

Key drivers and critical success factors for telecommuting in South Africa and the United Kingdom

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ABSTRACT

This purpose of this study was to explore collaborative technologies and working methods which might improve and change the way organisations operate. In addition, the research set out to determine the key drivers and critical success factors for the implementation of telecommuting within a South African and a United Kingdom organisation.

The methodology used in order to address the propositions within this dissertation was qualitative research and data were collected through personal in-depth interviews. The key finding of the research was that telecommuting can assist in the reduction of overhead costs, such as real estate, office space and travel. It also suggested that an increase in productivity was also achievable. Another area that illustrated an attractive key driver was the recruitment and retention of skilled staff. Added to this was the real factor of an improvement in work-life balance. The final key drivers that are likely to continue to have a lot of focus in the years ahead are the environmental factors. The research suggested that telecommuting programmes have been successful in reducing air pollution and carbon emissions, as well as lowering the usage of fuel.

Telecommuting has the potential to offer organisations the opportunity to change the way they work and in so doing, improve on some of the factors as described above.

DECLARATION

I, Paul John Schönborn, declare that this research report is my own work except as indicated in the references and acknowledgements. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.

Paul John Schonborn

Signed at Parkview, Johannesburg

On the 14th day of June 2011

DEDICATION

I dedicate this MBA to my dearly loved wife, Renee and to my three children, Hugo, Ella and Rupert. I will be forever grateful for the love, support and patience from my family... especially Renee... as without her, this MBA would never have been possible!

I also dedicate this MBA to my parents, Carl and Anne Schonborn. They have always supported me through any endeavour... and they have never given up.

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CHAPTER 1: INTRODUCTION

1.1 Purpose of the study

The purpose of the research is to conduct a comparative analysis of telecommuting between two organisations, one based in South Africa and the other in the United Kingdom. The study investigates the reasons why some companies have chosen to adopt telecommuting as part of their business model and organisational design.

The study is intended to provide additional information to South African organisations who may be considering the implementation of a telecommuting programme within their business. Its aim is to assist them in understanding the benefits and shortcomings of such a strategy.

1.2 Context of the study

A phenomenon in larger cities around the world has developed, whereby the roads, trains, subways and even airlines are now heavily congested before and after the generally accepted office hours of 08h00 to 17h00 (Turcotte 2006). Furthermore, highways leading in and out of these cities are congested for hours at a time, more often than not with cars carrying only one occupant. It is common for some commuters to spend between one and three hours a day travelling to and from their place of work.

Another emergent trend is that people are striving to achieve a balance between their personal and working lives (Lattanzi and Korhonen 2006). Working against this, however, are the ever increasing demands from corporations to be more profitable and to show growth: the pressure thus put on employees does not diminish, aggravated by the fact that in many families these days, both parents have to work in order to cover the monthly expenses.

Although South Africa may be regarded by the developed nations as a developing country, the trends mentioned above are becoming more and more of an everyday reality (Richardson 2008). South Africa is also facing uncertainty with regards to an efficient electricity supply (Smillie and Serrao 2008). Furthermore, the load shedding practice that has been implemented has an adverse effect on traffic, as the traffic lights do not function during the periods without power. Should this happen during peak traffic times, the situation is worsened and commuting times often considerably lengthened.

It is within this context that this study sets out to establish the current situation with respect to telecommuting. The first step was to review the literature available on the topic. Research was then conducted by interviewing employees from South African organisations which have implemented a telecommuting programme.

This research will be relevant in a South African context because although the concept of telecommuting is not unknown, the actual practice of having teleworkers is not yet a common occurrence (Richardson 2008). The research will thus assist those organisations who are considering developing a telecommuting policy.

Broadband technologies have fairly recently been introduced to the South African telecommunications industry (SAPA 18 October 2007), such as Asymmetric Digital Subscriber Line (ADSL), a third generation of wireless communication technology (3G), High Speed Downlink Packet Access (HSDPA), Wireless Fidelity (WiFi) and Worldwide Interoperability for Microwave Access (WiMax). These access media have progressively come down in price and are readily available to both the corporate and the consumer (SAPA 18 October 2007). This puts South African companies in a good position to evaluate the potential for their employees to become teleworkers due to the technology availability and the commercial viability.

1.3 Problem statement

1.3.1 Main problem

The purpose of the research is to determine the key drivers and critical success factors for the implementation of telecommuting within a South African and a United Kingdom organisation.

1.3.2 Sub-problems

The first sub-problem is to determine the key drivers for the implementation of telecommuting within a South Africa and a United Kingdom organisation.

The second sub-problem is to determine the critical success factors for the implementation of telecommuting within a South Africa and a United Kingdom organisation.

1.4 Significance of the study

This study is intended to give South African organisations access to current and local research in the field of telecommuting, as well as an insight into an organisation from the United Kingdom. The research methodology that was used was a qualitative survey. This took the form of a case study research with the relevant stakeholders from each organisation. A comparative analysis was performed between the information derived from the interviews from both organisations. Because of this approach, the information contained in the study is intended to be relevant to the South African environment.

The focus of the study therefore aimed to help bridge the gap between what UK companies were doing in the field of telecommuting and what is potentially achievable in a South African context. Although there has been much research done on the topic of teleworkers (Baruch (2001); Daniels, Lamond and Standen (2001); Greer, Buttross and Schmelzle (2002); Patrickson (2002); Potter (2003); Westfall (2004) and Crandall and Gao (2005)), it has predominantly all been

done in countries abroad. There was very little existing research found that was conducted within South Africa.

The study aims to provide guidance to locally based organisations whether they should consider embarking upon telecommuting within their businesses, and if so, how. It also attempts to give them some practical guidelines about the realities of having employees who in essence do not come to the office to conduct their daily work, but rather do so from home. It may encourage decision makers and managers to consider changes to human resource practices since employment terms are somewhat different to that of a conventional business structure and organisational design.

The study also offers guidance to those individuals who are considering applying for a telecommuting position. It might give them – and managers - insight into the type of person best suited for this environment.

In addition, the study hopes to contribute to any existing research being conducted within South Africa in the area of job creation. It tries to achieve this by suggesting some innovative ideas on how to increase employment due to the fact that telecommuting opens opportunities to those previously not as easily employable such as single parents, the aged and physically challenged (Patrickson 2002).

1.5 Delimitations of the study

This study focused on the concept of telecommuting, defined as an employee of a firm who conducts their daily business primarily *only* from their home, as opposed to commuting to the office everyday (Lattanzi and Korhonen 2006). The study must be differentiated from the concept of mobilising an organisation's work force which gives employees the ability to work remotely away from their office and not specifically based at their home... i.e. from any remote geographic location, be it the office of a client, a supplier, a business partner, an airport or a hotel (Lattanzi and Korhonen (2006).

1.6 Definition of terms

3G - Third generation wireless network. In its simplest description, it is a data connection over the cellular network (Lattanzi and Korhonen 2006). It is a specification for the third generation of mobile communication technology. 3G promises increased bandwidth. 3G works over wireless air interfaces.

Access Medium - This is the generic term used to describe the technical medium by which a device (such as a computer) can connect to a data network. An everyday example would be a computer at a company connecting to the corporate network using Ethernet, whereas a laptop being used at an airport lounge would generally connect to the Internet using WiFi.

ADSL - Asymmetric digital subscriber line. An abbreviation for a relatively new technology that allows more data to be sent over existing copper telephone lines (Lewin, Yaron, Hurwitz and Poddobny 2003). ADSL was regarded as the first broadband offering to the South African market. ADSL is only offered from a static location, e.g. from your home and is not a mobile service.

Broadband - As a general definition, if a home PC or laptop user is able to access voice, video, data and multimedia all at the same time, they then have sufficient bandwidth for this to be broadband. It is a type of data transmission in which a single medium (wire) can carry several channels at once (Mifflin 2005).

Carbon footprint - A carbon footprint is a measure of the impact human activities have on the environment in terms of the amount of greenhouse gases produced (Dias de Oliveira, Vaughan and Rykiel Jr 2005). It is meant to be useful for individuals, nations and organisations to conceptualise their personal (or organisational) impact in contributing to global warming.

Hot desking – The practice of not giving employees their own desk in the office. Instead, the firm provides a pool of fully equipped desks which are occupied as required (Golzen 1991). Hot-desking is possible where a firm's databases and services can be easily accessed via wireless or telephone links.

HSDPA - High Speed Downlink Packet Access. HSDPA is a 3G high-speed digital data service provided by cellular carriers worldwide that use the GSM technology (Lattanzi and Korhonen 2006). Much like 3G, in its simplest form, it is a data connection to the cellular network.

ICT - Information Communication Technology. An abbreviation for a broad subject concerned with technology and other aspects of managing and processing information. It is an umbrella term that includes any communication device or application, encompassing (but not limited to): radio, television, cellular phones, computer and network hardware and software and satellite systems, as well as the various services and applications associated with them (Stiroh 2002).

Mobility - This is the ability for an employee of an organisation to remotely gain access to their corporate network. This is done in order to access files, applications, email and other work related services that they would normally have access to whilst in the office (Lattanzi and Korhonen 2006). Mobility does not specifically pertain to working from home, but from theoretically any remote location where network connectivity is available.

TAM - Technology Acceptance Model. An abbreviation for a term introduced by Davis, Bagozzi and Warshaw (1989), designed to model user acceptance of information systems. TAM aims to provide an explanation of the determinants of computer acceptance that is capable of explaining user behaviour across a broad range of end-user computing technologies and user populations.

VoIP - The abbreviation for "Voice over Internet Protocol". It is a category of hardware and software that enables people to use the Internet as the transmission medium for telephone calls by sending voice data in packets using IP rather than by traditional circuit transmissions of the public switched telephone network (Goode 2002). In its basic form, it is the ability to make a telephone call using the Internet, rather than the traditional telephone network. VoIP is a lot cheaper. A consumer example of VoIP is SKYPE.

WiFi - This is an abbreviation for “wireless fidelity”. It is the technology used to connect a device (like a computer) to a data network (Lehr and McKnight 2003). An everyday example is the ability to connect your laptop wirelessly to an Internet network in a hotel, restaurant or airport.

1.7 Assumptions

The following assumptions were made about the two organisations (an ICT Systems Integrator and a Financial Institution) used in this study:

1. They went through a formal process of defining and deciding that they would implement a telecommuting programme.
2. They would do some fact-finding/research into the field of telecommuting before making the decision to implement it as a programme. Had this not been the case, certain of the questions that pertained to the reasons why companies choose to implement telecommuting may not have been answered.
3. The feedback received from the interviewees would verify the readings covered in the literature review. This feedback from the decision makers, the implementers, as well as the teleworkers, is expected to reflect the real situation that happened within the organisation i.e. in favour of telecommuting. It was considered not unreasonable to assume that this would have been the case, as the literature review suggested that telecommuting was a favourable initiative to implement and was well received by employers and employees. As the companies selected for interviewing purposes closely mimicked those of their international counterparts, it was expected that the research held true. Should this not have been the case, additional questions would have needed to be asked to ascertain what factors lead to the unsuccessful implementation and adoption of telecommuting. These findings would then need to have been compared to the literature review to try and find out what caused the different outcome.

4. The final assumption was that the feedback received from the various interviewees would be honest, factual, accurate and unbiased. This was a reasonable assumption based on the fact that the interviewees had no known reason not to answer the questions accurately. Should they not have answered the answers honestly, the results would not have been a true reflection of whether or not the implantation of telecommuting within their organisation had been a success.

CHAPTER 2: LITERATURE REVIEW

2.1. Introduction

As society and the economy become ever more competitive, this increases the demand from organisations for an improvement in areas of business such as return on investment, cost cutting, profitability, streamlining, efficiencies, productivity, partnerships, space saving and sustained job creation (Barber, Laing and Simeone 2005). This said, organisations are always pushing the boundaries in these areas. Companies obviously need to remain profitable and continue to grow, otherwise they may cease to exist.

Countermanding these demands are the employees seeking to create a balanced lifestyle. Employees are faced with the pressures of commuting to and from work on a daily basis, frequently spending as much as ten to fifteen hours a week doing so (Turcotte 2006). These individuals invariably have their own families that require attention and time, as well as their own personal lives and interests to pursue.

The purpose of the literature review is to establish the status with regards to these seemingly mismatched points of view. It seeks to uncover what organisations have done in other parts of the world to bridge this divide. Organisations are dependent on people to keep the business going. In turn, most people rely on organisations to earn a living.

The literature review is made up of two main parts. Each part is based on a sub-problem. The first is a review of the keys drivers and the second is based on the critical success factors.

2.2. Definition of telecommuting

Telecommuting is an arrangement between employees and an organisation whereby the organisation allows the telecommuter (employee/teleworker) some freedom and flexibility in terms of working hours, due to the fact the teleworker is based at home and that they no longer need to commute to their company office on a daily basis (Sullivan 2003). Telecommuters are employees who have the ability to perform most, if not all, their functions from a remote location (most often their home) without having to be physically seated at a desk in an office where the company they work for has physical premises. This is the working definition that was used in this research. Sullivan (2003) went on to say that telecommuting requires the use of information and communication technologies. Telecommuting implies the actual decentralisation of certain job functions that no longer are performed by staff who are physically situated in the corporate office, but rather from their homes (Nunes 2005).

Teleworker is a term often used interchangeably with a mobile worker, but for the purposes of this study, the definition of a teleworker is someone who is actually located predominantly at their home and only very infrequently (no more than once a week at most) visits the offices of the organisation at which they are employed.

A teleworker in this study is not intended to be an individual who has the ability to work remotely away from their office due to the fact that they have the technical means to do so. These users are generally referred to as mobile users. These mobile users are not employees who have formal telecommuter work arrangements that have been agreed to in their terms of employment. While many employees nowadays have the ability to access their company network remotely as described by Lattanzi and Korhonen (2006), they are not the focus of this study. Teleworkers spend most of their time working from home and only go into the office for a maximum of about half to one day per week. In some cases it can be less than this. This is the person involved in working away from the office, generally in their own home environment (Nilles 1998).

As described further on, not all teleworkers work from home (Harris, Kumar and Balaji 2003). Japan for example, has created areas known as Tele-centres. These Tele-centres are buildings that have the necessary office equipment and furniture, but would not necessarily have a management team or other usual departments present, such as finance, marketing, sales, etc... A Tele-centre is an alternative to someone working from home, but is still better situated than an office some distance away from the employee (Harris et al. 2003).

2.3. The key drivers for telecommuting

Definition of key drivers

Key drivers are the forces and reasons that motivate organisations to investigate the feasibility of doing something, say Kaplan and Norton (1996), which in this study is the introduction of telecommuting. Under this section of key drivers, telecommuting was approached by reviewing the financial, environmental, human and social factors of a business

2.3.1 Reducing overheads: The cost of real estate, office space and commuting

Regardless of whether an organisation chooses to adopt telecommuting, it is good practice to understand the real cost of workspace. In most companies as found by Lattanzi and Korhonen (2006), real estate costs are the second largest expense after salaries, and these costs have a direct impact on the bottom line. The traditional workspace model can either be accepted as a cost of doing business, or it can be challenged in favour of a solution that reduces costs, like having a work-from-home policy. A study conducted by Greer et al. (2002) reported that organisations that implemented telecommuting saw a marked drop in their need for office space and realised significant cost savings in not having to house employees at corporate headquarters.

