ATTITUDE OF KENYA REVENUE AUTHORITY EMPLOYEES TOWARDS TELECOMMUTING

BY

JOSEPH KIPLAGAT SIROR

A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION,

FACULTY OF COMMERCE,

UNIVERSITY OF NAIROBI

OCTOBER 2003

DECLARATION

This research project is my original work and has not been presented for a degree in any other university.

Signature:..... Date:5/3/2004.....

Joseph K. Siror,

Student.

This research project has been submitted for examination with my approval as the University Supervisor.

Signed: ..... Date:6/3/2004.....

Joel K. Lelei,

Lecturer,

Department of Management Science,

University of Nairobi.

DEDICATION

I dedicate this research first and foremost to the Lord Jesus Christ without whose mercy, protection and love, I would not have seen the light of day and secondly to my beloved wife Nancy and to my two children Bithiah Ammishaddai Chebaibai and Jonathan Izrahiah Kiptala, without whose support, prayers, patience and understanding the completion of this work would not have been possible.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS

I would like to express my sincere gratitude and appreciation to the following people for the help they gave and the understanding they showed me during the whole period of this study: Mr. Joel Lelei for supervising this research and offering invaluable comments, suggestions and corrections; My wife Nancy, my daughter Ammishaddai and my son Izrahiah for their support, prayers and encouragement; My cousin Chebiwot and Gilbert for keying in most of the information into the computer ready for analysis and proof reading the work; and My secretary Mrs. Elizabeth Ndwiwa for the assistance in distributing and collecting the questionnaires from the respondents.

I also express my appreciation to my employer, Kenya Revenue Authority for sponsoring me for the study and allowing me to undertake this research. Finally, I thank all the respondents who took time to give their views through the questionnaires, without which this research project would not have been complete.

ABSTRACT

The objectives of the study were three. The first was to establish the attitude of the Kenya Revenue Authority employees towards embracing telecommuting practices. The second was to establish the variation in attitude of Kenya Revenue Authority employees towards telecommuting considering their functions and managerial levels in the organisational hierarchy. The third objective was to establish the attitude of Kenya Revenue Authority supervisors towards allowing the staff they supervise to telecommute. The need for the study arose from the fact that though telecommuting could be considered as a flexible work practise suitable for KRA, the attitude of employees is not known.

In respect of the objectives of the study, data were collected, using questionnaires, from a sample of 147 staff of the Kenya Revenue Authority. The members of staff were drawn across all levels; from top management to subordinate support staff. The data were analysed with the use of descriptive statistics and factor analysis.

The findings of the study indicated that over 60% of the Kenya Revenue Authority employees would prefer to telecommute. Some of the respondents did not prefer telecommuting due to the following considerations: difficulty in balancing work, leisure and other activities; possible lack of social interactions, possible increase in household conflicts, and possible interference from family members on telecommuting. Though majority of the respondents preferred to telecommute, the above issues would need to be effectively addressed for a much greater acceptance.

The findings further indicated that the level of preference for telecommuting varied with managerial levels and functions. The highest level of preference came from the middle management and the technical officers; the lowest level was from the subordinate members of staff followed by top management. The findings indicated that the level of preference varied with the level of education, with the highest coming from those who have attained University level.

Additionally, the findings indicated that over two thirds of the supervisors support telecommuting by the staff that work under them.

With a high level of preference and given the potential benefits to employees, organisation and the government, it is prudent for telecommuting to be considered for implementation in the Kenyan public sector. Its implementation can be piloted with a single department within the organisation or ministry and expanded to others in subsequent phases.

Amenability to telecommuting and low level of interaction with other departments could be used as a deciding factor in identification of the department to be used in piloting.

It is further recommended that telecommuting be considered for implementation in the Kenya Revenue Authority given the favourable response by the employees and management towards the adoption of the practice.

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

COMESA	Common Market for East and Southern Africa
EAC	East African Community
ICT	Information and Communications Technology
IT	Information Technology
KRA	Kenya Revenue Authority
KSHS	Kenya Shillings
PC	Personal Computer
PDA	Personal Digital Assistant
PFT	Preference For Telecommuting
PTA	Preferential Trade Area
USD	United States Dollars
VSAT	Very Small Aperture Terminals
WAP	Wireless Application Protocol

Chapter 1: INTRODUCTION

1.1 Background

Advances in technology have brought about profound changes in every sector of the economy. Included in these advances is the Information and Communications Technology (ICT) which has become the greatest change agent in every industry. The key drivers of these changes are the introduction of better, efficient, effective and cheaper processes. The changes include the mode and definition of work by the introduction of flexible work systems such as telecommuting.

Telecommuting, which is at times referred to as teleworking is defined as the partial or total substitution of telecommunications services for bringing the work to the worker. It can also be defined as work carried out at a place other than where the results of this work are required using information and communications technology (Becker et al. 1994). Telecommuting entails the use of ICT to enable one to work from a flexible choice of locations.

Several benefits have been realised with the adoption of telecommuting practices. These include enabling an individual to work from home instead of commuting and working in the most convenient location, bringing services to the most convenient locations to the customer, moving work to the most cost-effective place, distributing work to the most competent people wherever they may be and bringing work to unemployed or underemployed. Telecommuting reduces (if not removes) the constraints of space and time, narrows the dividing line between work and leisure, office and home, travel and work, workplace and other places, roles and activities. It therefore maximises productivity.

Other resulting benefits of telecommuting include doing away with the need to travel to work thus resulting in travel reduction. This in turn leads to better safety due to reduced risk exposure associated with travel or sickness through contagious or infectious diseases. In addition reduced travel results in energy conservation and air quality improvement. With telecommuting, telecommuters are also able to better balance the demand of job and family giving rise to reduction of health care costs through less stress and sick-leave utilisation. With telecommuting also, employees in terror vulnerable areas would be exposed less terrorist activities. This is so because the telecommuters would tend to be scattered in such a way as to make it difficult or even discourage terrorists from their activities.

An additional benefit relates to broadening of employment opportunities for mobility-limited sectors of society (including the disabled, elderly and homemakers) since they do not have to travel in order to work. In the traditional working methods whenever an employee would relocate to a different location, they would in effect have to leave that employment, but in a telecommuting environment this is not the case since there is location independence; leading to competitive recruitment and retention of the best workers.

Further, telecommuting benefits to employees include savings from commuting costs and time as well as affording the employee autonomy over where to work from. This will lead to increased job satisfaction and use of available free time to engage in gainful business activity thus improving their net income.

Telecommuting entails having working teams that work remotely and are dynamic (i.e. they can be dissolved and reconstituted as work demands) depending on the nature of work to be accomplished. Working remotely may be undertaken a number of days in a month while the rest

from the traditional workplace. In view of this, the office space provided by the organisation would have limited shareable positions open for reservation by those who would like to work on a specific day or time from the office. The positions sharing system would employ the use of hot-desks with an automated reservation system to safeguard against double allocations for the same time period. In addition, the organisation may also provide meeting rooms for: those who may want to supplement electronic meetings with the traditional ones, meetings between external entities who do not have electronic communication channels; officers from the organisation that may prefer to have a traditional meeting setup from time to time and meetings whose goals are for social interactions. The organisation would therefore be maintaining a much reduced office space and facilities, thus saving considerably on office running and maintenance expenses.

To make telecommuting possible, an organisation would need to have an automated office system that supports remote access. An appropriate ICT infrastructure should also be in place to provide the necessary connectivity, which could be a terrestrial or wireless connection. Telecommuters would require ICT equipment such as a personal computer (PC), a laptop, a personal digital assistant (PDA) or better still a Wireless Application Protocol (WAP) enabled mobile phone with appropriate software to perform normal office functions remotely. Chat forums, electronic mail facilities and other Internet technologies are used to replace the traditional communication methods. Also used are group ware tools such as joint viewing, joint editing or other Internet based technologies to facilitate group work. Teleconferencing and video conferencing via Integrated Services Digital Network (ISDN) are employed instead of the traditional meetings.

Telecommuting is dependent on automated systems such as: PC hardware, network equipment and telecommunications infrastructure. Kenya is well placed and has several providers for these hardware and infrastructural services. Telkom Kenya Ltd. the leading telecommunications infrastructure provider currently provides several services ranging from those based on terrestrial, microwave radio, wireless to Very Small Aperture Terminals (VSAT) or satellite links. Some of these technologies such as VSAT can be easily deployed to remote areas within a week. Where commercial power is unavailable, solar energy or Diesel generators can be used. Telecommuting therefore is technically feasible, given that its technical requirements are available. However, as to whether or not employees would have a positive or negative attitude towards embracing it needs to be known: thus the need of this research.

To initiate telecommuting the employee would log into the office system remotely. The system would authenticate the user using the employee logon credentials and where necessary hardware identification mechanisms. On successfully logging, the individual employee would then access all the services he or she requires from the installed systems subject to his or her access rights. Additionally, the telephone extension would be dynamically changed to reflect the officer's usual extension and all his or her calls routed or forwarded to this extension automatically.

Telecommuting is a radical departure from the conventional mode of working thus introducing new issues and concerns. Since with telecommuting, the individual can work from a flexible choice of locations including holiday resorts, it results in situations where it is difficult to know which role is at play at any given time. Besides this, it introduces certain issues as well such as interference from the family members for those who choose to work from their homes. Additionally, not all homes are well equipped to support the required office functions. The performance of employees living in a noisy neighbourhood could affect the performance of the

employee. In a work environment, there are certain employees who rely (due to their inadequate capacity or laziness) on fellow colleagues to accomplish their tasks, thus working away from their fellow colleagues could pose a serious problem to their performance.

In many organisations, senior managers of the organisation could be entitled to benefits such as a big and quiet office, office telephones, office car, messenger and secretarial staff. In a telecommuting environment, such benefits may be difficult to offer and may therefore result in top managers not favouring the idea of telecommuting. Additionally, since the top managers' travel generally tend to be by use of a company car with a driver, the inconvenience of travelling and the costs are borne by the organisation. They may therefore lack the motivation to telecommute.

