siha *et al*, 2006).

Theoretical Frameworks and Models of Teleworking

Research has shown that not all studies have supported teleworking. Von Glinow and Metzger (1988) attempted to offer an even-handed view by highlighting the problems experienced as a result of teleworking as a mode of work. Such problems highlighted are: social isolation, the presence of children, scarcity of non-financial incentives, career progression option, control mechanisms for efficient direction and governance, loyalty and commitment (Von Glinow and Metzger, 1988). Gainey *et al* (1999) and Davenport and Pearlson (1998) also agree that social isolation is a problem in the teleworking work pattern in their research. Venkatesh and Vitalari (1992) cited teleworking inside the wider context of a non-synergised organisational structure. In their research, they consign to additional work done at home, in addition to the usual office based work. A focal input of Venkatesh and Vitalari's model is the merging of the three factors of the organisation work factor, the technology work factor and the household factor with emphasis on home-work relations.

There are several representations of teleworking however, according to an Australian telework advisory committee consultation paper (2002), telework has eight models and they are satellite centres, time-shifting, home-based telework, home shoring, mobile workers, virtual working, home-based self employment and off-shoring. Different conceptual models for the adoption of telework and its uses have been proposed by many researchers and these are evidenced in the literature.

There are several models worth exploring to develop a deeper appreciation of teleworking. For instance, the work of Gray (1997) adopted the supply/demand approach of telework; the relationship between different telework practices and organisational outcomes by Belanger and Collins (1998). The Siha and Monroe (2006) research model follows a top-down viewpoint that starts with a tactical organisational element controlled by the regulatory and competitive environment within which an organisation operates. The Siha and Monroe model advocates government regulation and competition because they present the momentum for organisations to consider telework work patterns (Siha and Monroe, 2006).

A CONCEPTUAL MODEL OF GREEN TELEWORKING

The conceptual model of green teleworking developed for the research is central to the research questions, methodology and survey work. It has been fashioned as a model that depicts the organisational adoption process of green teleworking and has been developed taking into consideration important stakeholders and defining the main concepts. The principal concepts concerning Green Teleworking identified in the literature are: 1) Environment, 2) Transport/travel, 3) Location of work, 4) Office space, and 5) Resource use (Goodman et al, 2004), and these are described below.

1) Telework and the Environment

Reduced environmental impacts is a major benefit of teleworking and according to the Department of the Environment and the Environmental Protection Agency in Ireland, motor vehicles are a significant source of greenhouse gases, air pollution, noise, and deterioration of the urban environment and health problems. This has led to their acknowledgement of the environmental benefits of teleworking such as reduced commuting that will lead to less gas consumption and less emissions, possible saving in energy usage in modern buildings, and reduced traffic congestion. Additional benefits to the teleworker include a reduction in commuting time and the increase in leisure/family time, health benefits, a reduction in stress levels and possible cleaner environment benefits and financial savings (National Advisory Council On Teleworking, 1999). Even though local air pollution has declined with the advent of catalytic converters and cleaner fuels, improvement in fuel efficiency for individual vehicles has been balanced by the growth in the volume of traffic (Department of Transport, 2002). Sometimes alternatively called ‘telecommuting’, teleworking has been presented as an answer to the inconvenience of traffic congestion and pollution with the supposition that travel will be reduced because of the eradication of commuting trips (Baines, 2002; Pyoria, 2003).

2) Transport/travel

Teleworking using mobile networking devices could promote a general shift away from passenger car travel (Goodman *et al*, 2004) and recent European Commission research has underscored a scenario of simultaneously increasing road congestion and rapidly improving mobile computing. Since public transportation is more open and adaptable to mobile

computing than the private car i.e. with wireless internet now frequently available on trains, the research envisages the prospect of a movement from the car to the bus, tram and train (Ndubuisi, 2012) (Erdmann *et al*, 2004). A study by Mitchell & Trodd (1994) observed the travel behaviour of a small sample of practicing UK teleworkers and found an average reduction in commute of 113 miles per week (even after creating allowances for remaining travel to work and additional non-work trips). A study by Flexibility Ltd (2000) and Angove *et al* (2007), also support this, reporting that time wasted in traffic jams can represent a significant loss to the economy, as evidenced in the estimated net public loss to the UK economy at £20 billion. Environmental benefits from increased telework through reduced traffic congestion and carbon emissions will assist to address air quality and the quality of life in metropolitan areas (Lake, 2013) and business savings can be realized by providing flexible telework arrangements which improve worker productivity, efficiency and organizational effectiveness and reduce staff turnover and absenteeism (Sensis, 2005). Organizations that have established business cases and invested in telework, are reaping the benefits because they outweigh the costs (Sensis, 2005).

3) Location of work

Improved flexibility and work-life balance is often mentioned in relation to teleworking (Wilks & Billsberry, 2007). Kurland and Bailey (1999) and Gurstein (2001) mention the supposition that doing work from home allows a more beneficial work-life balance even though Gurstein (2001) questions if it is truly the case. Tietze and Musson (2005) advise that the boundaries and discourses of work and home blur when people telework while it is suggested by Wilson and Greenhill (2005) that gendered identities and roles will be renegotiated because of the promised flexibility of telework. Tietze and Musson (2005) found that working from home was not an interruption-free method of work, however they found out from the teleworkers interviewed that they were able to make out time to benefit their families and themselves and these moments were much appreciated. Business productivity and cost savings advantages are evidence that indicate the positive consequences and cost of teleworking to employers (Jackson and van der Wielen, 1998; MITEL, 1998). Teleworking is viewed as an attractive working arrangement among employees generally, as increased flexibility of working hours and location of work can be used to meet the changing needs of people throughout their lives, and during human and natural disasters, the ability to work in a

decentralized manner, away from central business locations, can allow businesses and governments to provide ongoing services (ATAC, 2006).

4) Office space

Cost savings in office space are a major advantage of teleworking because people who telework do not use office space and do not create overheads and this advantage even covers part-time teleworking hot-desking because they still generate space savings (Baruch, 2001). Companies are now reducing office work space and streamlining work activities on the basis of room-sharing and remote working and traditional workplaces and central offices are going through fragmentations and shrinking in order to reduce office overheads and cost of facilities (Morelli, 2001).

5) Resource use

Since the mid 1990s traditional 'nine-to-five' offices were replaced by flexible working solutions for employees such as virtual offices, hot desking, motelling, hotelling and campus-style organisations (Wood, 1997). Several studies especially those from Baruch and Nicholson, 1997; Hill *et al*, 1998; Leonard, 2000, and Lake, 2013 have highlighted employees' improved efficiency and effectiveness and even increased morale and satisfaction as some intangible benefits of teleworking. There is definitely a positive impact of teleworking on individual performance, well being and effectiveness (Atkinson, 1985; Baruch, 2000; Di Martino and Wirth, 1990). Increased workforce participation in teleworking and remote working is becoming more of an option for employers of labour because according to Hart (2008) *'employing staff to work from home gives employers access to staff with the skills they need, no matter where they may be based. And while our country's network has room for improvement, it does offer many people the facilities to log onto company networks – just as though they were sitting at a desk on-site. And once the concept of staff working remotely has been accepted, it opens up the possibility of employing people with the skills a company needs no matter where in the world they may be'*. Empirical studies indicate that in organisations the human resources department's flexible practices such as flextime; part-time work, compressed work week etc., contribute a great deal and positively impact on firm performance (Konrad and Mangel, 2000; Perry-Smith and Blum, 2000; Eaton, 2003).

Figure 1 illustrates the conceptual model of the contribution of Teleworking towards Green Computing according to the main concepts (Goodman et al, 2004).

DISCUSSION OF THE USEFULNESS OF THE MODEL AND FUTURE RESEARCH DIRECTIONS

With regard to the usefulness of the conceptual model, the benefits include the provision of a framework that clearly specifies the main concepts associated with the adoption of a Green Telework approach by organisations and companies. The general nature of the model enables its use for a broad spectrum of organisational situations and through this it will be possible to evaluate the consequences of the adoption of a Green Telework approach. Further to the development of the model it will be possible to provide a clear direction for future research into Green Telework. This will address some of the existing gaps in the literature and provide an agenda for future research. A key success factor in terms of how well an organisation performs in terms of Green Teleworking is whether there is a positive environmental impact (Campbell and McDonald, 2009). One measure will be whether there is a significant reduction in travel leading to less pollution and congestion. Future research is therefore required to investigate this. Existing research into Teleworking, and specifically Green Teleworking, has tended to examine advantages and disadvantages. There is therefore a need to investigate the deeper issues of the various groups involved. Finally, with the development of the latest laptops and netbooks these will have a much smaller environmental impact buttressing the need for a more universal Green Computing environment and a future research strand could be to quantify the benefits of these.