From the same study by Greer et al. (2002), the average full cost of a standard employee office was around \$9,800.00 per year. This included all utilities, telecommunications, computer equipment, property taxes and other similar costs. The once-off costs of setting up a telecommuter employee at that time was \$9,300.00 per person. As the number of telecommuters increased, the initial setup cost decreased due to the fact that some of the larger fixed costs like ICT infrastructure was spread across a larger number of people. The organisations would provide the furniture, computer equipment, and the connectivity to the teleworker, just as they would if employed on-site. The employee would cover all other costs including utilities, property taxes, and any wear and tear on the house, all of which companies cover in traditional offices.

The result was that these organisations were able to expand without having to spend on new office space. In fact some companies could reduce their office space as it was no longer needed or could re-assign it for other purposes. The average savings were around \$7,400.00 per year. This did not include future upgrades of computer equipment. This research did not take into account the increase in time saved by employees not having to commute to work, nor the fuel saved used in commuting. These two factors themselves could be a whole research topic on their own.

Mobility has also led to both office-bound employees and teleworkers spending more time at other corporate offices other than their own. It is suggested by Lattanzi and Korhonen (2006) that this pattern would have an impact on the way corporate real estate is used. Companies might need to provide temporary work areas for visitors in the form of suppliers, colleagues from other branches, business partners and clients. These so called “drop-in” spaces or “hot-desks” could also cater for teleworker employees of that company, for the times that they need to physically come into the office. The space required for this is still less than having the employees office-bound.

When considering commuting, if employees telework from home three out of five days, they could reduce commuting by 60 per cent. According to Pérez, Sánchez, Carnicer and Jiménez (2004) the empirical studies about commuting find a positive relationship between teleworking and commuting reduction. For example, Balepur (1998) in a study of teleworkers located in the state of California found an average commuting reduction of 65 per cent in kilometres, which accounted for a 17 per cent reduction in travels. Other studies in the USA by Pendyala, Goulias and Kitamura (1991) and West (1999) also found commuting reductions during teleworking days that support these findings.

In the UK a study of the company British Telecom found commuting reductions of 150 kilometres by private vehicles and 230 kilometres by train during a two days average teleworking programme (Hopkinson and James 2000). Another study by the UK Automotive Association Hopkinson, Mayurama and Selwyn (2001) found that 88 per cent of the surveyed employees had completely eliminated commuting, which accounted for a reduction of more than 5,700 kilometres per employee per year. It must be noted that in this study, the dramatic reduction was also due to the introduction of the employees' manager travelling to the employee's home for a meeting. The manager's travel was not included in the study.

Sweden is regarded as having a high adoption rate of telecommuting. A survey from the Swedish Institute of Communication Analysis Forseback (1998) found that the average teleworker could avoid 23 kilometres of travel by teleworking at home just one day per week. Another Swedish study by Scheele and Ohlsson (1998) focused the analysis on the company Siemens Nixdorf. The average commuting saving was 19 kilometres daily per teleworker. Additionally, the company has saved 80,000 litres of fuel and 1.3 tons of documents per year, due to the lower stay of employees at the office and the change to electronic communication and documentation.

There is a variation to the concept of teleworking from home whereby the employee works from a communal satellite office known as a tele-centre. These are not necessarily dedicated to one company. Tele-centres are often popular in

areas where there is high density living. Japan is a country that has implemented tele-centres. The Japanese have done so for other reasons too, one of them being to decentralise offices to avoid the obvious consequences of natural disasters like earthquakes where many people are in one building. Home-based teleworking is not frequent because of the high real-estate costs and the small size of apartments, which deter the use of a room at home as a virtual office. From a study carried out in Japan, Mitomo and Jitsuzumi (1999), there is an estimated 10.8 per cent reduction of traffic congestion in the Tokyo metropolitan area and a minimum saving of 8 per cent in the city's transportation budget.

2.3.2 Productivity

Montreuil and Lippel (2003) document higher productivity among teleworkers compared to other workers. This higher performance level is attributed to fewer interruptions, longer working hours and the flexibility when planning work schedules. Furthermore, as most people engage in telework by choice, they tend to be more motivated to prove that this alternative mode of work is successful. However, it should be pointed out that with few exceptions Dubrin (1991) accounts of increased productivity under telework are derived from self-report data. Because most teleworkers volunteer or request to work from home, they might be biased to claim success in order to prove that their chosen method is effective (Mann and Holdsworth 2003).

Greer et al. (2002) refer to a study of an organisation that realised an improvement in profitability due to an improvement in employee productivity. This was attributed to their telecommuting programme, which resulted in a reduction in the number of sick days and a lower staff turnover. The literature has also shown that with an increase in adoption of telecommuting programs within organisations, companies are realising financial savings in a number of areas (Greer et al. 2002). The most obvious have been in a reduction of office space required, utilities and often more hidden costs like stationary and refreshments.

Westfall (2004) queries the extent of productivity gains and suggests that if telecommuting consistently generated significant productivity gains – just 10% for example, which is much less than some of the literature reports - are these gains translating into measurable increases in bottom-line profitability? If this were really happening, companies that employ large numbers of knowledge workers would have adopted telecommuting on a large scale a long time ago, on a mandatory basis where necessary, and would be continuing to promote it heavily. To the contrary, many organisations offer telecommuting as an option, but are not strongly encouraging it. This is a telling indicator that telecommuting potentially either does not deliver, or the organisations do not agree with the proposed increased in productivity.

Anecdotal evidence and early research suggests that telecommuting can increase an organisation's productivity (Crandall and Gao 2005). However, limitations suggest more empirical research is required. They go on to say that there are emerging societal and ethical issues that also remain unanswered. Nonetheless, telecommuting will remain a popular form of a flexible work arrangement. It will also continue to evolve as technologies change and organisations work more toward the “virtual office model.”

2.3.3 Recruitment of top talent, staff retention and job creation

As companies grow, it becomes an ever increasing challenge for them to not only recruit the best talent they can find, but to retain them for a meaningful length of time too. A group of people that is growing in size are the number of parents striving to achieve a work-life balance. One of the ways they achieve this is by spending more time with their children. Gibson, Blackwell, Dominicus and Demerath (2002) illustrate that the increase of teleworking as a formally accepted practice is helping these individual achieve this goal. This flexibility speaks back to the topic of staff recruitment and retention, whereby it can be used as a tool by organisations to attract and retain highly skilled knowledge workers who may otherwise choose or be forced into parenthood with little option of working in a traditional office-bound environment.

As an example, sales people who have had to travel to customers as part of their job have conceptually been functioning as teleworkers, as they perform a large part of their job outside of the office. They would, however, have to regularly return to the office to complete certain parts of their work, particularly the administration aspect. With the advent of laptops, this has resulted in the individual being able to function more independently without being office bound. A study by Dally (2006) demonstrated that with the ever increasing improvement of technology from a connectivity and security perspective, the teleworker is now able to access the relevant data, applications and systems that are traditionally only accessible at office, from a remote location such as their home. Dally (2006) goes on to say that this improvement helps employees cut down on their office time and in so doing gives them more personal time, thus improving their work-life balance.

Patrickson (2002) has researched telecommuting as a means of employment for older and disabled workers. The jobs created enabled older people who had clerical and administrative skills to continue to be employed, but live in small towns across Australia. Simpson, Daws, Pini and Wood (2003) write a case study exploring the use of teleworkers in the rural outback of Australia. This is an interesting area of potential research that could uncover similar opportunities within South Africa that lead to the employment of rural South Africans, without them having to migrate to the larger cities away from their families and homes to seek employment. The obvious issue would be whether they had the required skills for the required job of work.

In many cases there is often flexibility in working hours, rather than a formal telecommuting agreement in place. Employees have a flexitime type arrangement whereby they do some of their work at home (Lattanzi and Korhonen 2006). This is often done where one needs to avoid traffic, or when an employee has to leave the office early, often for personal reasons such as parenting responsibilities.

2.3.4 Environmental factors

It is naturally dependent upon the type of transportation system used by the teleworker that would contribute to the decrease in air pollution. In a study done by Bain, Adidjaja and Paswell (1995), there are two types, public and private transport. There seem to be fewer studies that have analysed the use of public transportation. The research indicates that the impact on air pollution from public transport is less significant. For the analysis of private transport, it must be taken into account that if an employee teleworks from a tele-centre (as previously defined in 2.3.2), she may more easily go home for lunch or take a break to carry out other activities than she would have before teleworking. Gould and Golob (1997) found in the Portland (USA) metropolitan area that teleworkers devoted more time in purchasing-related trips than other employees. Nilles (1998) also found a traffic increase around tele-centres and that the number of home trips increases to 60 per cent during teleworking days in comparison to non-teleworking days. On the contrary, Gould and Golob (1997) found that the influence of teleworking on work non-related trips is statistically significant.

Although the above suggests that there is an increase in trips made by teleworkers, Koenig, Henderson and Mokhtarian (1996) studied the results of a teleworking programme in California. They found that teleworkers decreased the number of kilometres travelled by 77 per cent and the number of journeys started by 39 per cent, which is equivalent to a 64 per cent reduction of carbon monoxide, and 69 per cent reduction of nitrogen oxide. In another study in California, Nilles (1998) found that nitrogen oxide emissions were reduced by 35 per cent when comparing teleworking and non-teleworking days. Although the number of trips from the tele-centre to home had increased during teleworking days (1.9 vs 1.2), the reduction in the distance travelled compensated the emission of pollutants from those additional trips. Similar figures between 50 per cent and 60 per cent reduction in the emission of pollutants are found in other studies (Henderson and Mokhtarian 1996).

Aside from the fuel used in cars, there is also the consumption of fuel in office buildings. There appears to be very few empirical studies that have researched this area. It was found by Nilles (1998) that there was not a statistically significant difference between teleworkers and non-teleworkers in terms of their consumption of energy at work. The study did show that if we take into account the energy savings from the reduction of commuting, then the energy balance is positive in favour of home-based teleworking or tele-centres. The study went on to illustrate that in order to avoid the company saving energy cost at the expense of the teleworker, the terms of employment must specify which costs (energy, fuel, stationery, etc.) will be paid by the company (Nilles 1998).

There is a growing global trend for companies and households to start reducing their energy usage, their general waste output and in more recent times, reducing their carbon footprint (Gore, Davis and Laurie). Although there has been an increased focus in these areas in recent times, this is not an entirely new subject. In the 1990 Amendment, Title I of the Clean Air Act (Office of Air and Radiation, Agency and United 1999), the US Congress mandated the environmental motivation for telecommuting programs. The eleven states in the US with the worst air quality were specifically targeted. All organisations with more than 100 employees were required to reduce the number of employees commuting each day by 25 percent (Bronson 1993). The original target areas were expanded to include major cities, where firms with more than 100 employees had to increase their average vehicle occupancies by 1996. Penalties for non-compliance by those firms with more than 100 employees varied from state to state and ranged from \$5,000.00 a month to \$25,000.00 a day (Betts 1994). Telecommuting was not a mandated solution but it was a suggested means to achieve this reduction along with car pools, mass transit incentives and other similar measures.

There are numerous examples of what US organisations did to improve their emissions. The US Federal government implemented telecommuting in a wide range of agencies. More recently, US Federal employees have utilised several

“telework centres” located around the perimeter of Washington, DC and are actively supporting more telework opportunities for other Federal workers (Alcott 2001). In the Washington, DC area there are fifteen (15) satellite telework centres where federal employees can conduct their work. Average capacity utilisation is about 54 percent for the fifteen telework centres based on regular users with reserved space (Alcott 2001). At Hewlett Packard (HP), clean air regulations resulted in HP getting involved in telecommuting (Betts 1994). HP supports their programme with an extensive set of guidelines. The guidelines are an important tool for managing the telecommuting workforce and for providing a guide regarding health and safety issues (Howard 1998). Throughout the US, somewhere between “4,000 and 6,000 HP workers telecommute at least once every two weeks” (Howard 1998:56).

2.3.5 Proposition 1

The following are the key drivers that would influence organisations to investigate telecommuting.

- Reducing overheads: The cost of real estate, office space and commuting

Balepur (1998), Forseback (1998), Scheele and Ohlsson (1998), Mitomo and Jitsuzumi (1999), Hopkinson and James (2000), Hopkinson et al. (2001), Greer et al. (2002), Pérez et al. (2004) and Lattanzi and Korhonen (2006).

- Productivity

Dubrin (1991), Greer et al. (2002), Mann and Holdsworth (2003), Montreuil and Lippel (2003), Westfall (2004) and Crandall and Gao (2005).

- Recruitment of top talent, staff retention and job creation

Gibson et al. (2002), Patrickson (2002), Simpson et al. (2003) and Dally (2006).

- Environmental factors

Betts (1994), Bain et al. (1995), Koenig et al. (1996), Henderson and Mokhtarian (1996), Gould and Golob (1997), Mokhtarian and Salomon (1997), Howard (1998), Nilles (1998), Mokhtarian and Varma (1998) and Alcott (2001)

2.4. The critical success factors for telecommuting

Definition of critical success factors

There would be little point in implementing telecommuting, or any other programme, if it was not deemed to be successful. As said by Rockart (1979:82), “critical success factors thus far, for any business, the limited number of areas in which results, if they are satisfactory, will ensure successful competitive performance for the organisation. They are the few key areas where ‘things must go right’ for the business to flourish. If results in these areas are not adequate, the organisation’s efforts for the period will be less than defined.”

In addition, Hofer and Schendel (1978:88) went on to say that the “key success factors are those variables which management can influence through its decisions that can affect significantly the overall competitive positions of the various firms in an industry. These factors usually vary from industry to industry. Within any particular industry, however, they are derived from the interaction of two sets of variables, namely the economic and technological characteristics of the industry involved... and the competitive weapons on which the various firms in the industry have built their strategies.”

The critical success factors in this study were defined as the elements within an organisation that were in place, that were deemed to be satisfactory, adequate and give the firm a competitive advantage. The critical success factors are described in the following section.

2.4.1 The profile of person suited to telecommuting

Telecommuting has made line and human resource managers question what type of person is most suited to be a teleworker. Manoochehri and Pinkerton (2003) define how best to attract and recruit these people, as well as enhancing their satisfaction and retaining them, once employed. Managers now have to have good systems in place to ensure that they can measure and, in turn, performance manage their staff who are no longer sitting right under their nose's. Manoochehri and Pinkerton (2003) also mention that not all companies have the required culture to embrace telecommuting. An obvious example is a company that requires a high level of interaction between the manager and employee will not necessary be suited to a telecommuting environment.

It has been identified by both Lattanzi and Korhonen (2006) and Greer et al. (2002) that certain competencies are required by the teleworker. This is from an individual, as well as from a manager and team perspective. These competencies are not always inherent and often have to be taught. Examples of these include communication skills and protocols, trust and trustworthiness, prioritisation and self-management skills. It is to be noted that these skills are not always that easily learned if an individual does not possess at least some of these personality traits already. These competencies tie back to the studies by both Manoochehri and Pinkerton (2003) and Taskin and Valerie (2005) whose findings both suggest that there are certain people who are better suited to teleworking than others.

Greer et al. (2002) go on to say that there is significant reliance on the harmony of human and technological resources for the successful implantation of a telecommuting model. This may sound philosophical, but the reality is that the user needs to be comfortable with technology. Looking at the manager and the team, Lattanzi and Korhonen (2006) points out that organisations have discovered that teams of employees who did not initially appear to benefit from telecommuting work practices, are suddenly able to embrace mobility in unexpected ways. They go on to further point out that in some cases the

management culture inhibits mobility even though work processes could easily benefit from being mobilised and performed by a teleworker.