Even then, telecommuting deserves a serious consideration given its potential benefits to employees, organisations and the government. Kenya government should implement it. Kenya government is not only in a position to implement telecommuting, but given the current circumstances and the global trends, it is bound to do so. During the 2000 financial year, 68 percent of Kenyan government expenditure was on personnel costs (Economic Survey, 2001). The government expenditure is predominantly funded by the high taxation imposed on its citizens, services and businesses.

Taxation reduces the consumer's welfare directly by transferring its resources to the government and indirectly through a rise in the consumer prices of taxed commodities relative to those of untaxed ones (Zee, 1995). High taxes therefore become a hindrance to savings and business profitability and thus an impediment to new business ventures. Several multi-nationals have had to relocate from Kenya to countries where the cost of doing business is less. Thus to be

attractive to international investors, the Kenya government has to reduce the tax burden to this end.

One of the ways the government efficiency can be increased is by better remunerating its lowly paid workforce. This will in addition circumvent the current brain drain of most skilled labour in the country such as doctors and university lecturers. However, to better remunerate the workforce would require an increase in the tax burden on its citizens. Consequently, a strategy has to be identified where Kenyan government efficiency can be enhanced without increasing the tax burden or operational costs for the public sector. Telecommuting could provide such a way and should be considered, given the potential derivable benefits that will accrue to the government, organisations and employees.

The benefits of telecommuting can be realised if it is successfully implemented. Where supporting facilities are available, success of telecommuting would be strongly dependent on the local culture and tradition, rate of ICT take up and use by individuals and organisations generally. Telecommuting however calls for a departure from the traditional way of working. To undertake such a change would primarily require a good understanding of the perceptions of employees towards it. If the perceptions are negative then concerted efforts would be needed to change the employees' attitude towards accepting and supporting its implementation. Without the support of employees, any change however good has a high chance of failure. Employees often support initiatives that would result in additional benefits to them; hence their attitude would depend on what they perceive as such.

Employees positive attitude towards telecommuting does not imply that telecommuting could be implemented since the tasks performed need to be amenable to telecommuting. Technologically,

the suitability of different jobs to telecommuting practices depends on the nature of the job. Most jobs can be supported by telecommuting except those requiring direct labour. The public sector tasks, though currently undertaken manually, can be automated to a very high degree. This therefore strengthens the case for the implementation of telecommuting in the Kenyan public sector.

Among the public organisations where telecommuting would be very ideal is the Kenya Revenue Authority (KRA). KRA was established in 1995 by an Act of Parliament as a central body for the assessment and collection of revenue, for the administration and enforcement of laws relating to revenue. It is a fully owned Government parastatal with branches all over the country. It has four different revenue departments and a headquarter support department. The four departments are: Customs and Excise, Value Added Tax, Income Tax and Road Transport. Over fifty percent of KRA workforce is based in Nairobi region, majority being in Times Tower building.

KRA's mandate encompasses a wide range of functions and therefore has in its workforce employees of several backgrounds and disciplines. The core tasks in the authority include the assessment of tax due from taxpayers in respect of imports; tax due in respect of Value Added Tax collected on behalf of the authority; and Income Tax due from corporate and individuals and motor vehicle levies in respect of licenses, transfers and registrations. KRA collects over three quarters of government revenue. High targets for collection are always set with minimal resources at their disposal despite the cost of collection going up. KRA therefore becomes a choice candidate for implementation telecommuting work practice considering the pressure it is under to reduce the cost of collecting revenue. The strategic role of the Authority can not be overemphasised given the proportion of government revenue that it collects.

Most of the work in KRA entails computation of taxes to ensure that the correct amounts are paid. Additionally, audits are carried out in taxpayer premises to ascertain that the records forwarded in the use of tax computation are accurate and are not manipulated to arrive at lower taxes. Most of these tasks are routine and can be automated to the highest degree, except for physical inspections of goods by the customs department, which incidentally comprises a low percent of the total work. The main operations of the support departments include financial management, human resource management, ICT management and procurement, all of which can be fully supported by telecommuting.

Most of the authority's operations are localised where all the officers work in their designated stations apart from those who from time to time go for field work. Telecommuting has not been implemented so far in the authority; hence all the officers work from their designated offices except when they are out for field work. However, some officers would from time to time take some work home in the evenings or over the weekend: Evidently, aspects of telecommuting are already in practise in KRA.

1.2 Statement of the problem

The Kenyan government in the year 2000 used 68% of total government expenditure on personnel costs (Economic Survey, 2001), leaving only 32% for all the other items. This high proportion of expenditure is the major contributing factor to the high taxation in the country. Paradoxically, the public sector remains one of the lowest paying institutions both locally and internationally; the average salary having been Kshs. 157,000 per annum in the year 2000, which translates to about USD 5.4 per day before tax. This daily amount is less than the lowest hourly rate in many overseas countries.

The Kenya government is therefore faced with a very complex and multi-faceted situation, where on one hand there is need to reduce the tax burden and thus personnel costs and on the other hand there is need to better remunerate workforce, if they have to be well motivated and therefore more productive.

The government therefore needs to identify ways in which the workforce can be better motivated while at the same time reducing the cost of handling this workforce. One of the ways in which this can be done is by employment of telecommuting practices, which leads to reduction in organisation's operational, employee's and government costs.

Telecommuting has been a great success in the developed countries due to the derived benefits of its implementation for both the organisation and the employees. It is however not known whether this success can hold in the Kenyan public sector, and particularly in KRA. The success of telecommuting in developed countries could be attributed to strong economic environments, better infrastructure, lower cost of ICT equipment and accessories, availability of a large pool of technical and skilled workforce, high level of automation and the positive attitude of workers towards embracement of these practices. Some of these factors are not present in Kenya. Particularly, the infrastructure is not as good, ICT equipment and accessories are expensive, and the economy is not as strong. Even if the above factors were favourable, as to whether or not telecommuting would be adopted would still depend on employee attitude.

Without employee attitude in favour of telecommuting, telecommuting would not be successfully implemented. Employee's attitude towards telecommuting depends on their perceptions of the likely telecommuting benefits or problems. Factors which may also affect the

attitude include traditional, cultural and religious beliefs, age, exposure, family values, home environment, seniority in the organisation and knowledge about telecommuting among others. All these are not known hence the research questions: What is the attitude of Kenya Revenue Authority employees towards telecommuting practices? How does the attitude vary with factors such as seniority, sex, age, length of service, distance of their homes from workplace among others?

An employee may or may not work under a supervisor. For an employee supervising others, his or her supervisory function could be affected by telecommuting; hence his or her attitude towards telecommuting for staff they supervise is important. A question that arises then is: what is the attitude of supervisors towards telecommuting by the staff under their supervision.

While posing the foregoing questions, it should be noted that most of the studies on telecommuting have been done in Europe, United States and some parts of Asia. Due to the early adoption of telecommuting in these regions, most of the studies have been done for telecommuters or telecommuting pilot programmes. To the best of the researcher's knowledge no studies have been done in respect of telecommuting in the Kenyan public sector and especially on the attitude of employees towards telecommuting in Kenya Revenue Authority. Such a study is needed, since given the contextual differences between the researches done in the developed countries, their state of technology, culture and economies on one hand and Kenya on the other, research findings in those countries would not be taken as representative of the Kenyan situation.

1.3 Objectives of the study

The objectives of this study are to determine:

a) Attitude of the Kenya Revenue Authority employees towards embracing telecommuting practices
b) Variation in attitude of Kenya Revenue Authority employees towards telecommuting considering their functions and managerial levels in the organisational hierarchy
c) Attitude of Kenya Revenue Authority supervisors towards telecommuting by the staff they supervise.

1.4 Importance of the study

The findings of the study would be useful to several persons:

Firstly, it would provide information to the management in KRA and Kenya at large on the attitude of the KRA employees and management towards adoption of telecommuting practices. The information could be used in developing strategies for its introduction.

Secondly, the findings of the study would be of interest to the Government in developing telecommuting policies. Developing such policies would need understanding of the attitude of employees and important factors that need to be taken into consideration in respect of telecommuting.

Thirdly, the findings of the study would be of interest to KRA employees who might want to consider telecommuting. Such employees by knowing what their colleagues generally feel would be in a position to make better informed decisions regarding telecommuting.

Fourthly, the findings of the study would be of interest to organisations that may be contemplating adopting telecommuting practice. Such an organisation would as a starting point have facts to work with in adopting the practice.

Fifthly, the findings will be of use to donors looking for approaches to work that lead to the greatest impact in terms of efficiency and service delivery to the public, and with the lowest possible cost. Such donors may need to know the attitude of employees towards telecommuting practice given that telecommuting is one of the approaches.

Sixth, the findings of the study could provide a basis for further research to researchers interested in telecommuting.

Chapter 2: LITERATURE REVIEW

2.1 Information and Communications Technology and telecommuting

ICT plays a critical role in strategy formulation for all industries and as such it is very essential. The scope of ICT field has expanded into new consumer areas such as electronic mail, electronic commerce, groupware, editing, medicine and computer aided design and manufacturing, thereby altering the business environment.

Laudon et al (2000) mentions forces or revolutions that have altered the business environment. The first revolution was agrarian. In this revolution United States transformed itself to an agrarian powerhouse capable of feeding large segments of the world population. In the second revolution, there was a transformation from agrarian to an industrial power and in the third there was a transformation into knowledge and information based service economy. Thus, in a knowledge and information-based economy, information technology and systems take on great importance. For instance, information technology constitutes more than 70 percent of the invested capital in service industries like finance, insurance, and real estate. This means that for many, if not most managers, decisions about information technology will be the most common investment decisions (Laudon *et al*, 2000).

The vision of the nation of Kenya has been to be industrialised by the year 2025. The emphasis being to have several manufacturing plants by then. This will definitely have to incorporate ICT given the global trends of investing in ICT and its crucial importance.

Many countries are also realigning their visions to the global trends. Among them is India which is investing its resources heavily in ICT and is benefiting tremendously.

Although in 1999 India accounted for less than one-half of one percent of global software industry revenues, its software industry is one of the world's fastest growing, with revenues increasing by an average of 56 percent per year during the years 1995 through 2000. India's software industry has experienced tremendous growth during the past few years. From $991 million in fiscal year (FY) 1995-96, revenues have increased to $5.7 billion in FY 1999-2000, and are projected to reach $8.75 billion during FY 2000-01.