CONCLUSION

The chapter has considered the strategic green issues of teleworking in terms of the environment, transport, location, office space and resource use for modern organisations and business sectors and has formulated a conceptual model of the processes involved. It has been found that teleworking technologies are variously implemented for green computing initiatives and the many advantages include lower greenhouse gas emissions related to travel, greater worker satisfaction and, as a result of lower overhead office costs, increased profit margins. The chapter has investigated the appropriateness of a working definition of

teleworking with regard to green computing and has explored the benefits, and barriers, of teleworking in a green computing environment. In relation to the research questions posited it has been found that organisations can overcome the barriers to the adoption of green teleworking by taking an informed approach to enable competitive advantage and cost savings. In these terms teleworking, and specifically green telework, can make a positive contribution towards a green computing environment. Following consideration of the theoretical frameworks and models of teleworking a conceptual model of the contribution of teleworking to green computing has been formulated. This has identified and articulated those teleworking concepts that are useful to both academics and practitioners and from this the future directions for research have been identified.

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KEY TERMS & DEFINITIONS

Home working: working from home, which is enabled by ICT, such as mobile telephony or the internet.

Information and Communication Technology (ICT): use of computer based information systems (ISs) and communication systems (CSs) to process, transmit and store information and data.

Internet: worldwide network of networks that use the TCP/IP communications protocol.

Green Teleworking: work undertaken away from the conventional office location using computer and telecommunications technologies involving green considerations of the environment, transport, location, office space and resource use.

Network: computer network that is a group of computers or devices connected together to share resources and exchange data.

Software: computer programming code providing a computer with instructions to perform tasks.

Teleworking: the organisation of work through the use of information and communication technologies (ICTs) to access work activities from distant locations.

APPENDIX 3

**RESEARCH CONFERENCE PAPER FOR EMERGING THEMES IN BUSINESS
2012 NEWPORT CONFERENCE**

A conceptual model of the contribution of Teleworking towards a Green Computing Environment

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Key words: Green Computing, Teleworking, Conceptual Model, Green Telework

Abstract

The aims of the paper are to consider the strategic green issues of teleworking in terms of the environment, transport, location, office space and resource use for modern organisations and business sectors and to formulate a conceptual model of the processes involved. In fact, teleworking technologies are variously implemented for green computing initiatives and the many advantages include lower greenhouse gas emissions related to travel, greater worker satisfaction and, as a result of lower overhead office costs, increased profit margins. The paper initially investigates the appropriateness of a working definition of teleworking with regard to green computing and following this explores the benefits, and barriers, of teleworking in a green computing environment. The theoretical frameworks and models of teleworking are then considered and a conceptual model of the contribution of teleworking to green computing is formulated. It is the intention of the paper to identify, and articulate, those teleworking concepts that will be useful to academicians, scientists, business entrepreneurs, practitioners, managers and policy makers, and to indicate future research directions for research scholars and students with similar interests.

Key words: Green Computing, Teleworking, Conceptual Model, Green Telework

Introduction

In relation to the aims of the paper, which are to consider the strategic green issues of teleworking in terms of the environment, transport, location, office space and resource use (Goodman et al, 2004) for modern organisations and business sectors, the research has attempted to understand the factors and processes through which organisations have adopted teleworking in relation to green computing. The study has surveyed and built upon the body of knowledge concerning teleworking and green computing including applications and practice in the business research literature. In these terms the key benefits and barriers of what is known as “green teleworking” in contemporary organisations have been considered and the various definitions and models of teleworking and green computing have been analysed. A review of the processes and dynamics of green teleworking as an innovative practice in modern organisations has been undertaken. Preliminary research questions for this study which arise out of the literature include:

‘How do organisations overcome the barriers to adopting green teleworking?’

‘To what extent does teleworking, and specifically green telework, contribute towards a green computing environment?’

Following the identification of the contemporary benefits and barriers of the adoption of green teleworking, a model that highlights the importance of the factors for organisations has been developed to highlight the processes involved. In fact, teleworking technologies are variously implemented for green computing initiatives and the many advantages include lower greenhouse gas emissions related to travel, greater worker satisfaction and, as a result of lower overhead office costs, increased profit margins. The paper initially investigates the appropriateness of a working definition of teleworking with regard to green computing and following this explores the benefits, and barriers, of teleworking in relation to a green computing environment. The theoretical frameworks and models of teleworking are then considered and a conceptual model of the contribution of teleworking to green computing is formulated. It is the intention of the paper to identify, and articulate, those teleworking concepts that will be useful to academicians, scientists, business entrepreneurs, practitioners,

managers and policy makers, and to indicate future research directions for research scholars and students with similar interests.

Research Approach

The research methodology has involved an extensive literature review into the fields of Teleworking and Green Telework. The literature review has identified journals, articles and documents that define, describe, test and analyse the concepts of Teleworking and Green Telework. Various definitions of Teleworking have been analysed from research papers and articles in contemporary journals and a definition of Green Telework has been given. The review has illustrated various trends and research gaps and has assisted in the formulation of a conceptual model of the contribution of Teleworking towards Green Computing. The research design has involved a logical sequence from the thematic literature review to the study's research questions, theoretical frameworks and models of Teleworking. This has been followed by formulation of the conceptual model, discussion of the usefulness of the model and future research directions, and the conclusions (Yin, 2004).

Discussion

Teleworking definitions

The definition of telework proposed by the European Commission reads as follows: *'Telework is a form of organising work, using information technology, in the context of an employment contract/relationship, where work, which could also be performed at the employer's premises, is carried out away from those premises on a regular basis'* (Krzyskow, 2006). The role of technology is reinforced by the definition used in the Polish legislations labour code which defines *telework as 'work done on a regular basis from the workplace, using means of electronic communication, i.e. technical solutions, including information technology devices and appropriate software tools, which enable individual communication over a distance while transferring data between information technology systems. A teleworker is a person who performs telework and passes the result of their work to the employer by means of electronic communication, especially by means of e-mail'* (Krzyskow, 2007). The Australian Telework Advisory Committee (2005) adopted a working definition of telework to include work undertaken, either on a full-time, part-time or occasional basis, by an employee or self-employed person, which is performed away from the

traditional office environment. This includes working from home, and which is enabled by ICT, such as mobile telephony or the internet. Australian Telework Advisory Committee (2006) research findings show that owing to the lack of a consistent definition of telework, it is difficult to assemble authoritative data when measuring the uptake of telework across industry sectors and between countries. Daniels et al (2001) define mobile telework as multi-location or nomadic telework as a brand of work that usually involves travel and/or spending time on the customer's work location with the teleworker probably utilising laptop computers and mobile phones to support their mobile work.

In an analysis of Daniel's definition of mobile teleworking, Hislop & Axtell (2007) suggest that the technology element of the definition leaves out jobs such as lorry driving, which involves considerable amounts of mobility however in some way necessitates minimal use to be made of information and communication technologies. Perez *et al* (2004) views teleworking as the organisation of work through the utilisation of communication and information technologies that facilitate managers and employees to access their work activities from distant locations including hotels, airports and other remote locations (mobile teleworking), managers and employees homes (home-based teleworking) and branch offices set up solely for the intention of lightening the employee's daily commute (telecentres or teleworking centres).

Niles (1994) definition of teleworking concurs with the work of Perez *et al* (2004), by defining telework as working outside the conventional work place and communicating with it by way of telecommunications or computer-based technology. Sullivan & Lewis (2001) encapsulate most of the above definitions of telework in a brief definition which states that telework is work practice that takes place anywhere and anytime. Ndubisi and Kahraman (2005) define teleworking as 'an information and communication technology aided work arrangement concerned with the use of personal computers, dedicated word processors or terminals, telephone, fax, e-mail, modem etc for work-related purposes from the employee's home, a satellite or neighbourhood work centre or any flexible work location outside the traditional work place will be adopted'. Building upon these definitions we define green teleworking as 'work undertaken away from the conventional office location using computer and telecommunications technologies involving green considerations of the environment, transport, location, office space and resource use'.

Benefits of Teleworking

Teleworking nowadays is considered as a flexible way to organize work and no longer as a technological innovation (Bridoux and Taskin, 2005). Teleworking represents an alternative work arrangement facilitated by information and communication technologies that allow the employee to work physically outside the conventional workplace, and, therefore, brings work to the worker (Fairweather, 1999) (Lake, 2013). This includes working away from the company premises (e.g. at home, in travel, in tele-centres), and is buttressed by the works of Watad and DiSanzo, 2000; Nilles, 1992; Olsen, 1983; that view telework as the inclusion of opportunities that employees are given to work from home rather than reporting to a centralised office site. Flexible, and in most cases unregulated, work time is another trait of teleworking which, according to Feldman and Gainey (1997), involves many workers making use of telecommunications technology to extend the workday after they arrive home, which in conventional terms will be classed as after office hours time.