There is a strong emphasis from organisations having implemented a telecommuting programme, as well as from research done, that not everyone is suited to be a teleworker. Crandall and Gao (2005) go on to say that successful teleworkers have certain personality traits. These include attributes such as the ability to work independently and with little supervision, a desire to want to telecommute, the ability to work without much social contact, and the traits of dependability and honesty (Crandall and Gao 2005). On a very basic level, some employees are better suited for telecommuting because they can be more productive at home where there is no office distraction.

Telecommuting is not for everyone or every organisation (Potter 2003). Individuals who need social interaction or close supervision are not likely to succeed in an off-site work arrangement.

2.4.2 The adoption of technology

There has been a lot of research done in the general field on the adoption of technology by users (Stockdill and Morehouse 1992; Karahanna, Straub and Chervany 1999; Sumner and Hostetler 1999; Zhao and Czikowski 2001; Choudrie and Dwivedi 2005). This becomes relevant in this study due to the fact that telecommuters are generally required to make use of Information Communication Technology (ICT) systems in order to connect back to their corporate network (Sullivan 2003). With the advent of voice over Internet protocol (VoIP), telephone call charges can be dramatically reduced by routing the call over the World Wide Web instead of the existing telephone company's network. This sometimes requires some technical knowledge in order to do so.

More often than not, giving an individual the ability to work from home requires certain technologies to be used. For someone who is used to dealing with computers, the internet and networking, this technology will not be an issue (Pérez et al. 2004). He goes on to discuss the challenges for some employees

who may not have had to use this technology and due to telecommuting being implemented, may find that they now need to learn other skills in order to become a teleworker. Computer systems cannot improve organisational performance if they aren't used. Unfortunately, resistance to end-user systems by managers and professionals is a widespread problem as shown by Davis et al. (1989). It is for these reasons that organisations have accepted that there are certain individuals better suited to become teleworkers than others. Considered to be one of the most influential extensions of the theory of reasoned action by Pérez et al. (2004) in the information and communications technology literature is the technology acceptance model.

The Technology Acceptance Model (TAM), introduced by Davis (1989) and as depicted in Figure 1 below, has been tailored for modelling user acceptance of information systems. The goal of the Technology Acceptance Model is to provide an explanation of the determinants of computer acceptance that is general, capable of explaining user behaviour across a broad range of end-user computing technologies and user populations. A key purpose of TAM is to provide a basis for tracing the impact of external factors on internal beliefs, attitudes, and intentions.

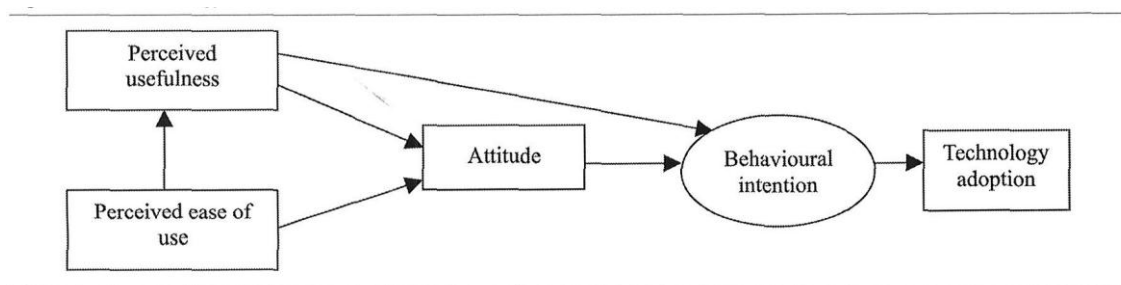


Figure 1: The technology acceptance model (Davis et al. 1989)

TAM puts forward that two particular beliefs, perceived usefulness and perceived ease of use, are of primary relevance for computer acceptance behaviours. Perceived usefulness is defined as the prospective user's subjective probability that using a specific application system will increase his or her job performance within an organisational context (Davis 1989). Perceived

ease of use refers to the degree to which the prospective user expects the target system to be free of effort. The Technology Acceptance Model suggests that computer usage is determined by behavioural intention, as shown in the oval just to the right of the centre of the above diagram, but differs in that behavioural intention is viewed as being jointly determined by the person's attitude towards using the system and perceived usefulness. The technology acceptance model suggests that when users are presented with a new technology, a number of factors come into their decision making as to how and when they will use it (Davis et al. 1989). As depicted in Figure 1, behavioural intention is determined jointly by attitude and perceived usefulness. The second of the two, i.e. perceived usefulness, also influences attitude directly. The definition of perceived usefulness by Davis (1989) is "the degree to which a person believes that using a particular system would enhance his or her job performance." He went on to define ease-of-use as "the degree to which a person believes that using a particular system would be free from effort" (Davis 1989: 329).

Figure 2 below depicts the research model of teleworking adoption based on the principles of the technology acceptance model (Davis 1989). It also shows the signs, i.e. positive (+) or negative (-), of the proposed relationships to explain teleworking adoption. In the top left-hand block, the factors are contributing to the "perceived usefulness of teleworking" have been identified. Note they are all positive. In the top right-hand block are the factors contributing to the "ease of use" of teleworking. These are from a technical, managerial and organisational perspective. Note these factors are both positive and negative.

As illustrated in Figure 2 by the arrow from right to left, the factors under the heading "teleworking's perceived ease of use" influence positively and negatively the "perceived usefulness of teleworking." Both of these factors then affect the "manager and employees' attitude towards teleworking," which in turn drives the "behavioural intention to adopt teleworking." In addition, as depicted in Figure 2, the "perceived usefulness of teleworking" has a direct influence on the "behavioural intention to adopt teleworking."

Lastly, all these factors together ultimately influence the final outcome of the model as to whether teleworking is adopted.

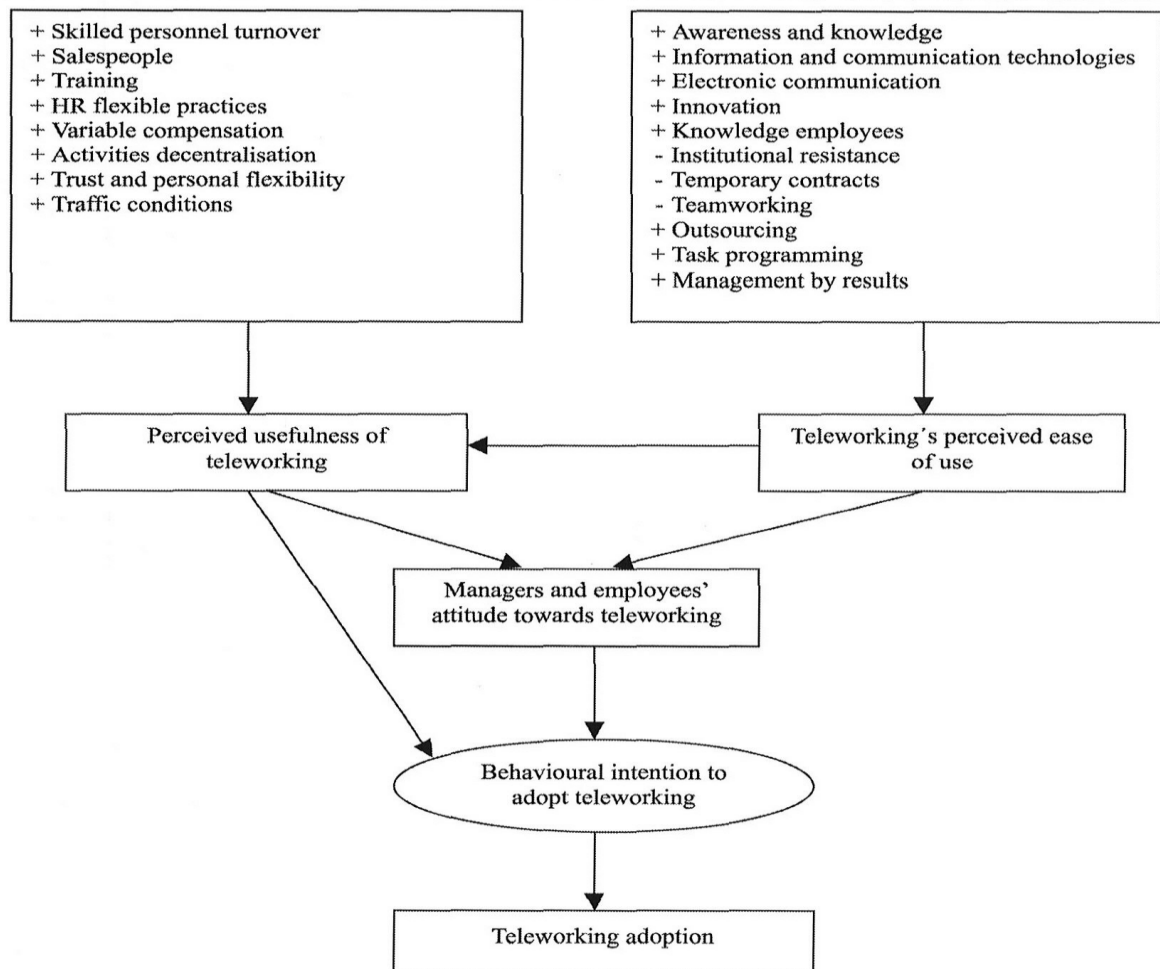


Figure 2: Model of teleworking adoption (Davis et al. 1989)

Managers are likely to be reluctant to adopt teleworking when they cannot see the need for the change and/or perceive too many difficulties by using teleworking in their organisations (Chapman, Sheehy, Heywood, Dooley and Collins 1995). For example, when there is a lack of required technological resources, when teleworking costs overcome benefits, or when managers perceive that teleworking could negatively influence on the organisational culture (Chapman et al. 1995; Daniels et al. 2001; Illegems, Verbeke and

S'Jegers 2001). Once organisations have established whether they can and want to implement teleworking, they have to identify potential teleworkers.

Even if some employees are potential teleworkers, they may not be interested in such a work arrangement if they fear that it may negatively impact their professional careers. Specific skills and traits are also likely to be required of teleworkers. Besides basic knowledge of information and communication technologies, they must be self-sufficient, reliable and good communicators says (Pérez et al. 2004). They go on to say that self-sufficiency involves being able to work and solve problems independently, having the ability to concentrate in a non-work setting, good planning capabilities and good time management skills.

2.4.2 Managing the workers and the work

Two important issues arise in telecommuting: managing the worker and managing the work (Pearlson and Saunders 2001). Workers must learn how to work from an alternative work location, including how to do work required while working away from colleagues, managers and administrative staff. In addition, workers new to a telecommuting work environment must personally learn the discipline necessary to work in this environment. Pearlson and Saunders (2001) go on to say that managing such workers requires new types of knowledge about the work and personal habits. It also requires a culture of trust between the manager and the worker, to balance along the delicate line between micromanaging the work to be done and leaving the worker to do it alone. The emphasis on trust between the teleworker and the manager is a key success factor as described by Crandall and Gao (2005) and is an area that requires focus from both the employee and employer.

While such a culture is not unique to telecommuting, managers concerned with watching employees work find it particularly difficult to adapt to a telecommuting environment (Pearlson and Saunders 2001). In a similar context, Manoochehri and Pinkerton (2003) suggest that a significant obstacle often experienced with the implementation of a telecommuting programme, is the attitude of the

managers within the company. Traditionally managers' attitudes tend to be less than favourable towards an off-site environment (Reinsch 1999). One reason is the sense of loss of control over the employees when the manager cannot physically see them working. A common theme in the literature appears to be the concern that the employee may not have enough work or that they are working too much. The manager may also feel that they are unable to tell if a teleworker is struggling or needs constructive feedback (Reinsch 1999). On a similar note, problems may occur if a manager cannot detect conflict between co-workers.

From the perspective of managing the work, it means the manager must think about not only what work would be done by the telecommuter, but also what support the worker will need to complete the work and how the work will affect other tasks (Pearlson and Saunders 2001). Managing the work is deeply connected to managing the worker. For telecommuting to succeed, managers also need certain traits to supervise telecommuting workers (Potter 2003). The manager must be willing to take risks and to trust people working outside their field of vision. At the same time, the manager must be able to manage by results, build relationships across a dispersed organisation and not place different standards on telecommuting workers than apply to on-site employees (Reinsch 1999).

2.4.3 Human resource and family considerations

In a study by Lattanzi and Korhonen (2006), they found teleworkers often struggled to separate their family/home time with work time. This was more often the case when they first started to work from home. As time went on, they generally learnt to manage their time better. Lattanzi and Korhonen (2006) also related some anecdotal stories of the partners of teleworkers not knowing when the person was actually working or not, i.e. were they approachable for a discussion or coffee break, or were they actually working. This would occur because unless relatively structured working hours were kept, a teleworker could well be working early in the morning, during a typical lunch break or in the

evening. Taskin and Valerie (2005) also speak of factors such as “social isolation” experienced by the teleworker who would normally have a team of colleagues around them every day. Aspects such as “self management” and motivation are additional areas covered by (Taskin and Valerie 2005).

Other areas of research have focused on some of the “softer” HR aspects of telecommuting. Tietze and Musson (2002) cover an area of study whereby the teleworker may now physically be at home more of the time, but has the added challenge of dealing with his or her family who may also be more demanding of the teleworker’s time. These roles are often not easy to separate. There are some conflicting views when it comes to dealing with the ever increasing challenge to strike a happy balance between work and home life. This is illustrated in some of the following research. As a telecommuter, flexibility of telework is what employees need to balance work and home responsibilities (Jenson 1994). Others see the virtual office as having the potential to blur the boundaries between work and home life (Jones 1997). Either way, the “virtual office” adds a new level of complexity as employees attempt to deal with flexibility. It was found by Olson and Primps (1990) that some telecommuters exhibited characteristics of “workaholism” because of an inability to separate their work and personal life.

An obvious family consideration is the increase in flexibility and time spent at home. Workers are able to spend less time away from home and thus use the time which they might otherwise have wasted on travelling or being in the office, with their family or children (Mann and Holdsworth 2003). They can also cope better with mini domestic crises e.g. be at home for a repairman to do some work. Teleworkers can often (but not always) choose the hours they work, enabling them to take advantage of off-peak supermarket shopping or gym membership, to collect children from school, or simply working at times when they are more productive. Participants in a study by Mann, Varey and Button (2000) pointed out that the flexibility comes from the freedom of managing one’s own time. There is also the freedom and flexibility of being able to work from home for more than one employer (if the teleworker’s employment contract

allows for it), or being able to gain work even if there is difficulty getting to the office due to disability, rural home locations or caring responsibilities.

2.4.4 General requirements of a telecommuter

While each group of teleworker from various organisations often performs different functions, the research shows that they all tend to have similar needs with regards to being able to work from home or an equivalent remote location (Lattanzi and Korhonen 2006). Some examples of these common (more technical) requirements are:

- Access to email, calendar (scheduling), contacts and if applicable, the Internet.
- Voice telephony.
- Access to corporate data and tools.
- Ability to collaborate with team members.
- Ability to receive alerts and critical information.
- Ability to show or present information quickly.
- Greater efficiency in reporting and approval process.

The above mentioned points refer mainly to the technical and work flow type of requirements that a teleworker generally needs. Barber et al. (2005) emphasise the importance of continuing to build good relationships between the employer and the teleworker. They go on to say that the conducting of face-to-face meetings and two-way communication is still a very important part of telecommuting, in fact possibly even more so than “normal” office workers due to the fact that they are geographically separate from the day-to-day business.