In India, there is a significant growth potential for companies because the domestic demand for software will continue to increase, and yet many export markets (e.g. Europe and Japan) have barely been tapped. Recognizing this potential, the Indian Ministry of Information Technology has set an ambitious software export target of $50 billion and a domestic sales target of $37 billion by 2008. Although the Indian software industry consists of over 600 participants with more than 250,000 employees, almost one-half of 1998-99 software exports were generated by 11 Indian producers (Canavan, USITC, 2001). Few industries in the world would match the growth rate in respect of India.

Apparently, ICT potentials are growing and though not an end itself, it has the capacity to revolutionise any field that strategically employs it. Included in this revolution is telecommuting.

Telecommuting is one of the flexible working ways that relies heavily on ICT in order to make working as convenient to the worker as possible as well as maximising the output from the individual. Multiple benefits have been gained by the employers, employees and the government, in places such as in Europe, Asia and the United States.

The concept of telecommuting has received a great deal of international attention in the recent years motivated by the following issues: travel reduction, energy conservation, air quality improvement, balancing the demands of job and family, reduction of health-care costs through reduction of stress and sick-leave utilisation, broadening employment opportunities for mobility-limited sectors of society (including disabled, elderly and homemakers); competitive recruitment and retention of the best workers; improved productivity and customer service (such as through extended hours of availability); improving the balance between jobs and housing; including supporting regional economic development by bringing the work to the workers in underdeveloped regions; and emergency preparedness/disaster response (Sato et al, 1998).

As early as 1971 in America, there was over optimism in the rate of adoption of telecommuting, some of which predicted that by 1990, all Americans would be telecommuting. The estimates however have been getting revised with the passage of time, though, the expectation of more persons adopting this mode of working has never declined (Qvortrup, 1998). Indeed, Telecommuting has been experiencing exponential growth in Europe.

Telecommuting offers an opportunity for professionals to engage in multiple jobs that have different priorities or work periods. For cases where the priorities are different, the work assuming least priority is always suspended whenever there is an urgent task to be undertaken elsewhere and resumed upon completion. Such an arrangement benefits both the employee and the employer, since the employee has can optimise the idle periods to earn extra income, and the employer may not have to meet employee travelling costs, office space costs and other associated costs.

2.2 Pressure in Kenyan Public Sector for telecommuting

In the past, there were clear boundaries and differences between the public sector and the private sector. Private sector organisations had a profit motive and their survival depended on their ability to make profits. The public sector was there to support government policy and operated fully under government protection and was always assured of receiving governmental budgetary support, irrespective of their performance.

Global trends such as liberalisation, however, have totally changed the environment under which the Kenyan public sector organisations operated. This has resulted in reduced differences and boundaries between public and private sector practices and behaviour. Public sector organisations have had to start competing to attract investment and generate employment opportunities or retain their operations. This has introduced challenges, to the Kenyan public sector organisations, in terms of service delivery and efficiency. In these instances, the public sector organisations have been compelled to deliver their services at the right level of quality and cost, if they are to survive.

Kenya government spent Kshs. 105 billion in the year 2000 on personnel costs out of a total budget of Kshs. 153 billion (Economic Survey, 2001). This accounted for 68% of total government expenditure, leaving only 32% for development and other expenditure items. This disproportionate expenditure on personnel has been a critical concern for both the government and its stakeholders. The government has been under immense pressure to reduce its public spending as well as to allocate more funds to the improvement of the dilapidated infrastructure and poverty alleviation without much additional taxation.

The tax burden on Kenyan citizens is one of the highest in the world. As a result, Kenya is considered by both foreign and local investors as a high cost and therefore unattractive investment destination. Taxation results in a higher cost of inputs (Zee, 1995). These increase the cost of other services such as transportation and insurance among others; thus reducing the profit margins and ability to compete effectively in the now global market. The high cost of industrial inputs and associated services (such as fuel, electricity and telecommunications) in Kenya is a direct result of high taxation rates and poor infrastructure among other factors. Other factors which have also aggravated the situation include insecurity in the capital and other parts of the country.

In addition to the problem relating to high taxation is liberalisation. With the advent of liberalisation, products from overseas markets are free to compete with products manufactured or produced locally in Kenya, consequently the local companies have had to be both efficient and competitive in production. The local companies have found it rather hard to compete effectively with the overseas companies which operate from a much more conducive business environment (better infrastructure, higher automation), and are privileged to exploit economies of scale due to their bigger domestic markets.

The local companies suffered yet another setback when the cushion they had in form of taxes imposed on imports was removed for certain regions such as Common Market for Eastern and Southern Africa (COMESA), Preferential Trade Area (PTA) and East African Community (EAC). This has increased further their need to be competitive. The stiff competition in turn has led to some multinational firms relocating their manufacturing plants to other countries such as Egypt and other COMESA countries which enjoy zero rating taxation of their goods getting to the Kenyan market. What makes the matter worse for the local firms is that production costs in

countries such as Egypt are quite low compared to Kenya. The cost savings in the production process, resulting from cheaper raw materials and inputs seemingly outweigh the transportation costs from those destinations to the local market. Some of the companies have even relocated their operations to the neighbouring countries such as Uganda and Tanzania for similar reasons (Apart from this some of the goods that used to transit the country using the Mombasa port have started using other ports in the region).

Evidently the major reason for the high taxation in Kenya is the high cost of maintaining the public service workforce. Indeed this cost has been accounting for the highest proportion of this tax. Due to this high expenditure in the public service, the primary way that the government can employ to substantially reduce its spending has to be through personnel expenses.

Paradoxically, public sector institutions remain some of the least paying institutions both locally and internationally. In Kenya the average salary per worker was Kshs. 157,000 per annum in the year 2000 (Economic Survey, 2001). This would translate to an average salary of $5.4 per day before tax. This average salary is less than the lowest hourly rate in most of the developed countries.

One method which organisations have used to reduce personnel expenses is retrenchment (which is sometimes referred as downsizing or rightsizing). However, such a method does not take cognisance of the effect it would have on those affected. Only a few of those retrenched may find other ventures or opportunities; but most tend to be ill prepared and thus adversely affected it. Newspaper reports on the reaction of those retrenched and the lawsuits which have been filed by those affected would attest to this.

The government is therefore faced with a problem, where on one hand there is need to reduce the tax burden and thus personnel costs and on the other, there is need to better remunerate the workforce which calls for increased tax burden.

The high rate of tax in Kenya has made the products in it to be quite expensive. The issue of high rate of tax has therefore to be addressed if products from Kenya have to effectively compete with those from other parts of the world. This problem could be addressed through the implementation and adoption of telecommuting practices.

2.3 Benefits and limitations of telecommuting

The benefits which can be realised with the adoption of telecommuting practices could be summarised as: enabling an individual to work from home instead of commuting, enabling an individual to work in the most convenient location, bringing services to the most convenient locations to the customer, moving work to the most cost-effective place, distributing work to the most competent people wherever they may be, and bringing work to unemployed or underemployed. Telecommuting reduces (if not eliminates) the constraints of space and time, narrows the dividing line between work and leisure, office and home, travel and work, workplace and other places, roles and activities. It thus leads to maximisation of personnel productivity.

Other resulting benefits of telecommuting include doing away with the need to travel to work. This leads to better safety due to reduced risk exposure or sickness through contagious or infectious diseases associated with travel. In addition reduced travel would result in energy conservation and air quality improvement from reduced motor vehicle traffic. Further, organisations would not need a lot of office space as employees would work from home. This

would lead to cost savings. Further cost savings would be expected as office running expense such as of cleaning services, fleet costs, lighting, and water would be reduced accordingly. Telecommuters are also able to better balance the demand of job and family. This leads to less stress and sick leave utilisation which in turn gives rise to reduction of health care costs.

Another benefit resulting from telecommuting is reduced risk exposure to terrorist activities for employees who work in vulnerable areas, since terrorists hardly target residential areas. The level of insecurity worldwide due to the Arab/Israeli conflicts as well as terrorist activities is at an all time high. In 1998 the American embassy in Kenya was bombed resulting in deaths of so many Kenyans. This year, a hotel in Kikambala having Israeli tourists (Paradise hotel), was again bombed resulting in death and injuries of several people. The terrorists often target buildings with high population to maximise on their impact, which in most cases would be a single organisation, ministry, government institution or hotel. In a telecommuting environment the employees would be distributed all over the city environs and/or the country, ceasing to be an easy prey or target for terrorist activity, hence reducing the risk of disrupting institutional operations.

Telecommuting would also broaden employment opportunities for mobility-limited sectors of society (including the disabled, elderly and homemakers) since they do not have to travel in order to work. This way, the best workers from the mobility-limited sectors could be employed; this also applies to those without any limitations. In the traditional working methods whenever an employee would relocate, they would in effect have to leave that employment, but in a telecommuting environment this is not the case since there is location independence. Thus with telecommuting, even with relocation the best available workers could still be retained.

Other telecommuting benefits to employees include considerable savings resulting on time savings and commuting costs, and autonomy over where to work from. This leads to increased job satisfaction and optimal use of available free time to engage in gainful business activity, thus improving the employees' net income.

Telecommuting is also beneficial to other road users as it would result in less traffic congestion. Those that would benefit are those who are involved in necessary travel such as fire fighters, police and ambulances which by nature would require commuting. Many times the speed of their movement is seriously impeded by congestion thus hindering them from meeting their objectives. If roads were to become less crowded (and this can the case when most employees telecommute) they would move more easily, safely, and faster to reach their destinations.

Without telecommuting, employees have to commute in order to work. Commuting is often risky due to exposure to carelessly driven public vehicles, car jacking and traffic related injury. It has also led to death to school children, pedestrians, highway workers, other traditional commuters. Consequently, there have been high insurance premiums which have made movement to be very expensive in Kenya.

The Kenya government spends considerable amounts of foreign exchange for imports such as fuel, oils and motor vehicle spare parts. Reduced travel on adoption of telecommuting practices would result to reduction in all these costs. Additionally, maintaining the infrastructure is also one of the highest costs for the government. Maintenance costs will be drastically reduced with lower traffic on the roads with the adoption of telecommuting practice. Existing roads will become safer too, as some of the savings would be spent on improving road maintenance and infrastructure upgrades.