Scott and Timmerman (1999) evaluated issues concerned with teleworking including communication technologies options and their role on virtual work and assorted workplace classification. The conclusion of the evaluation was that telephone is the most used technology and they further discovered that there are a number of differences between the telecommunication technologies teleworkers used for communication and interface with a range of other parties (Scott and Timmerman, 1999).

Work involving processing data such as text, graphics, video, etc (ENTER, 2007) are active teleworking mediums and these technologies are the backbone of any telecommuting programme and managing them is critical in the support of all teleworking programmes and initiatives (Siha *et al*, 2006). Byrd and Gulbro (1998) examined the significance of e-mail as a distributor and disseminator of information. However, they caution that e-mail should not be used to resolve employee crisis or to convey disapproval and they advise, that guidelines should be offered so that employees know when they should use face-to-face or telephone interactions (Byrd and Gulbro, 1998). Gornall *et al* (1999) highlighted the need for video conferencing and its unique benefits over emails and phone conversations in organisations which can be very beneficial to the Green Teleworking concept.

Telework allows employees flexibility and control over their schedules (Strum, 2001; Hill *et al.*, 1998). There have been different definitions of teleworking, however, summarizing all dimensions and conceptual criteria used by different authors, and admitting Qvortrup's (1998) claims that there is no reason to believe that an ambiguous and restrictive definition can be established for such a diverse phenomenon as teleworking. Huws *et al.* (1990) argue that three components are mandatory to recognize somebody as a teleworker: working in a remote location from employer or contractors' premises; use of IT technologies to complete work; and use of communications technologies to communicate for work purposes (with employer, colleagues, clients, etc.). According to Kamerade and Burchell (2004), there are three basic dimensions along with the different types of telework that can vary in addition to the three mandatory components: the location of remote work (Lim and Teo, 2000), combining home and traditional office, in satellite offices, telecentres (Bussing, 1998); the proportion of working time spent on remote working (Daniels *et al.*, 2001); permanent or occasional work at home (Bussing, 1998); and employment status e.g. freelancer, employed, self-employed etc (Daniels *et al.*, 2001). There can be a wider variety of different types of teleworkers flexible enough to meet diverse analytical purposes and to concentrate on the teleworking specifics in different contexts (Kamerade and Burchell, 2004).

Another empirical study primarily associated with work that is repetitive, measurable and structured performed by DuBrin (1991), showed an increase in telework work-at-home by practicing employees. Chevron and Primeau (1996) examined teleworkers' behaviour and workers' attitude and found that teleworkers appreciate the freedom and feel more efficient; however they miss the socialisation aspect of the typical work arrangement. The average capacity utilisation for the centre is about 54 percent based on regular users (Alcott, 2001). Programmes can be designed to train and educate people with disabilities for work in knowledge-based sectors which may assist in overcoming limitations to employment possibilities for people with disabilities (Baker *et al.*, 2006).

Ndubisi and Kahraman (2005) have chronicled a list of these potential benefits and these are the balance between work, family and leisure is an advantage that teleworking offers to individuals. The flexibility issue, of caring for young children or an elderly family member while working from home, is addressed in conjunction with the balance issue in the family (Siha *et al.*, 2006). There are many flexible life scheduling methods to accommodate new tasks. Hill *et al.* (1998) discussed the results of an empirical study where the influence of the

virtual office was examined and it was found that it has a great positive influence on productivity and flexibility.

Less commute travel and more effective use of work time which translates to increased productivity results from eliminating the wasted time that a real commute requires and as a benefit of teleworking that is highlighted in studies by Davies (1995), Hill *et al* (1998) and Angove *et al* (2007). A study by DuBrin (1991) showed an increase in productivity of work-at-home employees, this was primarily associated with work that is structured, repetitive and measurable.

Bailey and Kurland (2002) conclude that work/life balance is indeed a benefit of telework but that the effect is primarily a benefit for “dual-career” families. Tietze (2002) reviewed a series of case studies of the UK teleworker that provided additional support for the benefits of dual-career spouses. One male spouse was able to take on more family duties including ‘child rearing tasks’ as a result of telework opportunities. Work–life balance has become increasingly important for a number of social and economic reasons which are making organisations think about how they work, government think about how people balance paid and unpaid work and care, and individuals think about the role work has and will have at different stages of their life. Broadly, this shift is influenced by changes in markets, ways of working, the labour market and expectations of work (Miller *et al*, 2008).

Hopkinson and James (2001) evaluated self-completion questionnaires from British Telecom (BT) employees who were in the process of registering for the BT options 2000 teleworking programme (a programme by BT to enable staff telework and reduce organisational cost). It was discovered that some employees were already working at home an average of 1.9 days a week and, considering overall, respondents anticipated that in future they will operate from home an average of 3.6 days per week (average car mileage saved by pre-existing teleworking was 95 miles per week per teleworker) (Hopkinson and James, 2001).

Internal research by Hewlett-Packard Ireland showed that teleworking can increase productivity by 25%. Relevant factors include reduced distractions and interruptions among teleworkers, as well as fewer commuting problems and a reduction in absenteeism (Sweeny, 1998). Productivity improves due to increased work efficiency in their work environment and

the Telefutures report quoted figures of up to 50% reduction in sick leave (Bertin and O'Neill, 1996).

At an economic level, teleworking assists in the reduction of operational overheads especially accommodation and can provide a possible solution to the problems of rising office overheads, office expansion or situations where a high proportion of office desks are empty at any one time (National Advisory Council on Teleworking, 1999).

Barriers of Teleworking

The Sensis Report (2005) suggests that some businesses that did not have employees teleworking said that the main barrier was a belief that it was not suitable for their type of work. Also, in the Sensis report, 13 per cent of teleworkers report a negative impact of having to work longer hours (Sensis Report, 2005). Teleworkers may also think that their profession is being hampered by a lack of social contact with their contemporaries and managers and by being absent from the office (Australian Telework Advisory Committee, 2006).

In February 2005, the UK government announced a public consultation on extending the British flexible working laws that were introduced in April 2003 (DTI, 2005). In 2003, parents of children under six and disabled children under eighteen were given the right to request flexible working patterns, which included part-time working, variations in working hours and home working (DTI, 2005). Since employers have a duty to consider such requests seriously a government survey estimated that thirteen per cent of employees requested a change to working patterns in the first year of this law and eighty-six percent of those requests were wholly or partially accepted, meaning that around 80,000 people had new flexible working patterns (DTI, 2004). Ten per cent of those requests concerned working from home on a regular basis (DTI, 2004). If the home working ratio seen in the first year is a reliable predictor, this means perhaps 100,000 further people will be working from home on a regular basis (DTI, 2005). While the more formal aspects of teleworking are the subject of widely available advice concerning legal health and safety and some technology and work organization aspects (DTI, 2003), there are deeper unaddressed issues. These issues, as highlighted by Gundry and Slater (2005), are trust, work management, information management, social and team aspects, visibility and development, communications and time management and isolation (Angove *et al*, 2007). Technology is viewed as the backbone for

any teleworking programme and managing it is critical in the sustainability and support of teleworking and technology is the enabler of teleworking (Siha *et al*, 2006).

Theoretical Frameworks and Models of Teleworking

Research has shown that not all studies have supported teleworking. Von Glinow and Metzger (1988) attempted to offer an even-handed view by highlighting the problems experienced as a result of teleworking as a mode of work. Such problems highlighted are: social isolation, the presence of children, scarcity of non-financial incentives, career progression option, control mechanisms for efficient direction and governance, loyalty and commitment (Von Glinow and Metzger, 1988). Gainey *et al* (1999) and Davenport and Pearlson (1998) also agree that social isolation is a problem in the teleworking work pattern in their research. Venkatesh and Vitalari (1992) cited teleworking inside the wider context of a non-synergised organisational structure. In their research, they consign to additional work done at home, in addition to the usual office based work. A focal input of Venkatesh and Vitalari's model is the merging of the three factors of the organisation work factor, the technology work factor and the household factor with emphasis on home-work relations.

There are several representations of teleworking however, according to an Australian telework advisory committee consultation paper (2002), telework has eight models and they are satellite centres, time-shifting, home-based telework, home shoring, mobile workers, virtual working, home-based self employment and off-shoring. Different conceptual models for the adoption of telework and its uses have been proposed by many researchers and these are evidenced in the literature.