As much of the research suggests, management must be actively seen to support telecommuting wholeheartedly. This includes the willingness to

supervise employees who are not present at work. Crandall and Gao (2005) state that the supervising of telecommuters represents a special challenge for managers. For managers who like employees in eye sight, such an arrangement may prove uncomfortable, at least initially. Their opinion is that some managers may literally spend their time wondering if their employees are really working, or for that matter, if they are working too much (Manoochehri and Pinkerton 2003). The irony of this is that employees are not necessarily being productive just because they are sitting at their desk. The measurement should therefore be task or output based, rather than time spent working.

The home environment, as with any workspace that has been ergonomically designed, should be a quiet area separated from the rest of the house. It should be well lit and adequately ventilated (Lattanzi and Korhonen 2006). Furthermore, it should adhere to the local corporate occupational health requirements. The necessary electrical plug points, telephone and/or Internet points are also required. Probably because this has been the norm for many years, there still seem to be organisations that feel they need control over their employees say (Crandall and Gao 2005). The view of these organisations is that this can only be achieved if the employee is coming to work every day and sitting in their office space in sight of their respective manager.

2.4.5 Proposition 2

The following are the critical success factors likely to influence organisations to investigate telecommuting.

- The profile of person suited to telecommuting

Greer, Buttross et al. (2002), Potter (2003), Manoochehri (2003), Taskin (2005), Crandall and Gao (2005) and Lattanzi, Korhonen et al. (2006).

- The adoption of technology

Davis (1986), Davis, Bagozzi et al. (1989), Chapman et al. (1995), Daniels et al. (2001), Illegems et al. (2001), Pérez, Sánchez et al. (2003), Sullivan (2003) and Pérez, Sánchez et al. (2004).

- Managing the workers and the work

Reinsch (1999), Pearlson and Saunders (2001), Manoochehri and Pinkerton (2003), Potter (2003) and Crandall and Gao (2005).

- Human resource and family considerations

Olson and Primps (1984), Jenson (1994), Jones (1997), Mann, Varey et al. (2000), Tietze (2002), Mann and Holdsworth (2003), Taskin and Valérie (2005) and Lattanzi, Korhonen et al. (2006).

- General requirements of the telecommuter

Manoochehri and Pinkerton (2003), Crandall and Gao (2005), Barber, Laing et al. (2005) and Lattanzi, Korhonen et al. (2006).

2.5. Conclusion of literature review

In summary, the literature suggests that an organisation that implements telecommuting can quite possibly experience a reduction in their overhead costs, such as real estate, office space and travel. It also suggests that an increase in productivity is also achievable. Another area that illustrates an attractive key driver is the recruitment and retention of skilled staff. Added to this is the real factor of an improvement of work-life balance. The final key driver that could continue to have a lot of focus in the years ahead are the environmental factors. The research suggests that telecommuting programmes have been successful in reducing air pollution and carbon emissions, as well as lowering the usage of fuel.

The literature suggests that in order for companies to successfully implement telecommuting within their organisations, they needed to ensure that certain factors were in place, or that they were achievable. These factors are: the profile of person and whether they are suited for telecommuting; the ability for them to be able to adopt the new technology; ensuring they have the correct management practices in place to manage the workers and the work. Additional factors are ensuring that the correct human resource practices are in place, which include the family considerations of the teleworker on the home front. The final factor addressed in the literature review is ensuring that teleworkers have the correct technical services available to them, in order for them to conduct their job of work from their remote location at home.

The literature also suggests that the research problem could be answered by conducting the appropriate research in two organisations based in South Africa and the United Kingdom. The literature seems to support the implementation of a telecommuting programme.

2.5.1 Proposition 1:

From the literature, the key drivers are:

The reduction of overheads such as the cost of real estate, office space and commuting, the improvement of productivity, the recruitment of top talent as well as staff retention, job creation and the environmental factors.

2.5.2 Proposition 2:

From the literature, the critical success factors are:

The profile of person suited to telecommuting, the adoption of technology, the management of the workers and the work, the human resource capability, family considerations and the general technical requirements of the telecommuter.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Research paradigm

It is sometimes required, in order to answer some research questions, to do an in-depth investigation to gain a complete understanding of the problem in question (Leedy and Ormrod 2001). The methodology used in this dissertation to address the propositions is qualitative research. Qualitative research focuses on phenomena that occur within natural settings (Leedy and Ormrod 2001). In order to gain a meaningful representation of these phenomena, it required them to be studied from many different angles. Sixteen people were interviewed within the research process. The results could not be simplified and are therefore portrayed in their multifaceted form.

As proposed by Creswell (2003), qualitative researchers do not believe there is necessarily a single, ultimate truth to be discovered. Instead, there may be multiple perspectives held by different individuals, with each of these perspectives having equal validity. A qualitative methodology was therefore suitable for this research, as the different opinions of the interviewees were sought and could have differed.

Another factor that justifies a qualitative approach is that of the process described by Leedy and Ormrod (2001) whereby the researcher may start the interview process with a slightly more general set of questions, but as they learn more about what they are studying, the questions - and in turn the questioning - could become more specific. Although the intention was not to predict any particular outcome of the research, a qualitative approach also allowed for insights to be gained into a particular phenomenon, in this case telecommuting, as well as discover problems that exist within this phenomenon (Peshkin 1993). Furthermore, qualitative research provides a researcher with a means through which they can judge the effectiveness of a particular policy, practice or innovation, in this case, telecommuting.

Since the interviewees came from two organisations, one which in the United Kingdom and the other in South Africa, a comparative study was conducted on the information gathered from the interviews.

3.2 Research design

The qualitative research design selected as being the most suitable approach was the case study. In order to help with understanding in-depth concepts in other similar scenarios, a comparative case study approach was used. The method used took the form of interviews with sixteen individuals. As defined in the profile of respondents further on, these individuals were involved in a telecommuting programme in some or other way. In keeping with the theme of telecommuting, as many of the interviews as possible were done telephonically, using video conferencing and via email. Some of the interviews were conducted face to face at a location convenient to the interviewee. In most cases, their office or home office.

Yin's (2003) view was that the richness of the context (by virtue of the fact that it was qualitative research), means that the study was likely to have more variables than data points. The richness gathered from the in-depth interviews meant the study could not rely on a single data collection method but would need to use multiple sources of evidence from the different interviewees. He went on to say that even if all the relevant variables are quantitative, distinctive strategies would be needed for research design and for analysis. The development of thorough techniques and strategies under these conditions has been the continuing quest in defining the case study method.

Although qualitative methodology was not representative of the population as a whole, it was anticipated that it would give insight into the specific issues and ideas raised in the research proposal. There was a list of questions (as per Annexure A) that were used in the interview.

The advantages of this type of research design is that it gave the interviewer scope to probe and investigate respondents thoughts and comments that may be indirectly related to the research topic, which would never have been illuminated had a structured quantitative questionnaire been used. If only a single case have been studied, one could not have been sure that the results would have given an in-depth understanding potentially relevant to other situations, say Leedy and Ormrod (2001), which would then be regarded as a disadvantage.

3.3 Population and sample

3.3.1 Introduction

As described in this section, 16 interviews were conducted. This was across two companies, one based in South Africa and the other in the United Kingdom. The British company operates within the Information and Communication Technology sector as a systems integrator in the United Kingdom and the other is a broad based financial institution in South Africa.

3.3.2 Case sites

The Information and Communication Technology Systems Integrator is a specialist IT services and solution provider, helping their clients plan, build, support and manage their IT infrastructures. This company applies its expertise in networking, converged communications, security, Microsoft, storage and contact centre technologies and its unique skills in consulting, integration and managed services to create customised client solutions. By continually building on knowledge and expertise in IT infrastructure technologies, it has become a recognised global leader in the provision and management of specialist IT infrastructure solutions. The company plans, builds, supports and manages IT infrastructure solutions that help over 6,000 clients achieve their business goals.

The information and communication technology systems integrator was fit for purpose for the research as it is geographically dispersed across the United Kingdom and had already implemented telecommuting within the organisation. Although telecommuting had been rolled out across the globe, it was primarily done within the United Kingdom, which was the focus. There were a number of potential interviewees within different job functions that could be approached for research purposes. The researcher had easy access to the organisation, so they were also chosen due to convenience.

The financial institution is a company primarily based in South Africa and is a provider of financial and risk services. It has a wide range of customers, from individuals, to large organisations. This company also provides consulting, actuarial and administration services to corporate retirement funds, employee benefit schemes and individuals. The company's Risk Services division provides short term insurance broking, reinsurance broking and risk management services through subsidiaries, associates and correspondents with offices around the South Africa. The company's Insurance division has a range of personal insurance and financial products. They are also an organisation known for being progressive in ICT.

Similar to the ICT systems integrator company, this financial institution is geographically spread out over the country. Many of the roles are also primarily deskbound administrative functions. Those roles such as sales and account management that do require some travel to also have a relatively high administrative aspect. There is very little reason for the person to return to the office, as long as they have remote access to the ICT systems back at the office. They were therefore fit for purpose as a company to interview for the research, as they had the correct structure, work ethic and culture to be a potential candidate for telecommuting.

3.3.3 Sample and sampling method

A purposive sampling method was used. Twenty five people across two companies were identified and approached to be interviewed. Sixteen agreed which made up the final sample size. The companies included in the research were chosen to cover varying aspects of telecommuting implementation to ensure as far as possible a balanced view of the research topic. The companies chosen were done as they were fit for purpose. The company based in the United Kingdom had already implemented telecommuting and the South African based one had the correct structure, work ethic and culture to be a potential candidate for telecommuting. Being from different industries, they also potentially offered different views on the topic of telecommuting. The companies were also chosen on the basis of convenience, as the interviewee had relatively easy access to the people within the organisation.

The three respondent types within each of the companies interviewed were divided into:

- Decision maker – those people involved in the conceptualisation of telecommuting and the decision to implement the programme.
- IT implementer – those people involved in the project and technical roll-out of the infrastructure required for the teleworker to work remotely from home.
- Teleworker – the actual user or telecommuter who works from home.

These different categories of people helped to give a deeper understanding of the issues involved in the implementation and ongoing support of a telecommuting programme.

Table 1: Profile of respondents

Description of respondent:	Number to be sampled:	Company:
Teleworker	7	UK, ICT Systems Integrator
IT Implementer	1	UK, ICT Systems Integrator
Decision Maker / Strategist	1	UK, ICT Systems Integrator
Teleworker	3	SA, Financial Services Organisation
IT Implementer	2	SA, Financial Services Organisation
Decision Maker / Strategist	2	SA, Financial Services Organisation

This study was limited to one organisation in South Africa and one organisation based in the United Kingdom. Although both the companies included in the study were multi-national organisations with branches outside of South Africa and the United Kingdom, no data were gathered or used in relation to these foreign branches.

For the purpose of not divulging any sensitive or competitive information, the organisations that were included in the study were not named. The South African company was a large publically listed financial institution. The company based in the United Kingdom was also a large publically listed organisation. It operates in the Information and Communication Technology sector and is specifically referred to as a Systems Integrator. Only individuals employed by these organisations were interviewed.

Nine people from the United Kingdom ICT Systems Integration company were interviewed and seven people from the South African Financial Institution were included, making a total of 16 interviewees.

3.4 The research instrument

The instrument used was a structured in-depth interview with prompts (see Annexure A). The questions varied slightly depending on whether the teleworker, IT implementer or the decision maker was being interviewed. The process used to structure the questions was to first review the research proposal as a whole, and then specifically the propositions. The questions were then designed in an attempt to cover as much of the topic as possible. As an example, the first proposition aimed to identify the key drivers for South African organisations to implement telecommuting. The first few questions probed the interviewee to better understand what some of these drivers might have been.

Another example is the second proposition, which was to attempt to ascertain what the critical success factors were of implementing telecommuting. The second half of the questions were designed with the aim of better understanding what these success factors may be for each interviewee from the different organisations.

3.5 Procedure for data collection

As suggested by Leedy and Ormrod (2001), after identifying the research design and methodology, as well as considering issues related to reliability and validity, four fundamental questions about the data needed to be asked. The first question to be asked was “what data are needed?” The answer to this was that interview data with some observations from the researcher would be used. This data was qualitative.

The second question asked was “where are the data located.” The data came from the interviewees who were physically situated in the United Kingdom and South Africa. Some of the interviewees were based at their homes, which were anywhere in either country. Some were, however, based at their offices where their companies are physically situated.

The third question asked was “how will the data be secured.” The data was secured by setting up meetings with the interviewees who had been identified. These interviewees had already been approached and had verbally agreed to participate in the interview process. As a formality, a letter was also sent to them, explaining the reason for the research and requesting their input. The manner in which the data were collected was also in keeping with the methodology.

The fourth question as suggested by Leedy and Ormrod (2001) was, “how will the data be interpreted.” This question is answered in the section “data analysis and interpretation” below.

3.6 Data analysis and interpretation

Once all the data were collected, content analysis was performed on the body of data. This included a detailed and systematic examination of the content as described by Leedy and Ormrod (2001), in order to identify patterns, themes or biases within the material. The data were also categorised and interpreted in terms of these common themes. The information was then synthesised into an overall portrait of the case.

3.7 Limitations of the study

Due to the fact that this study was conducted using a qualitative approach and case study method with interviews to collect the data, certain limitations applied. A research process using interviews has the tendency for subjectivity to occur, as both the researcher and the interviewee may provide personal biased input into the research and information provided. As bias is part of qualitative research, both interviewee and researcher did their best to remain objective. The original responses by the interviewees were kept for record purposes and can be referred to should the need arise.

Another limitation of in-depth interviews in this case, was the fact that the interviewees were not randomly selected. The interviewees were selected

based on the recommendation by fellow colleagues, and on their availability.. Furthermore, it was possible that the interviewees may not have given an actual account of how they really felt about telecommuting, for fear of someone else in the organisation taking a poor view of their candidness (although their responses were not circulated back into the organisation.) The candidate may have been uncertain as to who was going to review the feedback. The names of the interviewees and the organisation were kept confidential.

Difficulty was experienced in trying to find an organisation that had formally defined and implemented a telecommuting programme. It seemed at face value that any telecommuting that did take place was on a less formal basis. This was determined during the initial conversations with people in general on the topic. As a result, it stood to reason that these organisations would not necessarily continue with telecommuting if it was not going to add benefit to their business. Therefore, it was determined that the data collected from the interviewees were unlikely going to be negative. The research was therefore likely to only report on the positive side of telecommuting. This led to the risk that no real life examples or reasons would be uncovered why as to why a telecommuting programme could potentially fail.

Telecommuting is a concept that the researcher believes is advantageous to both organisations and employees. It needed to be ensured that when writing up the findings and doing the analysis of the data, that this bias minimally affected the outcome of the research.

3.8 Validity and reliability

According to Leedy and Ormrod (2001) the research instruments influence the extent to which one can learn something about the phenomenon that is being studied, the probability that one will obtain useful results in one's data analysis and the extent to which one can draw meaningful conclusions from the data.

3.8.1 External validity

External validity is the extent to which the results apply to situations beyond the study itself. This is according to Leedy and Ormrod (2001) who go on to say that it can also be described as the extent to which the conclusions drawn can give in-depth understanding to compare to other contexts. Due to the fact that organisations are often very similar in the way they are structured and the human resource challenges that they face, it stands to reason that the data collected by interviewing different organisations is likely to be relevant and useful to other organisations in similar contexts.