A major benefit of telecommuting for employees relates to housing. Many employees find it necessary to have a house at their traditional homes which for most of the cases is far away from the city. However, for the sake of their job which is traditionally undertaken in the city or city environs, circumstances dictate that an employee rents or buys another house within the city environs. These incidental costs could be saved in a telecommuting environment as employees could work from their traditional homes.

Telecommuting is not just beneficial; in some cases it is inevitable depending on the nature of the job. Jobs in the governments depend on certain events, projects or occurrences. These are characterised by volume fluctuations according to certain seasons or events such as scheduled maintenance or equipment breakdown, disease outbreak or litigations. Such jobs are erratic and may better be done through telecommuting so as to optimise on time utilisation.

Evidently, the benefits of telecommuting span across the individual, organisation and governments at large. The cost savings by the organisation through telecommuting can be transferred to better remunerate the workforce or to support the employees to better equip their home offices or to relocate to safer locations.

Despite the many benefits of telecommuting, there are a number of disadvantages associated with it. First, it leads to professional and social isolation. This is further aggravated when fellow professionals are not available online. If however, the professionals are online, tools for participating in discussions or for attending online discussion forums can be used to alleviate the problem. Additionally, the organisation can organise for social functions in its calendar to cater for this.

Secondly, there is the risk that employees could overwork themselves due to the difficulty of defining work and home boundary. This could lead to household disturbances and conflicts. While this could happen, it may not be noticed easily. This is because telecommuting employees may not be adequately appraised by supervisors who at present may not have adequate skills of managing telecommuters. Thus, supervisors of telecommuters will need to be trained well so as to be able to correctly manage telecommuters, and especially where the work is not so tangible.

Thirdly, implementing telecommuting would have several implications on the organisation. These include organisational challenges and potential behavioural consequences. This is compounded by the fact that in the management of telecommuting employees, one cannot rely on direct methods of employee observation, control and evaluation. Methods of motivating remote employees have to be devised that will ensure that decisions by supervisors are perceived as fair (Johnson, 1998). Embracing telecommuting would mean reorganisation in the way things are done, in the organisation, ranging from reporting mechanisms and expansion in the scope of duties to include support services such as secretarial duties. Changes in organisational structures and processes, hence management, are usually painful, and organisations at times postpone these changes until they are unavoidable. Yet they are necessary, as management capabilities and opinions seem to be the critical factor for the introduction of telecommuting (Suomi et al, 1998).

Fourthly, there are certain constraints in the adoption of telecommuting. Certain tasks are not amenable to telecommuting such as construction work or factory shop floor tasks that require direct labour. Also, telecommuting relies heavily on a good telecommunications infrastructure whose failure would result in difficulties for telecommuters. Telecommuting support is therefore limited to where infrastructure is available or can be availed.

Fifthly, there are managerial concerns about maintaining performance and productivity by the telecommuters. Inability of physical monitoring may lead to loss of control over business operations. Additionally, the security of classified or sensitive documents or information may be difficult to manage in a telecommuting environment.

Sixthly, telecommuting will lead to the loss of certain jobs and decrease in demand of certain services. Most support services such as those of secretaries, messengers and drivers would be done away with, though to the organisation this would translate to cost savings, to the individual employee they would translate to loss of employment.

2.4 Trends supporting telecommuting

There has been a worldwide acceptance and trend of companies and governments providing their services online for increased efficiency. Other factors relating to this include the general reduction of telecommunication, computers and associated accessories costs making them more available to an increased population. There has also been an increase in efficiency of courier services with overnight delivery to many towns and residential areas. The level of automation in all fields has increased the scope of work which can be done remotely and thus by telecommuting.

According to Qvortrup (1998); it was generally believed by employees in Europe that two thirds of the jobs could be decentralised in 1987. Many technological advances have been made since then. The level of automation has increased tremendously for many of the tasks that could only be handled manually then. The proportion of work which can be therefore be decentralised is now much higher. Additionally, for a country like Kenya where the industrialisation is quite low

and the proportion of service industries are more, the proportion of work that can be decentralised is considerably higher.

In the communications front, mobile devices have been experiencing exponential growth in Kenya and likewise in the whole world. This growth is a demonstration of preferences for flexible lifestyles such as ability to be contacted from a flexible choice of locations or to be contacted anywhere. In the world, the desire to optimise the usage of resources seems to be a key factor in production. Mobile devices enable one to engage in other tasks such as communicating with others on business or leisure matters while travelling. Some of the key features of mobile devices include flexibility and optimal use of time and resources.

The growth of mobile devices in Kenya provides a measure of how mobility and flexibility is valued by the public and organisations as a whole. Whereas before inception, there were predictions that there would be about 70,000 total subscribers during the first year, the target was exceeded by the second month, baffling everyone. It took Telkom Kenya (formerly KPTC) thirty years to install 300,000 terrestrial lines; however in about five years, the mobile operators have exceeded by almost five times. Evidently though, one of the factors that have contributed to this exponential increase is the speed of deployment. In the past, installing telecommunications infrastructure would be a project spanning several months and at times a few years, however, wireless technologies have drastically cut down these periods to days or weeks depending on the size of the installation.

ICT provides flexibility and eliminates barriers between customers and suppliers, space and distance, and by so doing, it enables transactions to be done at the highest speeds and lowest costs. What makes this possible also is increased availability and use of mobile devices, better

coverage and improved telecommunications infrastructure, introduction of e-business, e-learning and mobile commerce. Other technologies such as Bluetooth have emerged revolutionising further the way ICT is used. The technology is increasing the scope of mobile devices by enabling one to carry transactions such as ordering for food using any mobile device supporting blue tooth technology when approaching a hotel through logging onto their network when one is in close proximity. Its uses range from motor vehicles to download maps onto the cars onboard computer, shopping centres, hotels and to just about everything. Research firm Allied Business Intelligence predicts that 1.4 Billion Bluetooth devices will be shipped in 2005 (Chow, 2001). This is increasing the scope of what can be achieved outside a traditional office.

2.5 How telecommuting works

The equipment required for one to telecommute are: a computer loaded with appropriate software, a telecommunications link to the office network and a supporting automated business system covering the functions performed by the telecommuter. Other systems which may be required to support telecommuting functions include: Message Systems - for exchanging messages, electronic conferencing systems; collaboration tools, electronic notice board systems, joint viewing and joint editing; Workflow Management Systems and Document Management Systems for storage of electronic documents in place of hard copy documents. All these tools are readily available and are constantly being enhanced to have added functionality.

Several modes of telecommuting exist some of which are: working at home - where employees designate work space at home to conduct business; satellite office - where a remote office location, usually placed within a concentration of employee residences, is equipped to allow employees from a single company to share office space and reduce the time and expense of

travelling to and from the main office facility; telecentre or neighbourhood work centre - where work space are provided for employees of different companies in one location, each company at a neighbourhood work centre is responsible for the administrative and technical requirements of its employees, Virtual office - where a worker can work from a location such as an airport, hotel, car, or other location to be their workplace at the time using appropriate telecommunications technology to link them to customers, the office, or suppliers. This is the case mainly for field workers and those who travel a lot. Telecommuting can also be done for part of the time and the rest from the traditional office.

Telecommuters would require a computing device such as a Desktop Computer, a Laptop or a Personal Digital Assistant (PDA) loaded with appropriate software. A supporting infrastructure would also be required which would constitute an appropriate back office system with adequate functionality and that allows remote access by employees. Additionally, a telecommunications link for use in accessing the system would be required, which could be a telephone used for dial-up to the back office system or a dedicated leased line.

To initiate telecommuting, an employee would log onto to the back office system, the system would then identify the employee using the logon credentials and hardware identification mechanisms. On successful login, the individual officer would then carry out the allowed transactions limited by the authorisation levels and access. Additionally, where the link employs ISDN technology, one of the telephones is dynamically changed to the officer's usual extension and all his or her calls are routed to this extension automatically.

The structure of the organisation, business rules, approval mechanisms and functions of each member of staff would be resident in a workflow system, responsible for managing the flow of work. This information would be used to route the tasks generated by the users and stakeholders.

If an item say is required for procurement, the officer responsible would place the requisition into the system, the system would then route it automatically to the relevant procurement officers sequentially or using other load balancing mechanisms (where there are several officers performing a single function). Upon logging onto the system, every officer would be able to check all his or her pending tasks whose update is real-time which would include the new item for the procurement (for the procurement officer). The priority of the tasks together with their timelines or deadlines would usually be indicated. The officer will then check the details on the electronic document and verify that it conforms to procedures and rules before being approval and sending out electronically to the relevant suppliers from the database. The system would receive the quotes electronically and evaluate them based on a stipulated criteria existing in the suppliers' database or system for the item. The results would then be forwarded to the relevant officer electronically.

The officer would then have the option of either accepting or making a decision based on its results; however, where the decision is not in conformance with the system recommendation the officer would have to provide reasons for the deviation. The level of manual intervention could vary depending on the level of automation of the system and the stakeholder systems. For an environment where the suppliers do not have automated systems, the system could generate a hard copy Request for Quotation documents which could then be sent via mail or a courier service to the listed suppliers.

Other alternative methods would include availing the business application over the Internet, requiring all telecommuters to have internet connections in their homes or designated workspaces. The authentication process and working would remain the same. This would be much faster to deploy since new employees would by the use of any browser begin working without the need of additional software in their Personal Computers. Telecommuters would of necessity require internet connectivity, hence this mode would minimise the redundancy of technologies employed. Moreover, the same link that is used for Internet connectivity can also be used for voice communication, electronic mail communication, chat forums and for collaboration together with serving online customers and communicating with online suppliers.

2.6 Studies undertaken on telecommuting and related fields

The study carried out by K'Obonyo (1998) sheds light on the increasing importance of human resource in organisations over other factors of production such as capital. K'Obonyo quotes studies done in American countries where correlation was measured between financial results and what he termed "human resource progressiveness" for 150 US companies. The results showed that elements of human resource progressiveness, namely openness of communication, emphasis on people, creativity, excellence, career development and training, recognition and rewards, and degree of decentralisation were significantly correlated with financial success over a five year period. K'Obonyo quotes another study undertaken in the US, in 1986, which examined the relationship between human resource practices and organisational effectiveness. He found that the human resource practices, namely personnel selection, flexible reward systems, goal oriented performance appraisal, alternative work schedules, and organisational development were highly correlated with financial performance, as measured by return on equity

and total return to investors. The two studies came out with the fact that degree of decentralisation, flexible reward system and alternative work schedules for the companies studied had a very strong correlation with financial performance and by extension organisational effectiveness (K'Obonyo, 1998). In addition to this, several questions were raised for further research, three of them being "Why have firms, which have not adopted performance enhancing human resource practice not done so?" and "Is there anything in the African socio-political systems which militates against adoption of flexible human resource practises? If there is, can something be done about it?"