There are several models worth exploring to develop a deeper appreciation of teleworking. For instance, the work of Gray (1997) adopted the supply/demand approach of telework; the relationship between different telework practices and organisational outcomes by Belanger and Collins (1998). The Siha and Monroe (2006) research model follows a top-down viewpoint that starts with a tactical organisational element controlled by the regulatory and competitive environment within which an organisation operates. The Siha and Monroe model advocates government regulation and competition because they present the momentum for organisations to consider telework work patterns (Siha and Monroe, 2006).

A Conceptual Model of Green Teleworking

The conceptual model of green teleworking developed for the research is central to the research questions, methodology and survey work. It has been fashioned as a model that depicts the organisational adoption process of green teleworking and has been developed taking into consideration important stakeholders and defining the main concepts. The principal concepts concerning Green Teleworking identified in the literature are: 1) Environment, 2) Transport/travel, 3) Location of work, 4) Office space, and 5) Resource use (Goodman et al, 2004), and these are described below.

1) Telework and the Environment

Reduced environmental impacts is a major benefit of teleworking and according to the Department of the Environment and the Environmental protection Agency in Ireland, motor vehicles are a significant source of greenhouse gases, air pollution, noise, and deterioration of the urban environment and health problems. This has led to their acknowledgement of the environmental benefits of teleworking such as reduced commuting that will lead to less gas consumption and less emissions, possible saving in energy usage in modern buildings, and reduced traffic congestion. Additional benefits to the teleworker include a reduction in commuting time and the increase in leisure/family time, health benefits, a reduction in stress levels and possible cleaner environment benefits and financial savings (National Advisory Council On Teleworking, 1999). Even though local air pollution has declined with the advent of catalytic converters and cleaner fuels, improvement in fuel efficiency for individual vehicles has been balanced by the growth in the volume of traffic (Department of Transport, 2002). Sometimes alternatively called ‘telecommuting’, teleworking has been presented as an answer to the inconvenience of traffic congestion and pollution with the supposition that travel will be reduced because of the eradication of commuting trips (Baines, 2002; Pyoria, 2003).

2) Transport/travel

Teleworking using mobile networking devices could promote a general shift away from passenger car travel (Goodman *et al*, 2004) and recent European Commission research has

underscored a scenario of simultaneously increasing road congestion and rapidly improving mobile computing. Since public transportation is more open and adaptable to mobile computing than the private car i.e. with wireless internet now frequently available on trains, the research envisages the prospect of a movement from the car to the bus, tram and train (Ndubuisi, 2012) (Erdmann *et al*, 2004). A study by Mitchell & Trodd (1994) observed the travel behaviour of a small sample of practicing UK teleworkers and found an average reduction in commute of 113 miles per week (even after creating allowances for remaining travel to work and additional non-work trips). A study by Flexibility Ltd (2000) and Angove *et al* (2007), also support this, reporting that time wasted in traffic jams can represent a significant loss to the economy, as evidenced in the estimated net public loss to the UK economy at £20 billion. Environmental benefits from increased telework through reduced traffic congestion and carbon emissions will assist to address air quality and the quality of life in metropolitan areas (Lake, 2013) and business savings can be realized by providing flexible telework arrangements which improve worker productivity, efficiency and organizational effectiveness and reduce staff turnover and absenteeism (Sensis, 2005). Organizations that have established business cases and invested in telework, are reaping the benefits because they outweigh the costs (Sensis, 2005).

3) Location of work

Improved flexibility and work-life balance is often mentioned in relation to teleworking (Wilks & Billsberry, 2007). Kurland and Bailey (1999) and Gurstein (2001) mention the supposition that doing work from home allows a more beneficial work-life balance even though Gurstein (2001) questions if it is truly the case. Tietze and Musson (2005) advise that the boundaries and discourses of work and home blur when people telework while it is suggested by Wilson and Greenhill (2005) that gendered identities and roles will be renegotiated because of the promised flexibility of telework. Tietze and Musson (2005) found that working from home was not an interruption-free method of work, however they found out from the teleworkers interviewed that they were able to make out time to benefit their families and themselves and these moments were much appreciated. Business productivity and cost savings advantages are evidence that indicate the positive consequences and cost of teleworking to employers (Jackson and van der Wielen, 1998; MITEL, 1998). Teleworking is viewed as an attractive working arrangement among employees generally, as increased flexibility of working hours and location of work can be used to meet the changing needs of

people throughout their lives, and during human and natural disasters, the ability to work in a decentralized manner, away from central business locations, can allow businesses and governments to provide ongoing services (ATAC, 2006).

4) Office space

Cost savings in office space are a major advantage of teleworking because people who telework do not use office space and do not create overheads and this advantage even covers part-time teleworking hot-desking because they still generate space savings (Baruch, 2001). Companies are now reducing office work space and streamlining work activities on the basis of room-sharing and remote working and traditional workplaces and central offices are going through fragmentations and shrinking in order to reduce office overheads and cost of facilities (Morelli, 2001).

5) Resource use

Since the mid 1990s traditional 'nine-to-five' offices were replaced by flexible working solutions for employees such as virtual offices, hot desking, motelling, hotelling and campus-style organisations (Wood, 1997). Several studies especially those from Baruch and Nicholson, 1997; Hill *et al*, 1998; Leonard, 2000, and Lake, 2013 have highlighted employees' improved efficiency and effectiveness and even increased morale and satisfaction as some intangible benefits of teleworking. There is definitely a positive impact of teleworking on individual performance, well being and effectiveness (Atkinson, 1985; Baruch, 2000; Di Martino and Wirth, 1990). Increased workforce participation in teleworking and remote working is becoming more of an option for employers of labour because according to Hart (2008) *'employing staff to work from home gives employers access to staff with the skills they need, no matter where they may be based. And while our country's network has room for improvement, it does offer many people the facilities to log onto company networks – just as though they were sitting at a desk on-site. And once the concept of staff working remotely has been accepted, it opens up the possibility of employing people with the skills a company needs no matter where in the world they may be'*. Empirical studies indicate that in organisations the human resources department's flexible practices such as flextime; part-time work, compressed work week etc., contribute a great deal and positively impact on firm performance (Konrad and Mangel, 2000; Perry-Smith and Blum, 2000; Eaton, 2003).

Figure 32 illustrates the conceptual model of the contribution of Teleworking towards Green Computing according to the main concepts (Goodman et al, 2004).

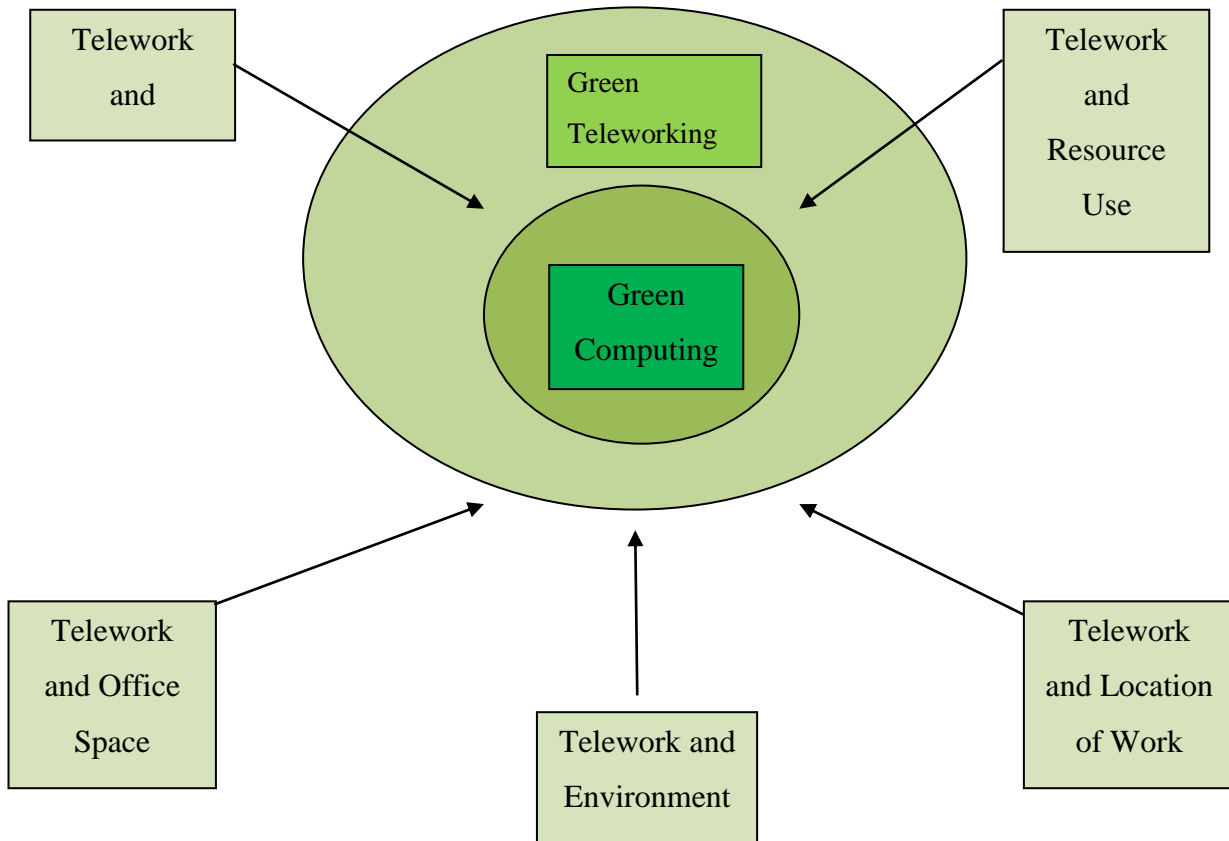


Figure 12 - A conceptual model of the contribution of Teleworking towards Green Computing (based on Goodman et al, 2004)