3.8.2 Internal validity

Internal validity is the extent to which the design and the data that is gathered allows for accurate conclusions to be drawn about cause-and-effect and other relationships within the data, says (Leedy and Ormrod 2001). In order to ensure that internal validity is maximised, precautions were taken to eliminate any other possible explanations for the results observed. In order to try and achieve internal validity in this study, a strategy as described by Leedy and Ormrod (2001) known as “Triangulation” was adopted. In qualitative research, triangulation is achieved by the collection of multiple sources of data with the anticipation that they will all converge to support a particular theory, whereas in qualitative research such as this study, triangulation enriches the data, rather than necessarily providing convergence. These multiple sources of data were the telecommuter, the IT implementer and the decision maker. It was anticipated that the data collected from these sources would converge as graphically depicted in Figure 3 below.

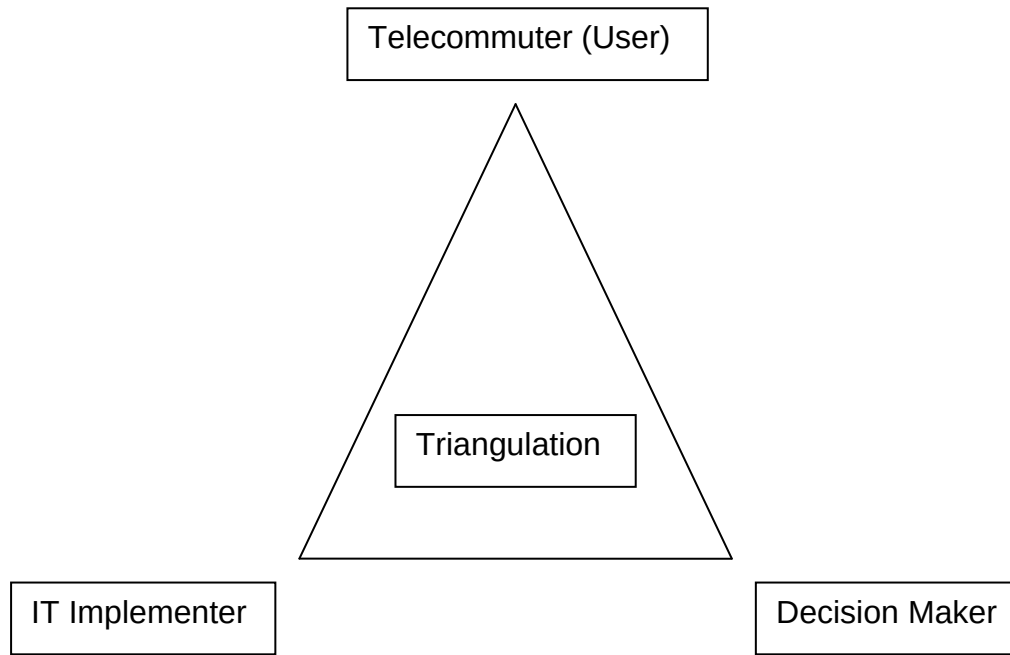


Figure 3: Triangulation model (Leedy and Ormrod 2001)

3.8.3 Reliability

In its most simplest form, reliability is consistency and repeatability. As described by Leedy and Ormrod (2001), reliability is the consistency with which a measuring instrument produces a certain result when the thing being measured has not changed. In this case, because the things being measured are human beings, the reliability could change from day to day depending on something as simple as to how they were feeling on any given day. This could lead to data that may not be 100% reliable. In order to try and guard against this, multiple people were interviewed who hold the same role in the organisation, thereby hopefully achieving some sort of reliability by getting different opinions from different sources.

CHAPTER 4: PRESENTATION AND DISCUSSION OF RESULTS

4.1 Introduction

This section commences by describing the demographic profile of the respondents, as well as comparing the planned findings versus what was actually obtained. It is then split into two sub-sections which present the results of the study for proposition one and proposition two. It goes on to further discuss and explain the results of this study, as compared to the research included in the literature review. The responses from the interviewees were reviewed and all the common themes were then grouped as identified in the literature review, under the two problem statement sub-headings, these being identified as key drivers and critical success factors for telecommuting. The last question from each questionnaire required the interviewee to rank order what they believed was most important to least important contributing factors of telecommuting. A table has been included to illustrate the findings.

4.2 Demographic profile of respondents

As a general trend, the group of interviewees, some of whom were teleworkers themselves, were in favour of the concept of telecommuting. Remembering the three categories of respondents, these being teleworkers, IT implementers and strategic visionaries, it stood to reason that there was a leaning towards favouring the concept. All three categories had a mutual goal to achieve the key drivers identified in the literature review, such as the reduction of overheads, the improvement of productivity, the recruitment of top talent and the ever increasing focus on environmental factors. The demographics of the respondents were in line with what was anticipated, in that they were all experienced professionals within their specific field. Access was gained to most of the respondents either directly or through friends, colleagues or other acquaintances. Within the sample of people to be interviewed, more teleworkers

were available for interview than IT implementers. Similarly, there were more IT implementers available for interview than strategic visionaries.

Instead of getting an equal split of around three samples from each category, the final split ended up with seven teleworkers, one IT implementer and one strategic visionary for the United Kingdom ICT systems integrator. The South African financial services organisation resulted in a split of three teleworkers, two ICT implementers and two strategic visionaries. Table 2 illustrates the difference between the list of planned interviewees versus the actual list of interviewees.

Table 2: Planned versus obtained interviewees

Organisation 1:	Planned list:	Interviewee name:	Obtained list:
1. Financial	Teleworker 1	Kerry	Yes
2. Financial	Teleworker 2	Pam	Yes
3. Financial	Teleworker 3	Rudy	Yes
4. Financial	IT Implementer 1	Anonymous	Yes
5. Financial	IT Implementer 2	Johan	No
6. Financial	IT Implementer 3	Craig	Yes
7. Financial	Decision Maker 1	Brad	Yes
8. Financial	Decision Maker 2	Colin	No
9. Financial	Decision Maker 3	David	No
10. Financial	Decision Maker 4	Shaun	Yes
11. Financial	Decision Maker 5	Justin	No
12. Financial	Decision Maker 7	Clinton	No
Sub Total:			7
Organisation 2:	Planned list:	Interviewee name:	Obtained list:
13. ICT	Teleworker 1	Mike	Yes
14. ICT	Teleworker 2	Richard	Yes
15. ICT	Teleworker 3	Steve	Yes
16. ICT	Teleworker 4	Shaun	Yes
17. ICT	Teleworker 5	Ryan	Yes
18. ICT	Teleworker 6	Nick	Yes

19. ICT	Teleworker 7	Anon	Yes
20. ICT	IT Implementer 1	Paul	No
21. ICT	IT Implementer 2	Pawel	Yes
22. ICT	IT Implementer 3	Christopher	No
23. ICT	Decision Maker 1	Neil	No
24. ICT	Decision Maker 2	Laurent	Yes
25. ICT	Decision Maker 3	Dave	No
Sub Total:			9
Grand Total:			16

* The surnames of the interviewees have been excluded.

It is proposed that the reason for the differences in the number of respondents actually interviewed versus the planned number of respondents was likely due to the fact that the technical support of teleworkers by IT Implementers is not yet formally documented, so this task does not form an official part of their job description. Consequently a number of IT Implementers approached to be interviewed did not regard themselves as being able to add value or credibility to the questionnaire. A second proposed reason for there being fewer respondents in the category of strategic visionary is that very few organisations have people who are specifically tasked with defining a telecommuting strategy. From the new research it suggests that there is a growing trend for organisations to consider telecommuting (as mentioned by both strategic visionaries in their interviews) and it is therefore anticipated that these strategic visionaries will become more prevalent going forward.

4.3 Results and discussion pertaining to Proposition 1 – the key drivers of telecommuting

The results from the answers to the questions asked in the interviews have been included in this section. The common themes found across each respondent have been grouped under different categories, pertaining to that theme. Proposition 1 deals with the key drivers of telecommuting. Proposition 1 states: From the new research, it seemed plausible that the following most

common key drivers would influence organisations based in South Africa and the United Kingdom to investigate the implementation of telecommuting. These are:

- The reduction of overheads such as the cost of real estate, office space and commuting
- The improvement of productivity
- The recruitment of top talent
- Staff retention and job creation
- Environmental factors

Each one of these categories is addressed below by discussing what was found in the literature review, grouping them into categories and comparing them to the research conducted in this study.

4.3.1 *Reducing overheads (the cost of real estate, office space and commuting)*

As found in the literature review, real estate costs were the second largest expense after salaries (Lattanzi and Korhonen 2006). Further to this, a study conducted by Greer et al. (2002) reported that organisations that implemented telecommuting saw a marked drop in their need for office space and realised significant cost savings in not having to house employees at corporate headquarters. The study also showed that as the number of telecommuters increased, the initial setup cost decreased due to the fact that some of the larger fixed costs like ICT infrastructure were spread across a larger number of people.

These findings are in keeping with the results obtained in the research conducted in this report. Although feedback was given that financial savings were achieved, no-one equated this back to an actual monetary value. Interviewees from the UK organisation did state that the office space required in

their London office was reduced by virtue of the fact that they had a number of teleworkers who did not require a permanent desk. They were accommodated by sharing a “hot desk.” This resulted in the UK organisation being able to rent smaller offices in the City of London (it had to have an office in order to have close access to their customers, but minimising the office space required, a plus factor given the high rentals commanded in London).

The UK organisation also rents office space outside London in a town called Fleet in Hampshire. These offices are used for staff who need to come in on a daily basis, or did not have the facilities to work from home, but the cost of the real estate was far less than that commanded in the centre of London. These staff were generally office-bound administrative staff, such as finance, marketing and switchboard operators. This model is similar to that of the Japanese organisation that chose to build “work centres” outside the main city centres as per Mitomo and Jitsuzumi (1999), which enabled their employees to have a much shorter commute in terms of distance and time to a “local office,” rather than having to make their way into the city centre.

The previous research also showed in a study conducted in the UK of the company British Telecom, found commuting reductions of 150 kilometres by private vehicles and 230 kilometres by train during a two days average teleworking programme (Hopkinson and James 2000). Another study by the UK Automotive Association, undertaken by Hopkinson, Mayurama and Selwyn (2001), found that 88 per cent of the surveyed employees had completely eliminated commuting, which accounted for a reduction of more than 5,700 kilometres per employee per year. These findings are in keeping with the research from this study, in that interviewees reported that they experienced a reduction in distance travelled to and from work, which equated to a saving in fuel, commuting and vehicle maintenance costs.

From the interviews, people commented on areas where they experienced a saving or an increase in cost. Eight people responded saying they experienced a saving in transport, petrol or commuting costs. Conversely, two people mentioned they found their telephone bills had increased. As one interviewee

stated, “there was definitely a cost saving in petrol and public transport costs. I have no doubt that my phone bill has increased, but the company pays for this bill, so I am not actually sure what it is.”

Real estate and facilities costs were mentioned three times. One person stated that “although I have not calculated the saving, my employee does not have to allocate me a permanent desk at the office.” An increase in internet costs was mentioned twice and one of these people went on to say that they did, however, save money on food by eating at home. Their actual comment was, “My Internet bill has gone up twenty Pounds due to the increased bandwidth required. I have probably saved fifty dollars a month from not going out to lunch and eating meals at home.”

4.3.2 *Productivity*

It was documented in the literature review by Montreuil and Lippel (2003) that there is higher productivity among teleworkers than other workers. This higher performance level is attributed to fewer interruptions, longer working hours and the flexibility when planning work schedules. They went on to say that as most people engage in telework by choice, they tend to be more motivated to prove that this alternative mode of work is successful (again noting that is largely predicated on self-report data. Because most teleworkers volunteer or request to work from home, they might be biased to claim success in order to prove that their chosen method is effective (Mann and Holdsworth 2003).

The results from the research that was conducted supports the literature review. Interviewees were asked whether they had experienced any changes in productivity. The responses can be divided into three categories. The first indicated an improvement in general productivity, with no particular reason given. 17 respondents stated this as being the case. An example of this was an interviewee who stated that “I’m much happier working from home due to my increase in productivity.” The second reason given for an improvement in productivity was due to the reduction in travel time. 15 respondents stated this as a reason: one response was: “it has been tremendous, I can now use my

travelling time of four hours a day more productively to show a better return on the company's investment in me." The third reason, mentioned nine times, was the office being a distractive environment. One person mentioned that "productivity had increased two-fold due to the lack of the distractions that an open-plan office environment introduced."

The findings are supportive of the literature review conducted. From the literature review, Westfall (2004) suggested that if telecommuting consistently generated significant productivity gains that were translating into measurable increases in bottom-line profitability, then companies that employ large numbers of knowledge workers would have adopted telecommuting on a large scale a long time ago. To the contrary, some organisations offer telecommuting as an option, but are not strongly encouraging it. This is a telling indicator that telecommuting either does not deliver, or the organisations do not agree with the proposed increase in productivity.

The following feedback from the interviewees supports this finding from Westfall (2004):

1. "I have had some feedback from the office bound staff that it is no longer as easy to have a quick meeting or a catch-up at the proverbial water fountain. This goes back to what I was saying earlier about ensuring there is effective change management in place. The issue of not being able to have a quick meeting is not a massive problem in itself, it is more in my opinion a case of changing people's perceptions and the way they work. I am not aware of any negativity from the office bound co-workers. I get the impression that both the SoHo worker and office bound worker need to get used to the new way of working... and once they have done so, it is business as usual."
2. "I think the biggest impact is not on the teleworker, but on the team that is left behind. The teleworker expects the rest of the team to just fall in line with how they expect to be communicated with. The most pain

suffered is for the person that is not a teleworker... and unless that is managed, that can have a lot of impact on productivity and morale.”

4.3.3 *Recruitment of top talent, staff retention and job creation*

When considering recruitment, it was found in the literature review that as companies grew, it became an ever increasing challenge for them to not only recruit the best talent they could find, but to retain them for a meaningful length of time too. A group of people that are growing in size parents striving to achieve a work-life balance. One of the ways they achieve this is by spending more time with their children. Gibson, Blackwell, Dominicis and Demerath (2002) illustrates that the increase of teleworking as a formally accepted practice is helping these individuals achieve this goal. This flexibility speaks back to the topic of staff recruitment and retention, whereby it can be used as a tool by organisations to attract and retain highly skilled knowledge workers who may otherwise choose or be forced into parenting with little option of working in a traditional office-bound environment.

One approach that is largely dependent on the management style of the manager within the organisation, is the option of flexibility in working hours, rather than a formal telecommuting agreement in place, as suggested by (Lattanzi and Korhonen 2006). Employees have a flexitime type arrangement whereby they do some of their work at home. This is often done where one needs to avoid traffic, or when an employee has to leave the office early, often for personal reasons such as parenting responsibilities.

The research supported the above findings that organisations are using telecommuting and work from home programmes to both attract and retain staff. Although some of the responses are not explicit, in that the teleworker is drawn to a company due to the ability to work from home, they are implied in a number of answers. Five respondents gave telecommuting as the reason they were attracted to the company in the first place. One person said that, “when looking for a job, the role at company X was more attractive to me as I wanted to be based from home.” Nine people gave the reason that they would stay at a

company was due to the fact that they could telecommute. As one interviewee said, “at the time, I had a daughter entering Grade 1 and thought it may be an opportunity for me to spend quality time with her – help with homework, etc... Over the past few years, I have not regretted my decision. I have been able to excel at my career as well as being there for my child. I have the best of both worlds.”

4.3.4 *Environmental factors*

From the literature review, there were not many studies found which specifically considered the environmental impact of commuting to and from work. The studies generally covered pollution and other environmental factors of a more industrial nature. It was noted in the literature review that there appear to be very few empirical studies that have researched this area. It was found by Nilles (1998) that there was not a statistically significant difference between teleworkers and non-teleworkers in terms of their consumption of energy at work. The study did show that if we take into account the energy savings from the reduction of commuting, then the energy balance is positive in favour of home-based teleworking or tele-centres. The study went on to illustrate that to avoid the company saving energy costs at the expense of the teleworker, the terms of employment must specify which costs (energy, fuel, stationery, etc.) will be paid by the company (Nilles 1998).