Telecommuting provides a high degree of decentralisation and can provide a flexible reward system, and alternative work schedules. Whereas the study done by K'Obonyo focussed on human resource best practices and its increasing important role, this research seeks to establish the attitude of KRA employees to telecommuting which is one of the flexible human resource practice ways of working.

A survey of the use of flexible human resource practices by manufacturing firms in Nairobi, was undertaken by Rimberia (Rimberia, 2001). The study sought to establish the extent and benefits of use of flexible human resource practices in manufacturing firms in Nairobi and whether a relationship existed between them. The results of the study were that in general the extent and use of flexible human resource practices in the manufacturing firms was very limited. Additionally the study found that firms that embraced flexible human resource practises benefited to a great extent in numerous areas.

A status report on European Telework provides the statistics on teleworking (which is synonymous with telecommuting) with main focus on the 14 countries in Europe with summary

information for Eastern European countries, Japan and the US. In the report as of 1999: nine (9) million Europeans were teleworking (accounting for about 6% of the total workforce), with Finland leading with 16.7 % and Spain trailing with 2.81%(Johnston et al, 1999): By the same date, about 12.9 % of the workforce in the United States and 7.9 % in Japan were involved in one way of teleworking.

A survey on changes in commuting and work patterns after the great Hanshin Earthquake in Japan which was commissioned by the Japanese Ministry of Posts and Telecommunications Research Institute and conducted by the International Flexiwork Forum's Telework Centre Disaster Response Research Group supported telecommuting (Sato et al, 1998). The survey consisted of two instruments, one for companies and the other for full-time white collar employees in the four wards of Kobe which suffered the most damage from the Earthquake, namely Chuo, Nada, Higashi Nada and Nagata.

The concluding remarks and recommendations of the study are as follows: Firstly, both the public and private sectors need to promote the routine decentralisation of office functions by recognising the vital impact of using communications technologies to substitute for commuter travel and introducing 'telework' which obviates the need for physical displacement. Secondly, Japan needs to consider telework not only as a means of decentralising office functions, but as a central feature of future crisis responses.

In the study, it was also shown that Japan had started taking the initiatives of promoting 'telework' with Japan's Ministry of Labour's establishment in 1996 of a Telework council whose mandate was to explore avenues for the greater corporate use of Telework. The study

recognised that rescue efforts would be complicated in a non-telecommuting environment (Sato et al, 1998).

Another study done on telecommuting related to a survey on Teleworkers reconstruction of the work non-work boundary was done in Quebec and Ontario Canada using a total of thirty female and twenty male teleworkers (Mirchandani, 1998). The comments given by the interviewees on the boundary of work and non-work included their highlights on the considerable wastage of time on social interactions often described as social part of doing business and how their breaks are used to do useful work at home such as housework for female interviewees. The comments evidently support telecommuting.

The studies discussed so far show that telecommuting is already in practice. The need for carrying out a feasibility study in selected regions and jobs could be done in that regard. This study does so in respect of telecommuting in KRA.

The study undertaken by Rimberia (Rimberia, 2001) never paid attention to the attitude or feasibility of telecommuting in Kenya. In the survey, she undertook, her definition of telecommuting encompassed work carried home to be undertaken latter, rather than the use of ICT to bring work to the worker that could preclude the need of a traditional workplace office.

Telecommuting is already in use in the developed countries such as Europe, Japan and the United States and therefore obviously at least feasible. Even then this can not taken to hold in Kenya without a supporting study. The reason is being that there are several contextual differences between Kenya and these countries. The contextual differences arise from the differences in: degree of development of the infrastructure, cost of ICT equipment and

accessories, strength of economy. Additionally, there could be difference in attitudes between Kenyan employees and managers and those of their counterparts in the developed countries. Since no study has been undertaken to determine the attitude of public sector employees towards telecommuting in Kenya, and particularly for the KRA employees, this study is necessary.

Chapter 3: RESEARCH METHODOLOGY

3.1 Introduction

This study sought to establish the attitude of KRA employees towards embracing telecommuting practices, the variation of attitude towards the adoption of telecommuting practices with the managerial levels and functions and the attitude of KRA supervisory staff towards allowing the employees under their supervision to telecommute. The research methodology adopted was a survey.

3.2 Sampling

The study involved the employees of KRA based in Nairobi. In Nairobi there are about fifty percent of KRA employees. Nairobi was chosen for this reason and also the fact that it is there that adverse circumstances necessitating telecommuting would be more prevalent in the capital city, Nairobi than any other location in Kenya. The sample was drawn from the four KRA stations in Nairobi namely: Forodha House in Jomo Kenyatta International Airport (JKIA); Forodha House in community; Inland Container Depot (ICD) in Industrial Area and Times Tower building in the city centre. Stratified sampling by job grades was used. The strata consisted of job grades 1-4, 5-6, 7-9, 10-11 and 12-17. For each stratum 70 questionnaires were allocated and distributed except for job grade 1-4 where a total of 20 questionnaires were distributed due to low number of staff in it. Within each stratum, systematic sampling was used in selecting respondents. Where a recipient was unavailable, an alternative from the same grade was given the questionnaire in their place.

3.3 Data Collection

Questionnaires were used to collect the data. The questionnaire consisted of four sections labelled Section A, Section B, Section C and Section D. The questionnaire contained predominantly closed-ended questions with a few open ended.

Section A was used to gather information on the attitude of the recipients on certain aspects of work and telecommuting that could explain their attitude towards embracing telecommuting practice. Most of the questions in this section used a five point Likert scale (varying from *Strongly Agree* to *Strongly Disagree* and *Of utmost importance* to *Of very little importance*) in order to capture the feeling of the employees in respect of the items that explain their attitude towards telecommuting.

Section B was used to gather statistical information for the employees on the costs associated with commuting from home to the workplace and the distance of employee places of residence from their designated workplace. Section C was used to gather information on the supervisor's attitude on allowing the staff under their supervision to telecommute while Section D was used to gather demographic data and related information.

The questionnaires were hand delivered by the author and his assistants to the target respondents and picked latter after they were responded to.

3.4 Data Analysis Techniques

Data collected from Section A were analysed using descriptive statistical measures such as frequency tables, proportions and percentages, which were then used to profile the respondents. Cross tabulations were next done for the responses against preference for telecommuting for the attitudinal questions and the demographic factors. This was done firstly, to establish whether there was any similarity amongst those who preferred telecommuting and likewise between those who do not and secondly, to establish whether there was any difference in attitude based on the demographic factors.

Factor analysis was performed as part of analysis in Section A. The purpose of this analysis was to establish the most important factors that could explain the attitude of the respondents. After establishing the important factors, the factors were analysed further and presented by cross tabulation.

Data for Section B were analysed using parametric tests such as mean, standard deviation, range, minimum and the maximum. The intention was to come up with a measure that could be representative of the population in respect of commuting costs, distances and time taken to and from work.

Data for Section C were analysed using descriptive statistics such as frequencies and cross tabulations. Cross tabulations were done in respect of preference for telecommuting to identify whether there was any relationship between those supervisors who could allow their staff to telecommute and their own individual preference for telecommuting. A cross tabulation was also done for the supervisors responses in respect of the proportion of staff that supervisors would

allow to telecommute. In addition, factor analysis was performed to establish important factors that could explain supervisors' attitude towards allowing their staff to telecommute.

Data collected from Section D were analysed using descriptive statistical measures such as frequency tables, proportions and percentages. These were then used to profile the respondents.

Chapter 4: DATA ANALYSIS AND FINDINGS

4.1 Introduction

This chapter presents the results of the analysis and findings of the study. Of a total of 300 questionnaires distributed, only 158 were received back accounting to 53 percent of what was distributed. Out of the 158, ten (10) were rejected for being incomplete on material items. Thus, the study was based on data in 148 filled questionnaires. The data were analysed and resulted in the findings presented in several sections in this chapter.

The first section of data analysis corresponds to Section D of the questionnaire where a tabulation of the demographic information about the respondents is provided. The purpose of this section is to provide an overview of the respondents' demographic factors. Additionally, a cross tabulation was done in respect of demographic factors against preference for telecommuting. The purpose was to establish whether telecommuting preference could be explained by use of demographic factors.

The second section deals with the analysis of the responses to questions involving items important to employee jobs. The third section deals with the analysis of the responses of the attitudinal questions which were cross tabulated against preference for telecommuting.

The fourth section deals with the analysis of the responses on commuting costs and data. In this section commuting costs and data were cross tabulated this against preference for telecommuting and statistical information such as minimum, maximum, range, mean and standard deviation in respect of commuting data are computed.

The fifth section corresponds to Section C of the questionnaire and deals with the analysis of the supervisor attitude towards telecommuting by the members of staff reporting to them.

4.2 Demographic characteristics of the respondents

4.2.1 Gender Distribution

The distribution of respondents by gender is given in Table 4.2.1. Of the respondents, 63.5 percent were males, 34.5 percent were females and 2.0 percent did not indicate their gender.

Table 4.2.1: Distribution of respondents by gender

Response	Frequency	Percent
Not indicated	3	2.0
Male	94	63.5
Female	51	34.5
Total	148	100.0

Evidently, majority of the respondents were males; in fact females were just slightly more than a third of the respondents. Despite the lower population for the females, the distribution of respondents give gender consideration nonetheless was sufficient for the purpose of this study.

4.2.2 Age

The distribution of the respondents by age is given in Table 4.2.2. Of the respondents, 3.4 percent were below the age of 25 years, 23.6 percent were in 25-30 age bracket, 28.4 percent were in 31-35 age bracket, 20.3 percent were in 36-40 age bracket, 12.2 percent were in 41-45 age bracket while 7.4 percent were in 46-50 age bracket and 4.7 percent were in 51-55 age bracket.