Discussion of the Usefulness of the Model and Future Research Directions

With regard to the usefulness of the conceptual model, the benefits include the provision of a framework that clearly specifies the main concepts associated with the adoption of a Green Telework approach by organisations and companies. The general nature of the model enables its use for a broad spectrum of organisational situations and through this it will be possible to evaluate the consequences of the adoption of a Green Telework approach. Further to the development of the model it will be possible to provide a clear direction for future research into Green Telework. This will address some of the existing gaps in the literature and provide an agenda for future research. A key success factor in terms of how well an organisation

performs in terms of Green Teleworking is whether there is a positive environmental impact (Campbell and McDonald, 2009). One measure will be whether there is a significant reduction in travel leading to less pollution and congestion. Future research is therefore required to investigate this. Existing research into Teleworking, and specifically Green Teleworking, has tended to examine advantages and disadvantages. There is therefore a need to investigate the deeper issues of the various groups involved. Finally, with the development of the latest laptops and netbooks these will have a much smaller environmental impact buttressing the need for a more universal Green Computing environment and a future research strand could be to quantify the benefits of these.

Conclusions/Implications

The paper has considered the strategic green issues of teleworking in terms of the environment, transport, location, office space and resource use for modern organisations and business sectors and has formulated a conceptual model of the processes involved. It has been found that teleworking technologies are variously implemented for green computing initiatives and the many advantages include lower greenhouse gas emissions related to travel, greater worker satisfaction and, as a result of lower overhead office costs, increased profit margins. The paper has investigated the appropriateness of a working definition of teleworking with regard to green computing and has explored the benefits, and barriers, of teleworking in a green computing environment. In relation to the research questions posited it has been found that organisations can overcome the barriers to the adoption of green teleworking by taking an informed approach to enable competitive advantage and cost savings. In these terms teleworking, and specifically green telework, can make a positive contribution towards a green computing environment. Following consideration of the theoretical frameworks and models of teleworking a conceptual model of the contribution of teleworking to green computing has been formulated. This has identified and articulated those teleworking concepts that are useful to both academics and practitioners and from this the future directions for research have been identified.

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APPENDIX 4

6TH INTERNATIONAL PASCAL CONFERENCE, LEARNING REGIONS ROLES IN REGIONAL DEVELOPMENT AND REGENERATION, 28TH TO 30TH MAY 2008. UNIVERSITY OF LIMERICK, IRELAND.

OPPORTUNITY KNOCKS

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Abstract

The EQUINEX Project Development Partnership (DP) was a Welsh EQUAL partnership under round two of EQUAL ESF initiative, Theme A - Employability. EQUINEX DP aimed to innovatively address some inequalities faced by disadvantaged people when trying to access employment, training and educational opportunities and inclusive policies and practices within the in Wales. The purpose of this paper is to present the findings from the trans-national pilot study undertaken by the Trans-national Partnership of the EQUINEX Development Partnership, which involved the regions of: Ireland, Estonia and Wales.

The rationale for the study was to gather evidence to highlight the potential of tele-working as a way of increasing employability for a diverse workforce and to raise the profile of tele-working as an innovative way of working and promoting regional development in peripheral regions.

The paper presents the findings from a pilot comparative study of current practices and perception of tele-working in three peripheral European regions; Ireland, Estonia and Wales. The pilot study was conducted within a qualitative Action Research methodology framework, which included both secondary and primary data gathering and analysis, as well as live collaborative work between the Estonian and Welsh researchers.

The research findings indicate that overall both Estonia and Wales face similar challenges regarding tele-working practices. However, each region identified complementary Tele-working policy recommendations and proposals within the overall context of Regional Development. Further research areas have also been identified by the pilot study.

The primary data sample was based on a total of eleven in-depth case studies from Estonia and Wales. Although this is a small sample within the context of a pilot study it was considered sufficient for the study to proceed.

Good practice and knowledge exchange between European regions will inform European and regional working practices. It is anticipated that a number of Vocational European Accredited Skills Programmes will develop as a result of future research.

The EQUINEX Project DP took the initiative to pilot this comparative study, which was undertaken for the first time in the three regions and it aimed to inform domestic and trans-national partnership work and future research in the area of Tele-working/flexible Working Patterns. It was also the first time that EQUINEX Project DP partner (Velvet Projects) hosted a trans-national researcher for a period of 10 days.

Key Words: Tele-working, international, comparative, employability, regional development

Introduction

The Welsh Assembly Government's economic strategy document "A Winning Wales" emphasises that the future economic success of all our communities depends on every individual having the chance to contribute to that prosperity. Tele-working was therefore considered as an opportunity to work

flexibly, aligning the needs of employees and employers whereby both groups could benefit from innovative ways of working.

The EQUAL programme initiative was launched throughout Europe, funded by the European Social Fund (ESF), and structured by the themes of employability, adaptability, entrepreneurship, equal opportunities and asylum seekers. Its aim was, through trans-national and regional co-operation, to experiment with and encourage new ways of combating all forms of discrimination and inequality faced by those groups most disadvantaged in the labour market, either in work or seeking work.

The key objective of the programme was to influence regional and European policy development and implementation. Underpinning the domestic and trans-national partnership activities were the key EQUAL principles of: innovation, empowerment, equal opportunities, trans-national activities, mainstreaming and dissemination.

It is within this context and opportunity that the Equinex Development Partnership, a Welsh EQUAL partnership funded under round two of the Community European Social Fund Initiative, was set up. The partnership set out to address some of the inequalities and barriers faced by disadvantaged people when trying to access employment, training and educational opportunities. A key element of the initiative was trans-national work and activities, for this purpose the partnership worked with Estonia and Ireland. The partners established that tele-working was a potential employability tool of significance to all partners and as such worthy of investigation.

The Action Research Equal programme initiative presented an opportunity to conduct a pilot study to investigate and compare practices of tele-working in the three regions.

Furthermore, according to the European Commission's Report (1998), the European Commission's first interest in telework dates from 1989. Concerns were raised in the context of the Communication Technology research programme RACE, when assessing risks of exclusion and opportunities for decentralisation arising from the economic impact of advanced communications on rural and remote regions. The European Commission picture on teleworking emerged in 1998 and highlighted four main trends in our understanding and use of telework;

Firstly, in Europe as a whole, the interest and practice of telework is increasing at a rapid rate. Secondly, it is widely accepted that telework methods and practices cannot be understood and applied successfully in isolation. Telework is increasingly seen in the context of, and applied in conjunction with, other key information society techniques.

Thirdly, the nature and role of telework vary significantly in different places and contexts. Varying aspects of teleworking assume importance in rural as opposed to urban settings; in areas of high and low employment; in areas of high and low intensity of ICT penetration and use; in large complex organisations and in small, rapidly evolving ones. There are many common lessons to be learned and issues to be addressed, but also much knowledge and understanding to be gained from awareness and analysis of differences between countries and regions as well as between organisations.

Fourthly, although telework is increasing some significant operational barriers to adoption remain, which require attention from legislators, organisations and the social partners. The benefits of teleworking are readily understood and maximised in organisations that are effective users of ICTs, have confident managers and employees. Where some or all of these features are missing, telework and other innovative working patterns are either low or practised informally and without appropriate organisational support.