It is suggested in the literature review that the reduction of an organisation’s footprint and so becoming more “green compliant” would be a likely key driver to emerge from the research. Although some of the interviewees did mention savings in fuel costs or reduced public transport costs, these limited references were anecdotal and not indicative of a trend towards “going green.” These answers were not directly related to environmental factors, but rather by association, for example, the use of public transport would lead to a reduction in the use of fuels and energy and in turn lead to a reduction in carbon emissions. In addition, the fact that they (the teleworker) do not require a dedicated office space and therefore use fewer utilities such as water and electricity was not an

environmental factor, due to the reason that the teleworker would still use these utilities when working from home, to a great or lesser extent.

It is proposed that due to the interviews taking place during a world recession in mid 2009, stakeholders were less concerned about the environment as a whole, and potentially more focused on the financial bottom line. This assumption was mentioned a few times in conversation with some of the interviewees.

The following two excerpts were examples of where the interviewee specifically referred to the consideration of the environment:

1. "I believe it (telecommuting) has a place in a big organisation. For companies that are trying to reduce their carbon footprint and create a "green IT strategy," as well as trying to be good corporate citizens, there is a card to play there."
2. "The company has a 'Green agenda' and my manager agreed to this approach to motivate teleworking."

4.3.5 Rank Order

As part of the interview, the interviewees were given five factors as listed in table three below. They were asked to rank these factors according to importance from one to five, one being the most important and five being the least important factor that would influence them to implement telecommuting within their organisations. The factors are listed from most important to least important, with "productivity and efficiency" being the most important and "environmental factors" being the least important. The numbers on the right-hand side of the table show how respondents ranked each factor.. As an example, of the 16 interviewees, 6 said that productivity & efficiency was most important to them, while no-one stated that it was the least important factor for them. Similarly, zero interviewees said that environmental factors was most important to them and eight said that this factors was least important to them.

Table 3: Rank order questions

Factors:	Most important	Next most important		Next least important	Least important
Productivity & Efficiency	6	6	3	1	0
Work/Life Balance	3	6	4	1	2
Reducing Overheads: Real estate, office space & commuting	6	0	2	6	2
Recruitment of top talent, staff retention & job creation	1	3	5	3	4
Environmental Factors	0	1	2	5	8

4.3.6 Conclusion of first proposition

It can be concluded that the literature review has largely been supported by the findings of the research conducted in this study, with the exception of environmental factors, which did not come up as a major key driver as anticipated. This may be due to the interviews being conducted during a world recession as previously mentioned. In mid-2009, stakeholders were less concerned about the environment as a whole, and potentially more focused on the financial bottom line.

It can also be said that the key drivers identified in the first proposition were confirmed to be the same key drivers by the companies interviewed. Those key drivers are the reduction of overheads, the improvement of productivity, the recruitment of top talent, staff retention and job creation and finally the environmental factors.

4.4 Results and discussion pertaining to Proposition 2 – the critical success factors of telecommuting

Proposition 2 states: From the research, it is evident that the following most common critical success factors would most likely influence organisations based in South Africa and the United Kingdom to continue with a telecommuting programme: these are: the profile of person suited to telecommuting; the adoption of technology; the management of the workers and the work; the human resource capability and family considerations; and finally, the general technical requirements of the telecommuter. Each one of these categories will be addressed below by discussing what was found in the literature review and comparing it to the research conducted in this study.

The results from the answers to the questions asked in the interviews have been included and have been grouped under the headings of the second sub-problem

4.4.1 *The profile of the person*

As reflected in the literature review, Telecommuting has lead managers to ask what type of person is most suited to be a teleworker. It was identified by both Lattanzi and Korhonen (2006) and Greer et al. (2002) that certain competencies are required by the teleworker. Examples of these included communication skills and protocols, trust and trustworthiness, prioritisation and self-management skills. It was also found that some of these skills were not always that easily learned if an individual did not possess at least some of these personality traits already. These competencies tied back to the studies done by both Manoochehri and Pinkerton (2003) and Taskin and Valerie (2005) whose findings suggested that there were certain people better suited to teleworking than others. Research conducted by Crandall and Gao (2005) went on to say that successful teleworkers have certain personality traits. These included the things such as the ability to work independently and with little supervision, a

desire to want to telecommute, the ability to work without much social contact, and the traits of dependability and honesty (Crandall and Gao 2005).

The feedback from the interviewees positively mirrored the research. This is evident from the question asked to the interviewees as to what personality traits they believed were required by a teleworker. The feedback was that they should be a disciplined, focused individual who can adequately manage their work and personal time whilst working in an isolated / more comfortable environment. It is someone who doesn't require physical interaction with people on a regular basis to remain a "team player". One needs to be self disciplined and motivated. One also needs to be a confident person in that you need to be able to "reach out" to your colleagues as and when you need them. If you are not comfortable doing this, you could become "forgotten" working from home. One also need to be confident that you are contributing the correct amount, i.e. working to the expected level. The interviewees said they found that when they first started working from home, they were anxious to ensure that their boss and colleagues knew they were working. A teleworker must be self motivated. The temptation to perform other tasks outside of work are always around. They went on to say that a teleworker should be very ambitious. Ambition drives motivation and will lead to high performance regardless of location. Teleworking also requires a balanced individual with a good family life. Working at home means the family is usually around. If home life is poor, then avoiding the problems during business hours will be difficult. A teleworker needed to be able to stay in touch with colleagues and clients regularly. Self-reliance and confidence (not needing management reassurance) was seen as important, as well as good communication skills, particularly over the telephone. The person must be able to work against project deadlines and be committed to the company, whilst being able to manage time effectively.

From the responses from interviewees as to who would be best suited to telecommuting, 16 people said that the person needed to be self disciplined, motivated, deadline driven and be a self-starter. An example of this was a respondent who said, "discipline... due to home distractions, is the most

important factor. Motivation, time management and not being afraid of technology... early user adopter of technology and a willingness to learn as frequent changes will be made.” In addition, two respondents said that the profile of person best suited to telecommuting was someone who preferred to communicate remotely and/or preferred the home environment as their work environment. An example of one of these responses was someone who said “we also have a new wave of people growing up which some have referred to as ‘Digital Natives’. These users are expecting to have access to instant messaging, video conferencing. If you are going to look to retain and attract that younger generation of workforce, you need to supply them with the tools they need. “If the employee is self-starting and the manager ensures the lines of communication are always open, then the arrangement benefits not only the employee but the company as well.”

2 people responded saying that they felt that a proven track record within the organisation was important. An example given was a response stating that “they need a good track record of delivery... I don’t think people become teleworkers from day one... that privilege needs to be earned. The person needs to be a self-starter, they need to be independent, they need to be mature. The absolute key for me is that they need to be a good commuter. They need to understand the correct usage of which medium when communicating. They need to pick up the telephone when appropriate, rather than firing off an email. They need to come in for a meeting if possible... if that is what it requires... they should always use video when they can to maintain that “face to face” contact.” Lastly, one person felt that the telecommuter needed to be well organised and a good networker – “they need to stay in touch with colleagues and clients regularly.”

4.4.2 *The adoption of technology*

There has been substantial research done in the general field on the adoption of technology by users. To name but a few, Stockdill and Morehouse (1992); Karahanna, Straub and Chervany (1999); Sumner and Hostetler (1999); Zhao and Cziko (2001) and Choudrie and Dwivedi (2005). This theory became

relevant in this study due to the fact that telecommuters were generally required to make use of Information Communication Technology (ICT) systems in order to connect back to their corporate network (Sullivan 2003). This required the teleworker to have some technical knowledge in order to do so, or at least be trained on how it works. Pérez et al. (2004) did research that identified the challenges for some employees who may not have had to use this technology in the past and due to telecommuting being implemented, may find that they needed to learn other skills in order to become a teleworker. Unfortunately, resistance to end-user systems by managers and professionals is a widespread problem as shown by Davis et al. (1989). It is for these reasons that organisations have accepted that there are certain individuals better suited to become teleworkers than others, based purely on their ability to learn to work with new technologies.

When the interviewees were asked about the technology required to enable a teleworker, they all consistently replied that a range of technologies were required to facilitate them working from home. The technologies consisted of a range of bandwidth services to connect back to the network, voice services, online applications hosted at the head office as well as business tools such as email and faxing. Most of these technologies would be familiar to the modern day office worker, suggesting that they would have minimal difficulty adapting to working from home and making use of these technologies. The research conducted by Davis et al. (1989) suggested that there were organisations that were hesitant to implement telecommuting due to the potential user adoption challenges of the technology by the employee: however, the research conducted in this study confirmed that it was those employees who were already familiar with the technology and had no problem using it, that opted for the work from home alternative.

The new research did point out that user education was necessary to ensure that the user understands how to use the technology tools, as well as the adoption of the technology by the person. The new research went on to identify that the challenge faced was often more around the social adoption in that the

employee now had to conduct meetings via video conferencing or telephone and not face to face. The new research did support the fact that while user adoption is required for the new technologies, only users already familiar with these technologies were likely to opt for teleworking.

It was interesting to note in the literature review by Greer et al. (2002), that there is significant reliance placed on the harmony of human and technological resources for the successful implantation of a telecommuting model. The reality is that the user needs to be comfortable with technology. Having looked at the manager and the team, Lattanzi and Korhonen (2006) pointed out that organisations have discovered that teams of employees who did not initially appear to benefit from telecommuting work practices, were suddenly able to embrace mobility in unexpected ways. They went on to further point out that in some cases the management culture inhibits mobility even though work processes could easily benefit from being mobilised and performed by a teleworker.

There were 6 responses that suggested the adoption of technology played a role as a critical success factor for the implementation of telecommuting. One of the respondents stated, "...not to be afraid of technology... and to be early user adopters of technology. Willingness to learn as frequent changes will be made."

4.4.3 *Managing the workers and the work*

In the literature review, two important issues arose around telecommuting: managing the worker and managing the work (Pearlson and Saunders 2001). It was determined that workers must learn how to work from an alternative work location, including how to do work required while working away from colleagues, managers and administrative staff. In addition, workers new to a telecommuting work environment must personally learn the discipline necessary to work in this environment. Pearlson and Saunders (2001) went on to say that managing such workers requires new types of knowledge about the work and personal habits. It also required a culture of trust between the manager and the worker, to balance along the delicate line between micromanaging the work to be done and leaving

the worker to do it alone. The emphasis on trust between the teleworker and the manager was a key success factor Crandall and Gao (2005) and is an area that required focus from both the employee and employer.

While such a culture was not unique to telecommuting, managers concerned with watching employees work found it particularly difficult to adapt to a telecommuting environment (Pearlson and Saunders 2001). In a similar context, Manoochehri and Pinkerton (2003) suggested that a main obstacle often experienced with the implementation of a telecommuting programme, is the attitude of the managers within the company. Traditionally manager's attitudes tended to be less than favourable towards an off-site environment (Reinsch 1999). One reason is the sense of loss of control over the employees when the manager could not physically see them working. A common theme in the research appeared to be the concern that the employee may not have enough work or that they are working too much. The manager may also feel that they are unable to tell if a teleworker is struggling or needs constructive feedback (Reinsch 1999). On a similar note, problems may occur if a manager cannot detect conflict between co-workers.

From the perspective of managing the work, it meant the manager must think about not only what work will be done by the telecommuter, but also what support the worker will need to complete the work and how the work will affect other tasks (Pearlson and Saunders 2001). Managing the work is deeply connected to managing the worker. For telecommuting to work, managers also needed certain traits to supervise telecommuting workers (Potter 2003). The manager must be willing to take risks and to trust people working outside their field of vision. At the same time, the manager must be able to manage by results, build relationships across a dispersed organisation, and not place different standards on telecommuting workers than apply to on-site employees (Reinsch 1999).

The literature review also advocated that managers would be reluctant to adopt teleworking when they could not see the need for the change and/or perceived too many difficulties by using teleworking in their organisations (Chapman,

Sheehy, Heywood, Dooley and Collins 1995). The examples where given, when there was a lack of required technological resources, when teleworking costs outweighed benefits, or when managers perceived that teleworking would negatively influence on the organisational culture (Chapman et al. 1995; Daniels et al. 2001; Illegems, Verbeke and S'Jegers 2001). Once organisations had established whether they could, and wanted to implement teleworking, they had to identify potential teleworkers.

Even if some employees were potential teleworkers, they may not be interested in such a work arrangement if they feared that it may negatively impact their professional careers. Specific skills may be required of teleworkers. Besides basic knowledge of information and communication technologies, they must be self-sufficient, reliable and good communicators says (Pérez et al. 2004). They went on to say that self-sufficiency involved being able to work and solve problems independently, having the ability to concentrate in a non-work setting, good planning capabilities, and good time management skills.

The responses from the interviewees suggested that not all people are suited to be teleworkers and that it required a special effort to ensure that a sense of teamwork prevailed. Suggestions were made that the use of Video Conferencing would help in that it gave the employees the opportunity to interact with each other “face to face,” albeit over video. It was also suggested that the teleworker should visit the office on occasion and have face to face meetings and keep in touch with their office-bound counterparts.

Some of the interviewees from the South African organisation said that they were not permanently at home and felt there was no breakdown in terms of the team relationships. Some of them also mentioned that they used “webcams” a lot to keep in touch with their colleagues from the office. Some of the interviewees said that they felt they had a good sense of being in touch and regarded themselves as a mature bunch of individuals who could reach out at any time to each other by phone, e-mail or Office Communicator. They did also say, however, that they met up in person once per week and that it was of value to do so.

One of the managers from the UK based organisation said that as he had four direct reports, based in USA, Netherlands, at home in the UK and at the City office (in London), it made no difference to him whether he worked from home or not, as he would not physically see them if he went into the office anyway. One of his employees said that he felt his manager was able to manage him remotely, as he was based in another country, but he interacted with him on a daily basis anyway, using technology.

The question around teamwork was raised under the heading of managing the teleworker. There were many responses to this, but they were all similar, stating that you did not have to physically sit next to each other to work as a team. There were enough tools to work as a team from different locations. You could see, talk and share applications using remote tools. One person went on to say that being separated geographically had no bearing on him, as he could be contacted irrespective of whether in the office or not. One of the managers said that they had created business rules around “how to work from home”. She said her team needed to be online during certain core hours to allow for effective communication. They used Microsoft Office Communicator quite extensively to achieve this collaboration. One of the managers felt that in order to ensure teamwork, the teleworker should first spend some time working from the office in order to build a rapport with fellow team members and the organisation in general. This echoed the sentiment of most interviewees, that the teleworker did need to come into the office now and again to keep contact with team members.

One manager pointed out that it can be a challenge managing the teleworkers, but went on to say that he strongly encouraged the use of collaborative tools to improve the ease in which people could work with each other, but guarded against the complete lack of physical engagement, only resorting to email and typed messages. He ensured his team came together on a regular basis to meet in person.

One of the interviewees stated that if one has the right mix between office workers and teleworkers and you make sure you have the right people in the right positions in the right environment, that you will get the best out of all the

individuals. He went on to say that this is often difficult to achieve, as it is a close line and needs to be carefully managed. He also said that he had employees who had great offices at home, but still come in to the office as it is important for them to “whiteboard and rub shoulders, share ideas and be creative” with their colleagues and to remain involved in the office dynamic. His view was that some employees gave of their best work by being quiet and working from home... and getting the balance wrong was a lot easier than getting the balance right.