Table 4.2.2: Distribution of respondents by age

Age bracket	Frequency	Percent
Under 25	5	3.4
25-30	35	23.6
31-35	42	28.4
36-40	30	20.3
41-45	18	12.2
46-50	11	7.4
51-55	7	4.7
Total	148	100.0

Most of the respondents were between the age of 25 and 40 years and were therefore in their prime age of productivity. Given this fact, the responses sought are basically, attributable to respondents who still have a long way to work before they could retire. The findings then could still hold for a long time.

4.2.3 Marital Status

The distribution of the respondents by marital status is given in Table 4.2.3. Of the respondents, 69.6 percent were married while 27.7 percent were single. The rest were separated, widowed or did not indicate their marital status.

Table 4.2.3: Distribution of respondents by marital status

Response	Frequency	Percent
Not indicated	1	.7
Single	41	27.7
Married	103	69.6
Separated	2	1.4
Widowed	1	.7
Total	148	100.0

Majority of the respondents were married with those who were single accounting for about a quarter of the respondents. The responses then, tend to be attributed more to those married than single, separated or widowed.

4.2.4 Religion

Table 4.2.4 presents the distribution of the respondents by religion. Of the respondents 2.7 percent were of the Islamic faith, 95.9 percent were Christians and 0.7 percent were from other religions.

Table 4.2.4: Distribution of respondents by religion

Response	Frequency	Percent
Not indicated	1	.7
Christian	142	95.9
Islam	4	2.7
Others: specify	1	.7
Total	148	100.0

Thus, majority of the respondents were Christians, and the responses then would be taken to hold more for Christians, if religion were an important factor in explaining attitude towards telecommuting.

4.2.5 Job grade

Table 4.2.5 presents the distribution of respondents by job grade. Most of the respondents were of 7-9 job grade, followed by 10-11, 5-6, 12-17 and the last being 1-4, as can be seen in the table below.

Table 4.2.5: Distribution of respondents by job grade

Job grade	Frequency	Percent
1-4	7	4.7
5-6	34	23.0
7-9	52	35.1
10-11	42	28.4
12-17	13	8.8
Total	148	100.0

Most of the respondents were from 5-11 job grades. The study mainly focussed on the middle management and technical officers who are generally the majority in a service organisation.

4.2.6 Residence

Table 4.2.6 presents the distribution of the respondents by residence. Majority of the respondents lived in rented houses, followed by those who live in their own houses, employer's and finally those who lived with relatives.

Table 4.2.6: Distribution of the respondents by residence

Response	Frequency	Percent
Not indicated	1	.7
Rented	64	43.2
Own	56	37.8
Employer's	22	14.9
Relative's owned/rented	5	3.4
Total	148	100.0

Majority of respondents lived in rented houses or their own, and would more easily adopt a telecommuting practise compared to those who are hosted by others.

4.2.7 Availability of telephone connection in residence

Table 4.2.7 presents the distribution of the respondents with telephone connections. Only 34.5 percent had telephone connections in their houses compared to 63.5 that did not.

Table 4.2.7: Distribution of respondents with telephone connections

Response	Frequency	Percent
Not indicated	3	2.0
Yes	51	34.5
No	94	63.5
Total	148	100.0

Just about a third (those with telephone connections in their homes) would be ready to telecommute from their homes if it was to be implemented immediately using telephone connections.

4.2.8 Academic qualification

Table 4.2.8 presents the distribution of respondents by academic qualifications. Majority of the respondents had attained to University level of education and accounted for 70.3 percent of the respondents. Other than those that did not indicate the level of education, those with secondary school level of education was the lowest in terms of percentage of respondents.

Table 4.2.8: Distribution of respondents by academic qualifications

Response	Frequency	Percent
Not indicated	1	0.7
Secondary	15	10.1
Diploma	28	18.9
University	104	70.3
Total	148	100

Majority of the respondents therefore had attained high level of education and could be expected to understand telecommuting concept easily enough to give the responses sought validly.

4.2.9 Means of travel to work

Table 4.2.9 presents the distribution of the respondents by means of transport. Of the respondents 56.8 percent used their own cars while 40.5 used public means.

Table 4.2.9: Distribution of respondents by means of transport

Response	Frequency	Percent
Not indicated	1	0.7
Own car	84	56.8
Public means	60	40.5
Other	2	1.4
Own car & public means	1	0.7
Total	148	100

Majority of the respondents travel to work using their own cars while a substantial number use public means. The responses would therefore reflect the view of both those who use their own cars as well as for those who use public means.

4.2.10 Length of service in the organization

Table 4.2.10 presents the distribution of respondents by length of service. Majority had worked between 6-10 years closely followed by 0-5 years with 37.8 and 36.5 percent respectively. The least were those who had worked between 26-30 years who were 1.4 percent of the respondents.

Table 4.2.10: Distribution of respondents with length of service in organisation

Response	Frequency	Percent
Not indicated	1	.7
0-5	54	36.5
6-10	56	37.8
11-15	17	11.5
16-20	7	4.7
21-25	6	4.1
26-30	2	1.4
Over 30	5	3.4
Total	148	100.0

4.2.11 Computer Ownership

Table 4.2.11 presents the distribution of respondents by computer ownership. Of the respondents, 48.6 percent of them had computers in their homes while 51.4 percent did not.

Table 4.2.11: Distribution of the respondents who have computers in their homes

Response	Frequency	Percent
Yes	72	48.6
No	76	51.4
Total	148	100.0

A sizeable number of the respondents should therefore be exposed to computer use. In terms of readiness, about half of the respondents should therefore be ready to telecommute in terms of owning a computer.

4.3 Importance of job performance factors to telecommuting

Table 4.3.1: Cross tabulation of factors that are important to job against preference for telecommuting

Factors	Of utmost importance		Very important		Of moderate importance		Of little importance		Of very little importance		Not indicated		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Moral support from fellow employees and social interactions	44	29.9	64	43.5	28	19.0	5	3.4	3	2.0	3	2.0	147	100
Group work , teamwork and collaborative work	54	36.7	78	53.1	10	6.8	3	2.0	0	0	2	1.4	147	100
Opportunities for work done out of office such as field works	24	16.3	56	38.1	46	31.3	9	6.1	9	6.1	3	2.0	147	100
Freedom to work independently and a flexible work schedule	50	34.0	63	42.9	24	16.3	4	2.7	3	2.0	3	2.0	147	100
Work related travel	16	10.9	57	38.8	49	33.3	13	8.8	7	4.8	5	3.4	147	100
Feedback and guidance from my supervisor	58	39.5	64	43.5	14	9.5	3	2.0	3	2.0	5	3.4	147	100
Conducive work environment and available facilities	93	63.3	46	31.3	4	2.7	1	0.7	1	0.7	2	1.4	147	100
Local and overseas professional trips and seminars	22	15.0	53	36.1	45	30.6	11	7.5	13	8.8	3	2.0	147	100
The degree of influence on the range of tasks, pace of work and the way I work	23	15.6	64	43.5	40	27.2	8	5.4	8	5.4	4	2.7	147	100
Interactions with outsiders as part of my job	21	14.3	62	42.2	48	32.7	8	5.4	5	3.4	3	2.0	147	100
High scope of independent work	38	25.9	64	43.5	27	18.4	8	5.4	3	2.0	7	4.8	147	100

Table 4.3.1 shows factors job against preference for telecommuting. Read the table, for instance, as 44 of the respondents consider moral support to be of utmost importance. This is 29.9 percent of the respondents.

Majority of the respondents indicated that all the above items are important to their jobs. However, certain items had a higher rating. In order of the responses, conducive work environment and available facilities followed by Group work, teamwork and collaborative work; Feedback and guidance from supervisor, Moral support from fellow employees and social interactions and Freedom to work independently and a flexible work schedule had the highest ratings in that order. The items which were moderate included High Scope of independent work, The degree of influence on the range of tasks, pace of work and the way work is done and Interactions with outsiders as part

of the job. The lowest in the order of importance were Opportunities for work done out of office such as field works, Local and overseas professional trips and seminars and work related travel.

Some or all of these important items could affect productivity of the employees and it is therefore for organisations to address them for better productivity. Though some of the above factors would be more difficult to provide, for a majority of the items, in a telecommuting arrangement, most would be addressed in a better and more effective manner. Telecommuting characteristically, would provide for a high scope of independent work, higher degree of influencing the range of tasks, pace of work and the way work is done, freedom to work independently and a flexible work schedule. Factors such as Group work, teamwork and collaborative work, feedback and guidance from supervisor are more difficult to provide in a telecommuting environment. There are electronic mechanisms however which can be used to address these to an extent.