The European Commission in consultation with social partners on modernising and improving employment relations, started negotiations on telework on the 20th of September, 2001, which have now been approved (CEC, 2006). Telework covers a wide and fast evolving spectrum of circumstances and practices. For that reason, social partners have chosen a definition of telework that covers various forms of regular telework. The social partners see telework both as a way for companies and public service organisations to modernise work organisation, and as a way for workers to reconcile work and social life and to have greater autonomy in the accomplishment of tasks. If Europe wants to make the most of the information society and knowledge economy, it must encourage innovative, flexible forms of work patterns in such a way that flexibility and security are aligned, the quality of jobs is enhanced and the chances of disabled people in the labour market are increased (CEC, 2001).

Research Methodology

The methodology framework included both primary and secondary data collection. The study was conducted within a multi-disciplinary approach using both applied and academic research methodologies.

For the purpose of the pilot study a definition of Tele-Working was agreed between the partners;

'Working at a distance from the employer's main premises using information and communication technologies'

This excluded home working, which is usually associated with self-employed/free-lance.

*The **secondary data** was extracted from the literature review of significant published materials, initiatives and relevant data that highlight Tele-Working initiatives. It aimed to identify and compare levels of good practice in Estonia, Ireland and Wales-UK. In order to frame the scope of the comparative study, the materials reviewed were not more than 6 years old, unless their significance justified inclusion in the study. The secondary provided the basis to develop the investigation framework to develop the primary data collecting tools; questionnaire and semi-structured interviews.*

*The **primary data** was sourced from questionnaires and semi-structured interviews. These provided the basis for the regional case studies, aimed to present the Employee in-depth experience of Tele-Working / Home-Working.*

The Tele-Working / Home-Working key findings were drawn from data on:

- *Current initiatives in the three member regions; Estonia, Ireland and Wales-UK*
- *Long standing examples of good practice from; Canada, Australia, USA*
- *Technology available to facilitate Tele-Working and Home Working*
- *Companies/Organisations that have adopted Tele-Working / Home-Working policies and practices in each of the member regions*
- *Sectors conducive to Tele-Working / Home-Working practices in any or all of the three member regions*
- *Operational infrastructure/technology adopted by Tele-Workers/Home-Workers*
- *Barriers to Tele-Working / Home-Working – Employer/Employee*
- *Benefits of Tele-Working / Home-Working – Employer/Employee*
- *Sustainability and wider economic impact of Tele-Working /Home-Working*

The data was gathered via:

- Regular collaborative work and consultation with regional and trans-national partners
- Desk Research - Literature searches, Internet searches
- Semi-structured interviews
- Consultation with regional and European initiatives
- Regular progress updates both at domestic and trans-national levels

Although concern was expressed regarding the validity of a small sample, it was established that within the context of a pilot study which focused on qualitative methodology it was considered sufficient for the study to proceed. Due to circumstances beyond our control the Irish partners participation was limited.

Research Stages

The research was conducted in four stages involving:

Stage 1 – Desk research

This phase of the research established current trends, practices and identified key practitioners. These findings provided the basis for the development of the questionnaires

Stage 2 – Pilot and develop research instruments in collaboration with experts in the field (Chwarae Teg and Welsh Management Council). The questionnaires were also used to identify research participants who wanted to participate in the case studies.

Stage 3 – Digital completion of questionnaires. Telephone interviews. Case studies.

Stage 4 – **Hosting Estonian researcher in Wales for 10 days to; conduct primary data analysis and merge Estonian and Welsh data**

Stage 5 – Estonian and Welsh authoring of Final Pilot Study Report

Stage 6 – Dissemination of findings in Brussels, Estonia and Wales

Research Findings

The study found that whilst there is no shortage of global studies investigating the merits of teleworking from both the employer and employee perspective, there is lack of region specific data from the regions of Estonia and Wales.

There is substantial empirical evidence regarding the merits and the challenges of implementing teleworking policies within organisations. Furthermore, the data also provided insight into a number of key factors that converge and make strong cases for the adoption and implementation of teleworking:

- The Social Case
- The Economic/Business Case
- The Environmental Case
- The Technological Case

The Social Case for Teleworking

The social case is underpinned by the elements of equal opportunities for all, empowerment of individuals, communities and regions.

The findings from the primary and secondary data show that teleworking presents enormous potential to contribute to:

- The Work Life Balance
- Provision of employment creation in isolated communities (rural and peripheral)

- Support for innovative, flexible ways of working
- Increased employment opportunities in older workers
- Increased employment opportunities for disabled groups

Economic/Business Case for Teleworking

There is a vast body of evidence in support of the economic/business case for implementing teleworking practices as a tool to sustain and grow the competitiveness of rural and peripheral areas via:

- Promotion of Regional Development and Regeneration
- Contributing to the Lisbon agenda
- Integration of teleworking as a strategic management tool to increase competitiveness, productivity and profitability
- Technology being a driver for innovation and competitiveness
- Opportunities to counter-balance skill shortages by sourcing staff from a wider distance
- Accessing global markets
- Considerable savings on office space

Technological Case for Teleworking

Competitiveness and innovation between technology providers has greatly contributed to “any time, any where” working practices. Consequently, individuals and organisations are embracing technology as an empowering tool, which allows them to:

- Access global data and information away from the office
- Access employment
- Able to communicate with a group of people in real time
- Participate in society
- Have a lower cost of access to internet and broadband
- Have access to digital communication and transactions 24hours a day, 7 days of the week, 365 days, also known as 24/7-365
- Provide business continuity in case of natural disasters and terrorism

Environmental Case for Teleworking

There is extensive data to substantiate the fact that there are considerable environmental benefits to this innovative working practice, which can significantly:

- Reduce traffic congestion
- Cut commuting traffic
- Reduce CO2 emissions
- Reduce the demand for new roads or expanding existing ones

- Affect transport planning

The cases cited in favour of teleworking tend to be considered in isolation, however if considered together, the study findings suggest they are likely to trigger a multiplier effect of significant proportions.

Teleworking against the Background of ICT Development

Estonia

The findings show that Estonia has taken significant steps towards the information society. Over the past decade Estonia has witnessed the expansion of the availability of Internet access, high-quality IT solutions and e-services. The successful development of ICT infrastructure has been driven by the innovative mindset both in the public and private sector. The Estonian Information Society Strategy 2013, a sectoral development plan, states that up to the present day, information policy related activities in Estonia have laid great emphasis on developing ICT infrastructure and systems necessary for implementing sectoral policies.

In Estonia, for its 45,000 square kilometres surface area, wireless Internet access is available in nearly 900 wi-fi hotspots. Wi-fi can be used in many public places, including commuter trains, and usually the service is free. The government has also initiated a target programme Village Road 3, with an objective to increase the availability of broadband Internet in rural and scarcely populated areas, where the private sector has no interest to invest. By the end of the programme, the penetration of broadband in remote areas will be as high as that in densely populated regions.

According to the data obtained by Work Life Barometer 2005, the use of information technology is widespread in Estonian companies. In 2005, 42% of workers were using a personal computer, 35% were using email, 38% used the Internet and 46% used a mobile phone. The most recent Global Information Technology Report (2007) presents the Networked Readiness Index where Estonia ranks 20th. In the category of availability of e-services Estonia holds the first place among 122 states.

For a small country with limited resources, like Estonia, it is crucial that the advancement in the ICT domain be used for the benefit of society and development of knowledge-based economy. The Estonian Information Society Strategy 2013 suggests that more focus needs to be placed on the development of citizen-centred and inclusive society in order to enhance the overall competitiveness of the society. For this purpose, the given policy document delineates the general framework, objectives and respective action fields. Among other activities, flexible work arrangements will be facilitated – the barriers to teleworking will be identified and appropriate solutions will be developed

to overcome these. At the moment in Estonia there is no pressure on companies to introduce teleworking and there is no public policies in place to increase the share of teleworking.

However, on the basis of the previous ICT related achievements it can be said that that Estonia provides a conducive environment for implementing flexible work arrangements, including telework. It is widely agreed that the practices of teleworking can be a powerful instrument for achieving balanced and sustainable economic and social development.

Telework can promote social inclusion by providing work for people who might have difficulty in travelling to and/or working in a local office, or who live in remote areas with limited local work opportunities. The link between teleworking and higher community participation supports the argument that teleworking can be a good solution for stabilising social structure and the quality of community life in geographically disadvantaged regions.

It is obvious that teleworking is not a recent phenomenon and it has been used for a number of years – although usually organisations have no policies to regulate the practice of homeworking or teleworking and it rather takes place on an ad hoc/informal basis.

In Estonia, the most comprehensive (and also, pioneering) survey on teleworking was carried out by Ariko Marketing in 2002. Telework was defined as working away from the employer's premises using the means of ICT. Of the 300 companies that were interviewed, 22% had used teleworking over the last ten years. The figure was higher among small companies with fewer than 10 employees, in business and ICT sectors and in Tallinn, the capital city.