In this section, it was not as easy to find categories that could be used to group the different factors used to manage the workers and the work. Most of the responses are either unique or the point being made by the interviewee is of a broader nature. Grouping has been done where possible. Under the category of working hours, ten respondents mentioned this as an area of measurement, although it seemed that hours were not important due to the level of trust that existed between employers and employees. An example was, “I am expected to work until the job is complete, this could be 40 hours or 60 hours and varies greatly depending on the work load. Hours are not monitored formally but I would suspect my manager would start to complain if he felt the output was not equalling at least a 40-hour week.”

Trust was an element required for management. This was mentioned 9 times. Closely linked to this theme was track record and relationship - all three elements are built up over time. Track record as a factor was mentioned seven times and relationship six times. The following example is from an interviewee. “I think trust is earned. You can’t underestimate the impact on individuals working from home. The person needs to build a track record. Some people’s personality may not be suited to telecommuting. Trust is gained. I believe it is initially appropriate to have regular check points. These should be as frequent as daily or weekly in the beginning... and over time you can relax these checks when both parties are comfortable that they are on the right track... when they have bedded thing down like their relationship, etc... I go back to my earlier point where I believe a new employee cannot become a teleworker from day

one. On every level the person needs to first build an identity in the organisation... they need to know what the structure is and who does what and how the organograms work. They need to build relationships with other people in the organisation and most importantly their team members.“

Technology was a factor mentioned seven times that played a part in the management of a teleworker. “Team-viewer – to control teleworkers’ PCs remotely,” was mentioned by one respondent. Three interviewees said that they had defined key performance indicators which they worked towards achieving. An example was “we work to agreed KPIs and team principles and review program and action plans regularly and this ensures trust and communication is maintained.“

The following are some additional responses from the interviewees:

1. “I have seen that some teleworkers find it a lot more difficult to achieve work life balance... you would think it is the other way around, but not. You will often find a teleworker will get down to work before breakfast... this is obviously a lot earlier than most of their office bound colleagues will start work. They will then often work through lunch and many times into the night and the lines get blurred... and they can start overworking, as managers and leaders we need to manage this.“
2. “From a morale perspective we like to think we get it right 8 out of 10 times. For the teleworkers who work from home, their morale will improve... but they often do feel isolated. They need to be brought in for team building, but their morale does improve. From a team perspective, the team is most affected who stays behind, coming to terms with not being a teleworker and on how to now work with the teleworker... there is a bigger burden on the team left behind, than that on the teleworker. The most optimal teleworker environment is where all the workers are teleworkers. That’s the optimal model. When fifty percent or more/less are office bound and the rest are teleworkers... that is a very tricky environment to ensure morale and output remain as they should be.“

3. “Change management is a big one... both within the business as well as with individual... somebody from business may come looking for Joe Bloggs, and when we tell them Joe is working off site today, it’s a case of oohhhhhh... that’s nice. They don’t understand. So it’s a case of explaining that Joe Bloggs is working today and he is contactable and available... so a bit of change management is required here. The adoption of the technology is another important factor as well. I am not referring to the complex stuff, it relates to the simple things as well like a Cisco soft Phones and LCS. When you introduce new technology, it requires that change management is taken into consideration and that the users of the technology need to be open to learning about it“
4. “Among the key reasons to ensure that I come into the office is to have meetings and interact with the members within the organisation. For me it is easier to stay home as my boss is in a different country to me and my role is such that I interact with many regions, therefore it does not warrant me coming into the office and if I am in the office I spend most of my time in conference calls.“

4.4.4 Human resources and family considerations

From the literature review, it was found by Lattanzi and Korhonen (2006), that teleworkers often struggled to separate their family/home time with work time. This was more often the case when they first started to work from home. As time went on, they generally learnt to manage their time better. Taskin and Valerie (2005) spoke of factors such as “social isolation” experienced by the teleworker who would have normally had a team of colleagues around them everyday. Aspects such as “self management” and motivation were additional areas covered by (Taskin and Valerie 2005). Other areas of research focused on some of the “softer” HR aspects of telecommuting. Tietze and Musson (2002) covered an area of study whereby the teleworker may be working from home, but had the added challenge of dealing with his or her family who may also be more demanding of the teleworkers time.

The literature review also spoke about the flexibility of a teleworker's time. Workers were able to save time normally spent commuting to and from the office. This saved time could then be spent with their family or children (Mann and Holdsworth 2003). They can also cope better with mini domestic crises... e.g. being at home for a repairman to do some work. Teleworkers could often (but not always) choose the hours they worked, enabling them to take advantage of off-peak supermarket shopping or gym membership, to collect the kids from school, or simply working at times when they are feeling more productive. Participants in a study by Mann, Varey and Button (2000) pointed out that the flexibility came from the freedom of managing one's own time. Although not necessary popular with all employees, there was also the freedom and flexibility of being able to work from home for more than one employer (if the teleworker's employment contract allowed for it), or being able to be employed even if there was difficulty getting to the office due to disability, rural home locations or caring responsibilities.

The research showed that some teleworkers found it a lot more difficult to achieve work life balance. An interviewee stated that you will often find a teleworker will start working before breakfast... i.e. just after they have woken up. This is obviously a lot earlier than most of their office bound colleagues will start work. They will then often work through lunch and many times into the night. This can lead to the lines of work and free time becoming blurred. If managed correctly, this can be of benefit as they can then be more flexible with their time as suggested in the literature review by Mann and Holdsworth 2003), however, if not properly managed, the teleworker could start overworking. This leads to its own problems and challenges.

This following unexpected response came from one of the interviewees: "A request had been made by a few employees who used to travel a long distance into the office every day... only to sit behind a computer all day. We had no preconceived ideas as to the outcome of the pilot. As mentioned, we did not initially create a strategy that defined our plan. Once the pilot had been running for a few months and we were debating as to whether we should continue with

it... and the craziest thing happened... we were amazed at the response from one of the teleworkers who has a young child, whatever the story, who came to me and said she would forego her annual salary increase if she could continue to work as a teleworker in her SoHo setup. She is no less productive.... she is far more productive now than she has ever been. She was a great worker and always was... but now she gets to drop the kid at school. So before she does the lift, she goes online, then later in the day goes out and does the lift again and I can see her presence status. She then goes online at night and does some work then too. I see at ten o'clock at night I send her a mail and she responds. I must say with the people that are using it successfully, there has been a huge, huge increase in their productivity. There are huge soft benefits as well, with employees feeling the companies buy into them and trust them. The feel good factor that we have created with employees by proactively given them the tool so to be able to work from home has been amazing. A lot of them have said that when I worked for a previous company and I asked for this, the answer was no. Here you guys give this to us... wow this is amazing. It is so helpful and makes our lives so much easier."

Much of the time it has to do with the organisation's culture. Many organisations with an "old school" approach don't feel that a 'work from home' policy is worth implementing. This seemingly is how a number of organisations still feel. With younger people moving up through the ranks, we are likely to see a change in this space, with more organisations looking to accommodate a work from home workforce.

As mentioned by one of the interviewees, "the key drivers for us have been to try and help our staff to improve on their work/life balance. We were getting pressure from married folk who were struggling with the commute. A lot of our staff live in Pretoria for some reason. Another strategic reason for going down this road has been to position the "financial organisation" as the company of choice to work for. We also felt that we had some of the technologies in place, such as Internet Protocol Telephony (IPT) and that we could relatively easily leverage this enable telecommuting. We have an MPLS network, so to "slap in"

an ADSL connection into someone's house and connect back to the office is a simple process. It made sense to leverage these technologies that we already had. It was a case of putting a Cisco soft phone, or for that matter a hard phone on the employee's desk at home. We are using LCS at the moment, so to set it up it was relatively easy to do. The pilot started about 2 years ago, and we have had a much bigger uptake to date than expected. It is not really telecommuting as you describe, limited people work from home all the time... but a case of our guys spending more time at home, especially database administrators and programmers...we wanted to give these guys the tools to work productively from home. In the IT environment, we have a number of application developers and portal developers and there are only a few people who could work from home, in absolute isolation away from their team. Within this team, most of them work remotely. They then come in on a Monday and do code reviews, but go off for the rest of the week. They still collaborate as a team via LCS and other tools and in person on a Monday. This has been very successful and is working very well for us - we are looking to extend this into other areas of our business. I believe there is huge scope to push this further... big time... the bulk of our people are out there seeing clients and booking business. In our industry sector - financial services - the bulk of our people should be out there. Do they need to be in the office? No? So what are they doing here? In fact the bulk of our people can work in a home office... and we refer to them as a "SoHo user". We do have a policy document describing a SoHo user policy. If you are going to be a SoHo user, you need to agree to using "presence" so that your manager and colleagues know when you are and are not available. We cover the IT costs, like laptops, licensing, softphones, headsets, etc... but not desks, chairs and other types of furniture. The ADSL line is good enough for IPT and we usually use 512K. The only problem is the lead time to install an ADSL line... or repair them when there is an electricity or similar problem. All new users simply get added to the management system and get supported by the "IT company's" call centre and they manage this on our behalf."

Interviewees generally had longer comments under the heading of "human resources and family considerations". Work life balance came up first and was

mentioned 14 times. An example was, “the key drivers for us have been to try and help our staff to improve on their work/life balance. We were getting pressure from married folk who were struggling with the commute. A lot of our staff live in Pretoria for some reason.” The second most frequently mentioned factor was broadly termed family time. This was mentioned twelve times and an example being, “if it is good weather and I have no meetings and the children are home from school, I can spend half an hour to an hour with them. This is a great opportunity to catch up with the kids... and I am still able to walk back into my office and carry on working. It also helps a great deal if one of the kids are sick and we need an adult at home.”

A major benefit for companies is the positive effect on how employees view their organisations. Eight respondents mentioned that “there are huge soft benefits as well, with employees feeling the companies buy into them and trust them. The feel good factor that we have created with employees by proactively given them to tool so to be able to work from home has been amazing.” Convenience was a factor mentioned six times. One of the examples given was “being a global role player, one needs to engage with colleagues and clients often at both early morning or evenings as well as during the UK working day. Being able to take these calls from home is a great help.” The last factor in this category was personal time which was mentioned five times. Exercise was mentioned by saying that “time for gym is now easier to fit in.”

4.4.5 *General requirements of a Teleworker*

The literature review showed that most teleworkers tended to have similar technical needs with regards to being able to work from home or an equivalent remote location (Lattanzi and Korhonen 2006). Some examples of these common (more technical) requirements were given, such as:

- Access to email, calendar, contacts and if applicable the Internet.
- Voice telephony.
- Access to corporate data and tools.

- Ability to collaborate with team members.
- Ability to receive alerts and critical information.
- Ability to show or present information quickly.
- Greater efficiency in reporting and approval process.

Aside from the technical requirements of a teleworker, the literature review also suggested that management must be actively seen to support telecommuting. This included the willingness to supervise employees who were not physically working at the office. Crandall and Gao (2005) stated that the supervision of telecommuters represented a special challenge for some managers. For managers who liked employees in eye site, such an arrangement may have proved uncomfortable, at least initially. Their opinion is that some managers may literally spend their time wondering if their employees were really working, or for that matter, if they were working too much (Manoochehri and Pinkerton 2003).

The literature review also pointed out that the home environment for a teleworker, as with any workspace, should be a quiet area. At home this should ideally be separated from the rest of the house in some way. It should be well lit and adequately ventilated (Lattanzi and Korhonen 2006). Furthermore, it should adhere to the local corporate occupational health requirements. The necessary electrical plug points, telephone and/or Internet points were also required. There are certainly still organisations that feel they need control over their employees say (Crandall and Gao 2005). The view of these organisations is that this could only be achieved if the employee was coming to work every day and sitting in their office space in sight of their respective manager.

From the interviews conducted in this study, the following requirements were identified by the interviewees as necessary for the teleworker to conduct their work. Internet access, be it ADSL, Broadband, ISDN, 3G card or similar was mentioned 12 times. Telephones and computers were essential tools to conduct work from home and were mentioned eight times each. Access to enterprise resource planning systems such as "SAP," were mentioned 6 times and

computer applications such as email and the Microsoft Office suite, four times each. People tended to assume that all computers come standard with these applications, so they did not necessarily make specific reference to the software. Fax machines and photo copiers were mentioned three times. A primary function required by the teleworker was support from the technical team, mentioned five times. This is a vital role as users need to be able to work as if they were office based. A detailed example is as follows, “we have a call centre where the SoHo users can call to log a service request with us. They can also send us an email or log a call via the web if their Internet access is working. We can support the SoHo users via the telephone or using remote access. Remote access is where we create a secure VPN tunnel to the user’s computer over the Internet... that is if their link is working, and we are able to then fix problems on their machines. If there is a fault with the ADSL connection, we log a call with Telkom on their behalf. We also have the ability to go to the SoHo user’s house to assist them with problems that may exist on their home network.”

The concept of collaboration is a key factor and was mentioned five times, with an example being “collaboration tools need to be extensively used... online collaboration is key, desk top sharing, video conferencing, etc... the need to build a virtual team, central repository, blogging, tweeting, etc... these tools all need to be used.”

4.4.6 *Conclusion of second proposition*

It can be concluded that the literature review has generally been supported by the findings of the research conducted in this study. It can also be said that the critical success factors that were identified in the second proposition, were confirmed to be similar success factors by the companies interviewed in the study, ie. the profile of the person, the adoption of technology, managing the workers and the work, human resources and family considerations as well as the general requirements of a teleworker.

4.5 Summary and conclusion of the results

The results have many common themes from each respondent. This is true for both the respondents from within the same company, as well as those from different companies. Even if an organisation did not have an official telecommuting policy, respondents were still able to relatively easily articulate what the pros and cons of telecommuting might be. The research also suggests that individuals from the organisations each have their own opinions on telecommuting and that these opinions are not yet aligned in one organisational strategic vision. The research showed that the critical success factors identified by the interviewees were in keeping with those identified in proposition 2.

The discussions contained in this chapter hopefully gives the reader an insight into the research that exists today. By comparing this literature review to the new research conducted in this study, this chapter illustrates the fact that although the interviewees give their own views and examples, a lot of the feedback obtained in the interview process is in keeping with the existing literature. It can be concluded that the literature review has largely been supported by the findings of the research conducted in this study. It can also be said that the key drivers and critical success factors that were identified in the first and second propositions were confirmed to be similar to those key drivers and success factors as identified by the interviewees within this report.

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter is a summary of the findings and conclusions reached for the research conducted in this study. It provides some recommendations to the stakeholders who were originally identified under an earlier heading. The final section of this chapter proposes some topics for future research to be conducted.

5.2 Conclusions of the study

The purpose of the research was to determine the key drivers and critical success factors for the implementation of telecommuting within a South African and a United Kingdom organisation. The research led to two sub-problems. The first sub-problem was to determine the key drivers for the implementation of telecommuting within a South African and a United Kingdom organisation. The second sub-problem identified was to determine the critical success factors for the implementation of telecommuting within a South African and a United Kingdom organisation.

In summary, the existing literature suggested that an organisation that implements telecommuting can quite possibly experience a reduction in its overhead costs, such as real estate, office space and travel. It also suggested that an increase in productivity is also achievable. Another area that illustrated an attractive key driver is the recruitment and retention of skilled staff. Added to this is the real factor of an improvement of work-life balance. The final key drivers that are likely to continue to have a lot of focus in the years ahead are the environmental factors. The research suggested that telecommuting programmes have been successful in reducing air pollution and carbon emissions, as well as lowering the usage of fuel.