4.4 Employee attitude towards telecommuting

Table 4.4.1 Employee attitude towards telecommuting

Question on the questionnaire	PFT	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree		Not indicated		
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	%
My preference for telecommuting is adversely affected by the degree of silence of the neighbourhood I live in	No	7	12.1	15	25.9	10	17.2	18	31.0	6	10.3	2	3.4	100
	Yes	15	16.9	34	38.2	14	15.7	13	14.6	11	12.4	2	2.2	100
	Total	22	15.0	49	33.3	24	16.3	31	21.1	17	11.6	4	2.7	100
I would find it hard to concentrate on my work as I would expect interferences from my family members and friends	No	11	19.0	21	36.2	5	8.6	18	31.0	1	1.7	2	3.4	100
	Yes	13	14.6	28	31.5	14	15.7	24	27.0	9	10.1	1	1.1	100
	Total	24	16.3	49	33.3	19	12.9	42	28.6	10	6.8	3	2.0	100
Lack of consultation and collaboration from my colleagues would not affect my preference to telecommute	No	7	12.1	21	36.2	7	12.1	19	32.8	1	1.7	3	5.2	100
	Yes	7	7.9	32	36.0	13	14.6	27	30.3	9	10.1	1	1.1	100
	Total	14	9.5	53	36.1	20	13.6	46	31.3	10	6.8	4	2.7	100
The attitude of my family and friends would adversely affect my preference for telecommuting	No	3	5.2	13	22.4	12	20.7	22	37.9	6	10.3	2	3.4	100
	Yes	7	7.9	18	20.2	14	15.7	35	39.3	14	15.7	1	1.1	100
	Total	10	6.8	31	21.1	26	17.7	57	38.8	20	13.6	3	2.0	100
Lack of privacy and space at home would make me not to prefer telecommuting	No	9	15.5	20	34.5	3	5.2	18	31.0	6	10.3	2	3.4	100
	Yes	10	11.2	19	21.3	12	13.5	37	41.6	10	11.2	1	1.1	100
	Total	19	12.9	39	26.5	15	10.2	55	37.4	16	10.9	3	2.0	100
My preference for telecommuting stems from my great dislike for group work and teamwork	No			3	5.2	8	13.8	26	44.8	18	31.0	3	5.2	100
	Yes	1	1.1	6	6.7	13	14.6	40	44.9	28	31.5	1	1.1	100
	Total	1	0.7	9	6.1	21	14.3	66	44.9	46	31.3	4	2.7	100
Working a distance away from my supervisor would adversely affect my performance If I were to telecommute	No	2	3.4	11	19.0	6	10.3	24	41.4	12	20.7	3	5.2	100
	Yes			9	10.1	14	15.7	40	44.9	25	28.1	1	1.1	100
	Total	2	1.4	20	13.6	20	13.6	64	43.5	37	25.2	4	2.7	100
I do not like telecommuting since I would miss the fun of commuting from home to the workplace	No	3	5.2	5	8.6	6	10.3	30	51.7	11	19.0	3	5.2	100
	Yes	3	3.4	3	3.4	9	10.1	37	41.6	35	39.3	2	2.2	100
	Total	6	4.1	8	5.4	15	10.2	67	45.6	46	31.3	5	3.4	100
I would face a high risk of being forgotten in promotions If I were to telecommute	No	2	3.4	11	19.0	7	12.1	27	46.6	9	15.5	2	3.4	100
	Yes	2	2.2	7	7.9	16	18.0	42	47.2	21	23.6	1	1.1	100
	Total	4	2.7	18	12.2	23	15.6	69	46.9	30	20.4	3	2.0	100

Question on the questionnaire	PFT	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree		Not indicated		
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	%
Balancing work, household and leisure activities is difficult when telecommuting	No	9	15.5	19	32.8	3	5.2	22	37.9	3	5.2	2	3.4	100
	Yes	6	6.7	25	28.1	11	12.4	32	36.0	14	15.7	1	1.1	100
	Total	15	10.2	44	29.9	14	9.5	54	36.7	17	11.6	3	2.0	100
Telecommuting downgrades the value of jobs	No	5	8.6	14	24.1	8	13.8	22	37.9	7	12.1	2	3.4	100
	Yes	1	1.1	13	14.6	14	15.7	41	46.1	19	21.3	1	1.1	100
	Total	6	4.1	27	18.4	22	15.0	63	42.9	26	17.7	3	2.0	100
Those who telecommute would not be respected workers as those who work in the office	No	3	5.2	11	19.0	7	12.1	26	44.8	10	17.2	1	1.7	100
	Yes	2	2.2	11	12.4	16	18.0	42	47.2	17	19.1	1	1.1	100
	Total	5	3.4	22	15.0	23	15.6	68	46.3	27	18.4	2	1.4	100
I do not like telecommuting as it would lead to an absence of social interactions from fellow employees	No	4	6.9	31	53.4	7	12.1	11	19.0	4	6.9	1	1.7	100
	Yes	4	4.5	19	21.3	19	21.3	30	33.7	13	14.6	4	4.5	100
	Total	8	5.4	50	34.0	26	17.7	41	27.9	17	11.6	5	3.4	100
Telecommuting would enable me to effectively run personal errands and to attend community functions	No	6	10.3	22	37.9	15	25.9	12	20.7	2	3.4	1	1.7	100
	Yes	13	14.6	38	42.7	17	19.1	18	20.2	3	3.4			100
	Total	19	12.9	60	40.8	32	21.8	30	20.4	5	3.4	1	0.7	100
Telecommuting would enable me to have more time with my family	No	6	10.3	25	43.1	9	15.5	13	22.4	4	6.9	1	1.7	100
	Yes	12	13.5	45	50.6	14	15.7	17	19.1	1	1.1			100
	Total	18	12.2	70	47.6	23	15.6	30	20.4	5	3.4	1	0.7	100
Telecommuting would lead to too much staff independence	No	7	12.1	37	63.8	5	8.6	7	12.1	1	1.7	1	1.7	100
	Yes	13	14.6	45	50.6	12	13.5	16	18.0	1	1.1	2	2.2	100
	Total	20	13.6	82	55.8	17	11.6	23	15.6	2	1.4	3	2.0	100
The fact that I will be able to control the work environment would make to prefer to telecommute	No	5	8.6	29	50.0	12	20.7	9	15.5	1	1.7	2	3.4	100
	Yes	20	22.5	36	40.4	18	20.2	10	11.2	4	4.5	1	1.1	100
	Total	25	17.0	65	44.2	30	20.4	19	12.9	5	3.4	3	2.0	100
Savings on commuting costs and time would not be enough to justify telecommuting	No	4	6.9	26	44.8	6	10.3	17	29.3	3	5.2	2	3.4	100
	Yes	14	15.7	25	28.1	14	15.7	28	31.5	6	6.7	2	2.2	100
	Total	18	12.2	51	34.7	20	13.6	45	30.6	9	6.1	4	2.7	100
Telecommuting enhances better health by avoidance of crowds	No	3	5.2	20	34.5	12	20.7	17	29.3	5	8.6	1	1.7	100
	Yes	11	12.4	30	33.7	23	25.8	18	20.2	5	5.6	2	2.2	100
	Total	14	9.5	50	34.0	35	23.8	35	23.8	10	6.8	3	2.0	100
Telecommuting enhances better safety due to reduced travel	No	6	10.3	29	50.0	8	13.8	11	19.0	2	3.4	2	3.4	100
	Yes	16	18.0	39	43.8	18	20.2	7	7.9	7	7.9	2	2.2	100
	Total	22	15.0	68	46.3	26	17.7	18	12.2	9	6.1	4	2.7	100
Telecommuting should be encouraged as it enhances quick handling of family and neighbourhood emergencies	No	5	8.6	23	39.7	12	20.7	14	24.1	1	1.7	3	5.2	100
	Yes	6	6.7	31	34.8	20	22.5	24	27.0	7	7.9	1	1.1	100
	Total	11	7.5	54	36.7	32	21.8	38	25.9	8	5.4	4	2.7	100
Telecommuting eliminates office gossip and associated interferences	No	10	17.2	16	27.6	10	17.2	18	31.0	2	3.4	2	3.4	100
	Yes	12	13.5	41	46.1	18	20.2	13	14.6	2	2.2	3	3.4	100
	Total	22	15.0	57	38.8	28	19.0	31	21.1	4	2.7	5	3.4	100

Question on the questionnaire	PFT	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree		Not indicated		
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	%
Home is not a good environment to support telecommuting	No	4	6.9	17	29.3	8	13.8	26	44.8	2	3.4	1	1.7	100
	Yes	7	7.9	18	20.2	16	18.0	37	41.6	11	12.4			100
	Total	11	7.5	35	23.8	24	16.3	63	42.9	13	8.8	1	0.7	100
Telecommuting should be allowed only for staff who work in big towns	No	5	8.6	11	19.0	5	8.6	28	48.3	8	13.8	1	1.7	100
	Yes	3	3.4	10	11.2	13	14.6	43	48.3	18	20.2	2	2.2	100
	Total	8	5.4	21	14.3	18	12.2	71	48.3	26	17.7	3	2.0	100
Telecommuting should only be allowed for married men or women	No	1	1.7	4	6.9	6	10.3	29	50.0	17	29.3	1	1.7	100
	Yes	1	1.1	2	2.2	8	9.0	46	51.7	30	33.7	2	2.2	100
	Total	2	1.4	6	4.1	14	9.5	75	51.0	47	32.0	3	2.0	100
Those who telecommute should not be given travel allowance	No	3	5.2	12	20.7	12	20.7	23	39.7	7	12.1	1	1.7	100
	Yes	5	5.6	19	21.3	15	16.9	35	39.3	13	14.6	2	2.2	100
	Total	8	5.4	31	21.1	27	18.4	58	39.5	20	13.6	3	2.0	100
Telecommuting should be allowed as a reward for good performance	No	4	6.9	13	22.4	11	19.0	25	43.1	4	6.9	1	1.7	100
	Yes	9	10.1	21	23.6	16	18.0	26	29.2	15	16.9	2	2.2	100
	Total	13	8.8	34	23.1	27	18.4	51	34.7	19	12.9	3	2.0	100
Supervisors should have the final say on who is or is not allowed to telecommute	No	5	8.6	17	29.3	10	17.2	15	25.9	10	17.2	1	1.7	100
	Yes	5	5.6	24	27.0	13	14.6	25	28.1	20	22.5	2	2.2	100
	Total	10	6.8	41	27.9	23	15.6	40	27.2	30	20.4	3	2.0	100
Telecommuting is only suitable for those who are about to retire	No	3	5.2	3	5.2	7	12.1	26	44.8	17	29.3	2	3.4	100
	Yes	1	1.1	5	5.6	7	7.9	43	48.3	30	33.7	3	3.4	100
	Total	4	2.7	8	5.4	14	9.5	69	46.9	47	32.0	5	3.4	100
Employees with health problems/disabilities should not be allowed to telecommute	No	5	8.6	1	1.7	4	6.9	23	39.7	24	41.4	1	1.7	100
	Yes	5	5.6	7	7.9	8	9.0	35	39.3	32	36.0	2	2.2	100
	Total	10	6.8	8	5.4	12	8.2	58	39.5	56	38.1	3	2.0	100
I prefer to telecommute due to my high concerns on environmental pollution	No	2	3.4	11	19.0	12	20.7	22	37.9	8	13.8	3	5.2	100
	Yes	4	4.5	14	15.7	18	20.2	35	39.3	15	16.9	3	3.4	100
	Total	6	4.1	25	17.0	30	20.4	57	38.8	23	15.6	6	4.1	100
Mothers with young babies should not be allowed to telecommute	No	5	8.6	4	6.9	6	10.3	22	37.9	19	32.8	2	3.4	100
	Yes	4	4.5	14	15.7	8	9.0	33	37.1	27	30.3	3	3.4	100
	Total	9	6.1	18	12.2	14	9.5	55	37.4	46	31.3	5	3.4	100
Telecommuting will reduce the stress levels of employees	No	9	15.5	24	41.4	7	12.1	12	20.7	4	6.9	2	3.4	100
	Yes	18	20.2	34	38.2	16	18.0	14	15.7	5	5.6	2	2.2	100
	Total	27	18.4	58	39.5	23	15.6	26	17.7	9	6.1	4	2.7	100
Telecommuting would increase household conflicts	No	2	3.4	13	22.4	12	20.7	24	41.4	5	8.6	2	3.4	100
	Yes	3	3.4	17	19.1	19	21.3	28	31.5	18	20.2	4	4.5	100
	Total	5	3.4	30	20.4	31	21.1	52	35.4	23	15.6	6	4.1	100
I would have a better peace of mind in working without my supervisor around	No			11	19.0	17	29.3	24	41.4	5	8.6	1	1.7	100
	Yes	10	11.2	21	23.6	22	24.7	31	34.8	3	3.4	2	2.2	100
	Total	10	6.8	32	21.8	39	26.5	55	37.4	8	5.4	3	2.0	100
Newly recruited employees should be allowed to telecommute	No	2	3.4	8	13.8	4	6.9	24	41.4	19	32.8	1	1.7	100
	Yes	4	4.5	8	9.0	15	16.9	36	40.4	22	24.7	4	4.5	100
	Total	6	4.1	16	10.9	19	12.9	60	40.8	41	27.9	5	3.4	100
Telecommuters should bear the cost of purchasing computers, accessories and space to enable them to telecommute	No	2	3.4	6	10.3	9	15.5	19	32.8	20	34.5	2	3.4	100
	Yes	8	9.0	11	12.4	11	12.4	30	33.7	25	28.1	4	4.5	100
	Total	10	6.8	17	11.6	20	13.6	49	33.3	45	30.6	6	4.1	100