According to the survey findings, 91,7% of the workforce had never used teleworking, 4,8% had teleworked before but were not doing so currently. Only 3,5% of the working population were teleworking, with 40% of full time teleworkers and 60% of occasional teleworkers.

Teleworking rates were highest in sales and customer service occupations and in accountancy. The majority of teleworkers were men. In 2002, the teleworking rate for men was 30% higher than that of women. In 85% of the cases teleworking was done on the employer's initiative.

Wales

In Wales, Chwarae Teg the organisation with the role to promote Work Life Balance and Women's Economic Development has been instrumental in taking public sector and SME's through the process of piloting and implementing Home Working Policies and flexible working practices.

For the purpose of this study, Hayley Dunne - Business Development Manager at Chwarae Teg shared her first hand knowledge on the current practices amongst a number of Local Authorities in Wales:

- In Bridgend Borough Council they have a tailored programme whereby they have taken away the core hours and expanded bands. This was achieved through attitudinal change, checking individuals' perception versus the reality and independent guidance.
- Cardiff City Council is implementing a blended approach including both teams (bottom up) and Corporate (top down).
- Wrexham Council Work Life Balance Package has resulted in the Planning Department being available to the public from 7.00 am to 7.00 pm, therefore greatly extending their service.
- Neath Port Talbot Council, is a great example of an authority that had a very sceptical approach to flexible working practices. However, with the independent expert guidance from Chwarae Teg, which is driven by the business benefit they are now converted to its benefits.

Hayley remarked that the fact that the programmes are driven by the business case and independent input and support has been critical to its success. It was also remarked that language plays with perception in the initial stages of giving consideration to flexible working practices and much work is done to keep the process objective and business focused.

A key benefit and opportunity is the ability to reverse local and regional skills leakage.

In the process of conducting this study it has become apparent that there was a considerable amount of informal homeworking taking place in Wales. The evidence also suggests individuals perception of Teleworking may lead to them not self-identifying as Teleworkers.

Overall, there is a lack of recorded qualitative data regarding the scope of home working and teleworking practices and the profile of teleworkers in public sector in Wales.

According to the Office of National Statistics (ONS) (2005) the characteristics of Home workers and Teleworkers in 2005 were as illustrated in Table below:

	All In Employment	Home Workers mainly in own Home	Home workers using home as base	total	Tele workers mainly In own Home	Tele workers using home as base	total
Men	53	36	79	68	41	78	65

Women	47	64	21	32	59	22	35
Employment status							
Employee	87	32	35	34	34	37	36
Self-employed	13	62	64	64	62	63	62
Unpaid family worker	0	6	1	2	5	1	2
Full-time	72	49	79	72	53	81	72
Part-time	28	51	21	28	47	19	28
Occupation (SOC,2000)							
Managers and Senior Officials	16	19	14	16	23	22	23
Professional occupations	13	14	12	13	16	19	18
Associate Professional and Technical	17	23	15	17	26	21	23
Administrative and Secretarial	7	22	2	7	22	3	10
Skilled Trades Occupations	27	5	34	27	3	25	17
Personal Service Occupations	7	12	5	7	7	2	4
Sales and Customer Service Occupations	3	2	3	3	2	3	2
Process Plant and Machine Operatives	6	2	8	6	1	3	2
Elementary Occupations	5	1	7	5	0	2	1
Total (thousands) = 100%	28,049	768	2,324	3,092	603	1,774	2,377

Table 8 - Characteristics of Home workers and Teleworkers (ONS 2005)

The ONS data shows that the key occupations of teleworkers, primarily working from home, are:

- ❖ Associate professional and technical

- ❖ Managers and senior officials
- ❖ Administrative and secretarial

Given the multi-dimensions of Teleworking in the figure below, at present there is a very active interest in exploring its scope at UK/EU and global levels.

Cross-cutting Themes

Flexible Work Patterns	Economic Development
Work Life balance	Planning, Land Use & Development Control
Education & Skills	Housing
e-Work / e-Inclusion	Sustainable & Growth of Communities
Equal Access to Opportunity	Transport Policy & Traffic Management
Economic Inclusion	Environmental Impact

Table 9 - Cross-cutting themes in Telework

As shown in table 19 above there emerge many cross-cutting themes. Telework increases access to information for remote communities, creates jobs in regional areas, enhances opportunities for the self-employed, allows people to find a better work-life balance and provides new hope for those with disabilities. The benefits of teleworking are evident on a micro and macro level, for governments, businesses, institutions, communities and individuals.

For many businesses, it can simply enable smarter – and more profitable – ways to structure their operations. With people teleworking it is possible for even a small company to have representatives in distant locations serving local markets, without enormous office overheads, but with access to all the same information and instant communication necessary to be effective, (NOIE, 2003).

The environmental potential is not being fully realised. Some pioneering companies such as BAA, BT and Sun Microsystems are promoting it through either company policy or their products. But there is no systematic approach from government to encouraging telework.

- The UK government's sustainable development strategy was being reviewed in 2004/5. In the original 1999 strategy there was very little reference to the use of ICT to reduce environmental impacts and promote social and sustainable economic development.
- The 2004 transport white paper promises investment in new transport infrastructure, including new roads, and discusses the possibility of traffic suppressing measures such as congestion charging and motorway tolls. But there is no promise of investment to reduce the need to travel, through the applications of ICT such as telework.
- Recent new building regulations from the office of the Deputy Prime Minister aim to reduce the energy consumption of new buildings. But the regulations do not require the incorporation of ICT infrastructure that would help change householders' behaviour and facilitate telework.

The Department of Trade and Industry (DTI) recently produced guidelines on telework for companies and employees. The guidelines address issues such as health and safety, and personal support and security in the home for teleworkers, but do not address the environmental role that telework can play.

Country Specific Policy Recommendations and Proposals

Estonia - Policy Recommendations and Proposals

- Based on the progress made in the ICT sector, the government should consider adopting decentralisation strategies and policies, which would contribute to a more balanced and sustainable regional development by creating employment opportunities in peripheral and disadvantaged areas. Similar policy initiatives have been proposed in other countries, including Ireland where the government made a decision in 2003 to move a number of civil service offices out of Dublin to other towns throughout the country.
- The government should take the lead in raising awareness on the social, economic and environmental benefits of teleworking by conducting campaigns aimed at employers.
- The decentralisation strategy should be supported by government policy on the establishment of telecentres in rural and peripheral areas. The benefits of telecentres should be acknowledged and public investments should be directed towards the development of telecentres.
- The government departments and publicly funded organisations should take the initiative to introduce teleworking options into their mainstream working by launching pilot programmes and developing teleworking policies. Teleworking (e-Working) pilot projects in the public sector would set an example for other organisations.

- Develop a nationally recognized teleworking (e-Work) training programme to be targeted at both employees and employers/managers.
- Conduct research and impact evaluation on teleworking (e-Work) programmes and initiatives.

Wales - Policy Recommendations and Proposals

- Government to further encourage and widen support to Technology Assisted Employment Initiatives such as expansion of the Access to Work programme.
- Government to raise the profile of teleworking as a mainstream strategic business tool to enhance competitiveness and growth of rural and peripheral regions.
- Government to explore the feasibility of providing employer incentives to adopt teleworking practices at a regional level.
- Government to explore the feasibility of providing incentives and support for teleworkers to form cluster networks.
- Research the “push-pull” factor in teleworking (is teleworking a choice or is it imposed?).
- Research the spatial/temporal patterns of teleworking.
- Conduct comparative research of teleworkers with and without disabilities.
- Teleworking initiatives in the public sector to be role models for other organisations.
- Identify teleworking champions from employers and employees to raise awareness of the benefits of teleworking.

It is apparent that there are a number of similarities between Estonia and Wales regarding the implementation of teleworking practices. It is likely that these similarities may also be issues for other European regions addressing real life challenges to employability and employment in today’s competitive global economy.

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APPENDIX 5

Phase Two Interview Questions

This section consists a copy of interview questions that been used in the interview sessions with small business owners/managers in phase Two of this study. The semi- structured interview was employed in the study.

Section A- Business Information

Question 1:

- a) What type of business/service do you offer?
- b) How many employees do you have?
- c) How many years have you been in the operation?
- d) Do you offer your employees the option of a teleworking workplace practice?