The literature also suggested that in order for companies to successfully implement telecommuting within their organisations, they would need to ensure that certain factors are in place, or that they are achievable. These factors are the profile of person and whether they are suited for telecommuting; the ability for them to be able to adopt the new technology; and ensuring they have the correct management practices in place to manage the workers and the work. Additional factors are ensuring that the correct human resource practices are in place, which include the family considerations of the teleworker on the home front. The final factor addressed in the literature review was ensuring that teleworkers have the correct technical services available to them, in order for them to conduct their job of work from their remote location at home.

Further to the points above, the literature also suggested that the research problem could be answered by conducting the appropriate research in two organisations based in South Africa and the United Kingdom. The literature seemed to support the implementation of a telecommuting programme. From the literature, two propositions arose. There were:

Proposition 1:

From the research, it seemed plausible that the following most common key drivers would influence organisations based in South Africa and the United Kingdom to investigate implementing telecommuting, namely: the reduction of overheads such as the cost of real estate, office space and commuting; the improvement of productivity; the recruitment of top talent as well as staff retention and job creation; and finally, the environmental factors.

Proposition 2:

From the research, it was evident that the following most common critical success factors would most likely influence organisations based in South Africa and the United Kingdom to continue with a telecommuting programme, namely: the profile of person suited to telecommuting; the adoption of technology; the management of the workers and the work; the human resource capability and

family considerations; and finally, the general technical requirements of the telecommuter.

From the research that was conducted for this study, the following demographic profile of respondents resulted in a general trend. The group of interviewees, some of whom were teleworkers themselves, were pro the concept of telecommuting. Remembering the three categories of respondents, these being teleworkers, IT implementers and strategic visionaries, this leaning towards favouring the concept stands to reason. All three categories had a mutual goal to achieve the key drivers identified in the literature review, such as the reduction of overheads, the improvement of productivity, the recruitment of top talent and the ever increasing focus on environmental factors. These shared goals stand to reason that although there are some challenges identified by the respondents, such as the performance management of some teleworkers and the uncertainty that a positive corporate culture and cohesive team spirit can exist in a geographically disparate workforce, there were no actual negatives in the research against the proposition of telecommuting.

Leading on from this, there was a discussion pertaining to proposition 1 that dealt with the key drivers of telecommuting. As per the stated first proposition above, it would seem plausible that the following most common key drivers would influence organisations based in South Africa and the United Kingdom to investigate implementing telecommuting: the reduction of overheads such as the cost of real estate, office space and commuting; the improvement of productivity; the recruitment of top talent as well as staff retention and job creation; and the environmental factors. This led to the conclusion of the first proposition that the literature review had been supported by the findings of the research conducted in this study. It could also be said that the key drivers that were identified in the first proposition, were confirmed to be the same key drivers by the companies interviewed, as listed above.

There was also a discussion pertaining to proposition 2. This dealt with the critical success factors of telecommuting. As per the stated second proposition above, it is evident that the following most common critical success factors

would most likely influence organisations based in South Africa and the United Kingdom to continue with a telecommuting programme. These are: the profile of person suited to telecommuting; the adoption of technology; the management of the workers and the work; the human resource capability and family considerations; and the general technical requirements of the telecommuter. This lead to the conclusion of the second proposition that the literature review has generally been supported by the findings of the research conducted in this study. It can also be said that the critical success factors that were identified in the second proposition, were confirmed to be similar success factors by the companies interviewed in the study, as listed above.

In conclusion it was found that by comparing the literature review to the new research conducted in this study, it was illustrated that although the interviewees gave their own views and examples, a lot of the feedback obtained in the interview process was in keeping with the existing literature. It could be concluded that the literature review had been largely supported by the findings of the research conducted in this study. It could also be said that the key drivers and critical success factors that were identified in the first and second propositions, were confirmed to be similar to those key drivers and success factors as identified by the interviewees within this report.

5.3 Recommendations

Based on the outcome of the research, this study has given South African organisations access to current and local research in the field of telecommuting, as well as an insight into an organisation from the United Kingdom. The focus of the study has helped bridge the gap between what global companies are doing in the field of telecommuting and what is achievable in a South African context. Although there was much research done on the topic of teleworkers by Baruch (2001); Daniels, Lamond and Standen (2001); Greer, Buttross and Schmelzle (2002); Patrickson (2002); Potter (2003); Westfall (2004) and Crandall and Gao (2005), it was predominantly all done in countries abroad. There was very little existing research found that was conducted in South Africa.

The study provides some guidance to locally based organisations as to whether or not they should consider embarking upon telecommuting within their businesses. It may also include some practical guidelines as to the realities of having a workforce which in essence does not come to the office to conduct their daily work, but rather do so from home. It might have encouraged decision makers and managers to consider the change in human resource factors that are somewhat different to that of a conventional business structure and organisational design. Although it was not a formal intention of the research, the study potentially also gave guidance to those individuals who were considering applying for a position as a teleworker. It might have given them insight into the type of person best suited for this environment.

The study may have contributed to any existing research being conducted within South Africa in the area of job creation. It might have achieved this by suggesting some innovative ideas on how to increase employment due to the fact that telecommuting opens opportunities to those previously not as easily employable, such as single parents, the aged and the physically challenged (Patrickson 2002).

5.4 Suggestions for further research

The following is a list of suggested topics that could be considered for further research:

1. The role of telecommuting in reducing the travel costs, specifically relating to fuel and toll fees.
2. Reducing the carbon footprint of an organisation through the reduction in carbon emissions achieved from telecommuting.
3. Introducing job sharing and the creation of additional employment through telecommuting.
4. The role of telecommuting in creating work opportunities for the physically challenged and elderly.
5. Improving productivity in the workplace using telecommuting.
6. Improving efficiencies in the workplace using telecommuting
7. Improving work/life balance in the workplace using telecommuting.
8. Enabling telecommuting through the use of collaborative technologies.
9. Reducing traffic congestion through the creation of satellite offices in densely populated areas.
10. Addressing skills shortage and access to skills through the introduction of telecommuting.
11. Reducing the financial barrier to starting a new business by keeping the set-up costs lower and working from home.

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APPENDIX A

Interview Guide

Teleworker:

1. Name? (You may remain anonymous if you prefer.)
2. What is your title?
3. How long have you worked at the “financial organisation?”
4. How long have you been in this role?
5. Has this role always been a teleworker role?
6. What (if any) has been the financial impact due to working from home? (e.g. Petrol saving, phone bill increase, less pay, more pay, etc...) You may not have quantified this, in which case, just your opinion will do.
7. What in your opinion are the character traits you believe are required by an individual to be a successful teleworker?
8. How did you become a teleworker? Was there a formal process? Did you specifically apply for the job because you could work from home?
9. Please comment on / discuss the levels of trust and communication between you and the organisation.
10. What are the types of services and online applications you use and you require access to in order to do your job? (ERP and/or CRM application, landline, cell phone, Internet, etc...)
11. How do you connect to your corporate network? ADSL, wireless, dial-up, GSM, etc... If you do not know, just leave it out.
12. What challenges (if any) did you experience once you became a teleworker? e.g. did you feel isolated, did you struggle to interact with

your office based team, balance work and personal time, feel you needed to prove you were working, etc...)

13. What in your opinion has been the effect on your productivity?

14. What is your morale like versus that of your colleagues who are office bound?

15. How well does the team structure work with you being based at home?

16. Can you give some examples of an improvement (or not) of flexibility in your work? e.g. doing school lifts, going to gym, doing shopping, spending time with family or friends, etc...

17. We all strive for a balance between our personal lives and work commitments. Can you describe any improvements in this area?

18. How many hours are you expected to work per week and do you monitor this?

19. Any other comments:

20. Please rank these (in your opinion) in order of importance, from 1 (most important) to 5. Telecommuting influences the following areas:

- Reducing overheads: The cost of real estate, office space and commuting
- Productivity and efficiency
- Recruitment of top talent, staff retention and job creation
- Environmental factors
- Work/life balance

IT Implementer:

1. Name? (You may remain anonymous if you prefer.)
2. What is your title?
3. How long have you worked at the “financial organisation?”
4. How long have you been in this role?
5. Do you know if you have teleworkers at the “financial organisation?”
 - If yes, do you have any idea how many?
6. Have you been a teleworker before?
 - If yes, has this role always been a teleworker role?
7. Please describe your function in relation to supporting the teleworkers.
8. What (if any) are the special tools you need, or processes or structures in place in order to support the teleworkers? (e.g. specialised call centre, ability to send an engineer to “site,” VPNs, other security, etc...?)
9. What technical (e.g. computer, internet connectivity, telephone, etc...) and/or non technical (e.g. desk, chair, stationary, etc...) services do you provide to the teleworker?
10. What kind of online applications do the teleworkers require access to? (e.g. CRM, ERP, Intranet, etc...)
11. What (if any) are the issues with vendors to provide the services... furniture, computer hardware, networking?
12. What (if any) has been the financial impact on your budget due to having teleworkers working from home? (e.g. phone bill increase/decrease, less pay, more pay, etc...)

13. Have you developed and documented a formal telecommuting programme? If yes, what are some of the areas that it covers? If no, do you intend doing so?
14. What in your opinion are the levels of trust and communication like between the teleworker and the organisation and yourself?
15. What challenges (if any) did you experience with employees becoming teleworker.
16. What is the change in productivity of the teleworker been like?
17. What is the affect on morale for the teleworker versus those employees who remain office bound?
18. How in your opinion does the concept of teamwork get established if you are not working in the same office?
19. Any other comments:
20. Please rank these (in your opinion) in order of importance, from 1 (most important) to 5. Telecommuting influences the following areas:
- Reducing overheads: The cost of real estate, office space and commuting
 - Productivity and efficiency
 - Recruitment of top talent, staff retention and job creation
 - Environmental factors
 - Work/life balance

Decision maker and strategic visionary:

1. Name? (You may remain anonymous if you prefer.)
2. What is your title?
3. How long have you worked at the “financial organisation?”
4. How long have you been in this role?
5. Do you have teleworkers at the “financial organisation?”
 - If yes, do you know how many about?
 - If no, would you look to allowing/implementing this?
6. Did you go through a formal strategic decision making process to allow telecommuting?
 - If yes, can you elaborate on the process?
 - If no, would you consider developing a telecommuting programme?
7. Have you developed and documented a formal telecommuting programme?
 - If yes, what are some of the areas that it covers?
 - If no, do you intend doing so?
8. Why did you decide you needed to implement a telecommuting programme... was it part of a bigger strategy? Can you please elaborate?
9. What (if any) are the character traits you believe are required by an individual to be a successful teleworker?
10. Can you comment on any specific levels of trust that are required between the teleworker and the manager/organisation?

11. What are the types of services (technical) and applications you believed you needed to make available to your teleworkers?
12. What were some of the challenges or learnings from implementing the programme?
13. Similarly, can you comment on any specific challenges or learnings you experience once some of your staff became teleworkers?
14. Please describe the process (if any) you went through to review which job functions would be best suited to telework?
15. What (if any) is the change in productivity of the teleworker and/or the department been like?
16. What (if any) is the affect on morale for the teleworker and those employees who remain office bound... and similarly, the morale of the teleworker?
17. In your opinion, how does the concept of teamwork get established if you have people not working in the same office?
18. What is the feedback (if any) from the teleworkers in terms of any changes to their ability and flexibility of work?
19. What is the feedback (if any) from teleworkers around any change in their ability to balance their personal lives and their work commitments?
20. What is your view on the delivery of work of teleworkers compared to office bound workers?
21. Any other comments:
22. Please rank these (in your opinion) in order of importance, from 1 (most important) to 5. Telecommuting influences the following areas:

- Reducing overheads: The cost of real estate, office space and commuting
- Productivity and efficiency
- Recruitment of top talent, staff retention and job creation
- Environmental factors
- Work/life balance

The purpose of the research is to determine the key drivers and critical success factors for the implementation of telecommuting within a South African and a United Kingdom organisation.

Sub-problem	Literature Review	Propositions	Source of data	Type of data	Analysis
The first sub-problem is to determine the key drivers for the implementation of telecommuting within a South African and a United Kingdom organisations.	(Lattanzi and Korhonen 2006) (Greer et al. 2002) (Pérez et al. 2004) (Balepur 1998) (Pendyala et al. 1991; P.L. Mokhtarian and Varma 1998; West 1999) (Hopkinson and James 2000) (Hopkinson et al. 2001) (Forsebäck 1998) (Scheele and Ohlsson 1998) (Mitomo and Jitsuzumi 1999) (Montreuil and Lippel 2003) (Dubrin 1991) (Mann and Holdsworth 2003) (Greer et al. 2002) (Westfall 2004) (Crandall and Gao 2005) (Gibson et al. 2002) (Dally 2006) (Patrickson 2002) (Simpson et al. 2003) (Bain et al. 1995) (Gould and Golob 1997) (Nilles 1998) (P. Mokhtarian and Salomon 1997) (Koenig et al. 1996) (P.L. Mokhtarian and Varma 1998) (Henderson and Mokhtarian 1996) (Betts 1994) (Alcott 2001) (Howard 1998)	PROPOSITION 1: From the research, it would seem plausible that the following most common key drivers would influence organisations to investigate implementing telecommuting. The reduction of overheads such as the cost of real estate, office space and commuting, the improvement of productivity, the recruitment of top talent as well as staff retention and job creation and finally the environmental factors.	Questions: Teleworker: 6, 13, 14, 16 and 17 IT Implementer: 6, 7, 8, 9, 10, 11 Decision Maker: 1, 2, 3, 4, 5, 6	The source of data will be the interviewees. Please see table 1 for list of interviewees.	Content and comparative analysis.

The purpose of the research is to determine the key drivers and critical success factors for the implementation of telecommuting within a South African and a United Kingdom organisation.

Sub-problem	Literature Review	Propositions	Source of data	Type of data	Analysis
The second sub-problem is to determine the critical success factors for the implementation of telecommuting within a South African and a United Kingdom organisations.	Manoochehri (2003) (Lattanzi, Korhonen et al. 2006) (Greer, Buttross et al. April 2002) (Taskin 2005) (Crandall and Gao 2005) (Potter 2003) (Sullivan 2003) (Davis, Bagozzi et al. 1989) (Pérez, Sánchez et al. 2004) (Davis 1986) (Chapman et al., 1995) (Daniels et al., 2001) (Illegems et al., 2001) (Pérez, Sánchez et al. 2003) (Pearlson and Saunders 2001) (Crandall and Gao 2005) (Manoochehri and Pinkerton 2003) (Reinsch 1999) (Potter 2003) (Lattanzi, Korhonen et al. 2006) (Taskin and Valérie 2005) (Tietze 2002) (Jenson 1994) (Jones 1997) (Olson and Primps 1984) (Mann and Holdsworth 2003) (Mann, Varey et al. 2000) (Lattanzi, Korhonen et al. 2006) (Barber, Laing et al. 2005)	PROPOSITION 2: From the research, it is evident that the following most common critical success factors would most likely influence organisations to investigate implementing telecommuting. The profile of person suited to telecommuting, the adoption of technology, the management of the workers and the work, the human resource capability and family considerations and finally the general technical requirements of the telecommuter.	Questions: Teleworker 7, 8, 9, 10, 11, 12, 15 and 18 IT Implementer: 12, 13, 14, 15, 16, 17 Decision Maker: 7, 8, 9, 10, 11, 12, 13, 14	The source of data will be the interviewees. Please see table 1 for list of interviewees.	Content and comparative analysis.