Section B-Innovation

Question 1 (Infrastructure)

- a) Do you use computers/ICT in your business?
- b) How long have you been using ICT in the business?
- c) Have you access to the internet
- d) What device do you use to access the Internet?
- e) What type of Internet connections do you have?
- f) Do you experience any problems with your internet connection and mobile phone provider?
 - i) Are you satisfied with your internet speed and mobile phone connectivity?
 - ii) Is it appropriate to your business' need/use?
- g) Do you know who is your internet Service Provider (ISP) and mobile phone provider is?
 - i) Why did you choose this ISP and mobile phone provider?
 - iii) Did you face any difficulties with the chosen ISP and mobile phone provider?
- h) Do any obstacles in term of infrastructure affect your business in adopting teleworking?
 - i) What are those obstacles?

ii) How do you overcome those Obstacles?

Question 2 (Financial Resources)

a) Does adopting teleworking affect the cost of running your business? How?

Question 3 (Skilled workers)

- a) Do you consider that your employees had the necessary skills to communicate with any form of computing systems, telecommunications and/ or the internet for teleworking before hiring them?
- b) Do you have any problem gaining access to ICT skilled employees for teleworking purposes?
- c) Do you provide any ICT or teleworking adoption training and development for your employees? Please describe the type of training and its impact on the business.

Question 4 (Culture)

a) How well do your employees accept teleworking and ICT use in your business? Please explain.

Question 5 (Government Policies)

- a) Do you know of government policies encouraging small business enterprises to use ICT and teleworking in the business?
- b) Does your local government provide any incentives or support assisting adoption of teleworking or ICT? This probably might be in the form of training and advice, tax incentives to purchase IT equipment, or etc. If so, how does it help you?
- c) Do local and national government policies create barriers to you to adopt teleworking? For example changing of government policies, unstable political environment, etc. Please explain.

Question 6 (Owner's attitude)

- a) What is your perception towards the use of teleworking in your business? Please explain.
- b) Do you think the use of computers/ the internet and teleworking have an impact to your business?
- c) What does work life balance mean to you and are your employees happy with their current form of work?

Section C – Business Aims and Strategies

Question 1:

- a) What are your business aims (short-term)?
- b) What are your business aims (long term)?

Question 2:

Would you like to grow the business?

Question 3:

Do you cooperate with other business? (if any) Who?

Question 4:

Do you collaborate with other business?

Question 5:

Do computers or Internet/ICT through teleworking assist with achieving these aims?

Section D – Teleworking Strategies

Question 1:

Briefly outline your teleworking strategy.

Question 2:

Did you develop your teleworking strategies from your business aims?

Question 3:

Describe your target market.

Question 4:

Do you have a different teleworking strategy for different types of customers?

Question 5:

Customer loyalty is important to support sales. Do you consider how to improve your customer loyalty?

Question 6:

(If they have a growth strategy) Do any of your teleworking strategies assist in growing your business? If so, which strategies? (Relates back to business aims and strategies).

Section E – Teleworking Adoption

Question 1:

Do your teleworking strategies support the adoption of teleworking fully? Why do you consider it? (Relate back to teleworking strategies).

Question 2:

Did your employees, customers and/or competitors influence you to adopt teleworking? How?

Question 3:

Did teleworking help you to target new geographic markets and new customers segments? (Relate back to teleworking strategies and customer indicator of 4Cs) How?

Question 4:

Do you think that you able to improve your communication (i.e.: exchange of data or updates) with your suppliers and customers when adopting teleworking? (Relate back to teleworking strategies and communication indicator of 4Cs). For instance:

- a. How do you update any new information to your customers and suppliers? (Probably by Newsletter, email, etc)
- b. How frequently do you update information on your business website?
- c. How do you manage any online feedback from your customers?
- d. How long do you usually take to respond to customer's feedbacks?

Question 5:

Teleworking can be used for improved business penetration (existing market and existing customers). Are you able to minimize costs by using teleworking? (Relate back to teleworking strategies and cost indicator of 4Cs).

- a. Do you have special offers for customers who purchase or use services through teleworking?

Question 6:

Do you provide any products/ service value added as part of your teleworking adoption? For example some business provide incentives for customers and employees convenience. (Refer to convenience indicator of 4C's). Please explain.

Section F – The evaluation**Question 1:**

Do you measure your telework adoption performance?

- a) How do you measure it?
- b) How is it performing?

Question 2:

Does the adoption of teleworking affect:

- a) Inventory cost
- b) Revenue
- c) Sales per salesperson
- d) Customer satisfaction
- e) Work life Balance

Question 3:

Do you have any other suggestion that you think can be applied to evaluate telework adoption performance?

APPENDIX 6

Guidelines to SMEs in South Wales

Duncombe, et al. 2005b suggested enterprises to analysis all aspects of business before making decision to adopt teleworking for business. The authors highlighted a few keys area that can assist SBEs to analyze their business (refer Table 20)

Table 10 - How to analyse your enterprise

Key area	Issues	Feedback
Market	Are your main competitors offering similar products or services through teleworking and e-commerce?	If the answer is 'YES' the enterprise needs to consider whether are they ahead, on a par, or behind in comparison with competitors, customers and suppliers in using teleworking and e-commerce. If the answer is 'NO', then e-commerce/teleworking may not be a priority to you.
Proximity	Where are your main customers and supplier located?	If customers and suppliers are located overseas, and the enterprise is located in a well- connected urban area, thus the enterprise has a high potential for teleworking. If customers and suppliers
	Where are your business premises located?	

		are located within the country and the enterprise is located in rural area, the enterprise may consider using mobile phone or email by gaining access to a telecentre.
Products and services	Do your products or services have abroad or specialized (niche) market appeal?	If customers are from large and medium enterprises which operating in high
	Are your products or services suitable for teleworking implementation? Can your product or services be delivered electronically?	disposable incomes, thus the enterprise needs to consider teleworking. If customers are from low income consumers or small and medium enterprises which an operating in low potential sectors, thus the enterprise may have the low potential for e-commerce and teleworking. If the enterprise is unsure, then the additional market research is needed particularly concerning on customers.
Business	Is your enterprise new or	The size and the growth

	well established?	rate of the enterprise are not as important as the market, products and the nature of customers in determining the business potential.
	How many employees does your enterprise have?	
	Is your enterprise growing, contracting or reasonably stable?	
	What was the turnover of your enterprise in the last financial year?	If the enterprise is a larger well-established business, there are more likely to have greater available resources for investment in teleworking.
		If the enterprise has a greater number of employee then climbing the steps to teleworking may present greater challenges in term of transforming skills and attitudes of the employees.
		For small enterprise employing a few numbers of employees (2-5 person) it is easier to adapt with the use of ICT for teleworking, although if it's like that, available resources will be lower.
Access to ICTs	Do you currently have	If the enterprise is already

	<p>access to email or the Internet on your business premises or via a third party?</p>	<p>a computer/email or internet user and those facilities are accessible in the company, the enterprise has the greater potential to climb the steps of teleworking. If the enterprise not yet to deploy ICT within the business, the enterprise needs to consider carefully the issues in relation to adoption and decide what type of ICTs would be most beneficial.</p>
	<p>Does your enterprise currently have a website?</p>	<p>Enthusiasm is the most important skill that enterprise skill that the enterprise can consider for teleworking initiatives. It is also necessary to develop the technical and business skills to successfully implement the technology that will lead to new ways of doing business.</p> <p>If the enterprise already have ICT skill and experience this will contribute higher potential for innovative</p>

		<p>teleworking.</p> <p>Nevertheless, good business skill- the ability recognize how new technology can be used both wisely and cost effectively- are likely to be more important than the technical skills.</p>
	Are your internal IT systems networked?	The ability of the enterprise to climb the steps to teleworking will depend only on skills but also the level of support, and the barriers in the existing environment. An increased level of awareness of the adoption of teleworking issues will help the enterprise to understand the barriers that will be faced while operating the business.
	To what extent are your business processes (customer database, account, invoicing, purchasing, etc) computerized?	
ICT and Business skills	Are you an ICT enthusiast and do you have ICT skills?	It is necessary for the enterprise to have access to financial resources to make an initial

		<p>investment, but the enterprise also needs to be able to generate sufficient revenue to sustain the teleworking activities.</p> <p>It is important for teleworking to contribute for growth of revenue (and profits) whilst not imposing a heavy burden to the cash flow or affecting financial stability.</p>
	Are your employees familiar with ICTs and what is their level of ICT skills for teleworking?	
	Do you have ICT support available 'in-house' or do you depend upon external maintenance and development and development of your ICTs?	
Business environment	Are local telecommunication services provided to suit teleworking?	
	How advanced is your city and country of business regarding the	

	legal, regulatory and requirements for teleworking?	
	To what extent can transportation and delivery systems meet the needs of potential teleworking customers?	
Finances	How financially stable is your business?	
	What investment resources do you have available?	
	Are you aware of the total likely financial cost (investment + recurrent costs) of teleworking?	
	Have you weighted the cost against the benefits?	