The preceding table provides a summary of the responses and is to be read in the following manner, using the first item of this table for the example. Of the respondents who do not prefer telecommuting, 12.1 percent (7 respondents) indicated that they strongly agree with the proposition given by the questionnaire item i.e that *my preference for telecommuting is adversely affected by the degree of silence of the neighbourhood I live in*, 25.9 percent Agreed (15 respondents), 17.2 percent (10) indicated that they were neutral, 31.0 percent (18) Disagreed, 10.3 percent (6) Strongly Disagreed, while 3.4 percent (2) did not provide a response for this item.

4.4.2 Distribution of those who have heard of telecommuting

Table 4.4.2 presents a cross of those who had heard of telecommuting before against their preference for telecommuting. Of the respondents, 48.4 percent of the respondents had not heard of telecommuting before, while 49.0 percent had. Of those who do not prefer telecommuting, 53.4 percent had not heard about telecommuting compared to 46.1 percent for those who preferred telecommuting.

Table 4.4.2 Cross tabulation of those who had heard of telecommuting before against their preference for telecommuting

Response	Preference for telecommuting		Total
	Yes	No	
No	46.1% (41)	53.4% (31)	48.4% (72)
Yes	52.8% (47)	46.6% (27)	49.0% (74)
Not indicated	1.1% (1)	0% (0)	2.6% (1)
Total	100.0% (89)	100.0% (58)	100.0% (147)

Out of 74 who had heard of telecommuting before, 47 preferred telecommuting compared to 41 out of 72 who had not. The proportion of those who had heard of telecommuting before and those who had not, were almost the same.

4.4.3 Mode of remuneration preferred on telecommuting

Table 4.4.3 presents a cross tabulation of the preferred mode of remuneration against preference for telecommuting. Generally most of the respondents preferred preferred 'Agreed upon retainer and the rest on tasks accomplished' with 27.0 percent of the respondents, this was followed by 'Payment based on tasks accomplished' and 'Normal Salary' with 18.9 and 18.2 percent respectively. The least preference was for 'payment based on a percentage of the market rate' with 0.7 percent of the respondents. The response for those who prefer telecommuting and those who do not, were similar.

Table 4.4.3 Cross tabulation of remuneration preferred against preference for telecommuting

Preferred mode of payment when telecommuting	Preference for Telecommuting		Total
	Yes	No	
Normal Salary	16.9 (15)	20.3% (12)	18.2% (27)
Payment based on tasks accomplished	23.6% (21)	11.9% (7)	18.9% (28)
Payment based on hours worked	11.2% (10)	3.4% (2)	8.1% (12)
Payment based on a percentage of the market rate	0% (0)	1.7% (1)	0.7% (1)
Agreed upon retainer and the rest based on the tasks accomplished	25.8% (23)	28.8% (17)	27.0% (40)
Payment based on the complexity of the task being undertaken	12.4% (11)	18.6% (11)	14.9% (22)
Payment based on the market rate	10.1% (9)	15.3% (9)	12.2% (18)
Total	100% (89)	100% (59)	100% (148)

Majority of the employees preferred payment based on tasks accomplished. It would therefore be necessary in planning for the implementation of a telecommuting program to find mechanism for work quantification, so as to form the basis for payment. Failure to address such an issue may result de-motivation for some of the employees. It is interesting to note that premium was placed by those who preferred telecommuting for payment based on tasks accomplished and on hours worked compared to those who did not prefer telecommuting. Normal salary was preferred more by those who did not prefer telecommuting compared to those who preferred.

Generally, if telecommuting were to be implemented, the preferred mode of remuneration would be on an agreed upon retainer and the rest based on tasks accomplished and the least would be payment based on a percentage of the market rate.

4.4.4 Distribution of work locations in a year cross-tabulated against preference for telecommuting.

Table 4.4.4 presents a cross tabulation of work location preferred by respondents against preference for telecommuting. 37 out of 58 respondents who do not prefer telecommuting provided a distribution for the preferred work locations in a year whose average is as follows: Regular workplace 35.6 percent of the time and 25.6 percent at home, 7.7 percent in a neighbourhood telecentre, 7.5 percent of the time in a satellite office, 4.8 percent of the time in a foreign country, 13.6 percent of the time in a virtual office and 2.1 percent in other places.

Table 4.4.4 Cross tabulation of work location preference against preference for telecommuting

Preference for telecommuting		Regular place of work	Home	Neighbourhood telecentre	Satellite Office	Foreign country	Virtual office	Other: State
No	Mean	35.6	25.6	7.7	7.5	4.8	13.6	2.1
	Number	37.0	37.0	37.0	37.0	37.0	37.0	37.0
Yes	Mean	33.1	30.6	5.7	8.9	4.5	12.7	2.7
	Number	61.0	61.0	61.0	61.0	61.0	61.0	61.0
Total	Mean	34.1	28.7	6.4	8.4	4.6	13.0	2.5
	Number	98.0	98.0	98.0	98.0	98.0	98.0	98.0

The preceding table is read in the following manner, for those who do not prefer to telecommute, their preference would for 35.6 of their working time in the year to be from the regular work place, 25.6 percent from home and 7.7 from a neighbourhood telecentre. The number of respondents who indicated their preferences was 37 in number.

Evidently, the 37 of the 58 who indicated their lack of preference for telecommuting prefer to telecommute, since they indicated that they would spend more than a third of the year working from their homes. Their lack of preference may have been based on their understanding that telecommuting would mean working 100 percent of the time from home.

4.4.5 Gender distribution cross tabulation against preference for telecommuting

Table 4.4.5 provides a cross tabulation of gender distribution against preference for telecommuting. Of the males 38.3 percent do not prefer telecommuting while 61.7 percent prefer telecommuting. Of the females, 43.1 do not prefer telecommuting, while 56.9 percent prefer.

Table 4.4.5 Cross tabulation of gender distribution against preference for telecommuting

Gender	Preference for Telecommuting		
	Yes	No	Total
Male	61.7% (58)	38.3% (36)	100% (94)
Female	56.9% (29)	43.1% (22)	100% (51)
Total	60.1% (89)	39.9% (58)	100% (148)

The results depicted that a slightly higher percentage of the males (61.7 percent) preferred to telecommute compared to the females (56.9 percent) of the females.

4.4.6 Distribution of Age cross tabulated against preference for telecommuting

Table 4.4.6 presents a cross tabulation of age of the respondents against preference for telecommuting. Of those under 25 years of age, 40 percent preferred telecommuting compared to 60 percent for the 25-30 years age bracket and 64.3 percent for the 31-35 years age bracket.

Table 4.4.6 Cross tabulation of age against preference for telecommuting

Age Brackets	Preference for telecommuting		Total
	Yes	No	
Under 25	40.0% (2)	60.0% (3)	100% (5)
25-30	60.0% (21)	40.0% (14)	100% (35)
31-35	64.3% (27)	35.7% (15)	100% (42)
36-40	56.7% (17)	43.3% (13)	100% (30)
41-45	61.1% (11)	38.9% (7)	100% (18)
46-50	63.6% (7)	36.4% (4)	100% (11)
51-55	57.1% (4)	42.9% (3)	100% (7)
Total	60.1% (89)	39.9% (59)	100% (148)

Majority of those above 25 years of age preferred telecommuting. The age group with the highest preference for telecommuting was 31-35 years, followed by 46-50, 41-45, 25-30, 51-55, 36-40 and last of all under 25 in that order.

4.4.7 Cross tabulation of marital status against preference for telecommuting

Table 4.4.7 present a cross tabulation of marital status against preference for telecommuting. Of the single persons 65.9 percent preferred to telecommute compared to 58.3 percent of the Married, 50 percent of the separated and 0 percent of the widowed.

Table 4.4.7 Cross tabulation of marital status against preference for telecommuting

Marital Status	**Preference for Telecommuting**		**Total**
	Yes	**No**	
Single	65.9% (27)	34.1% (14)	100% (41)
Married	58.3% (60)	41.7% (43)	100% (103)
Separated	50.0% (1)	50.0% (1)	100% (2)
Widowed	0% (0)	100.0% (1)	100% (1)
Not indicated	100% (1)	0% (0)	100% (1)
Total	60.1% (89)	39.9% (59)	100% (148)

There was a higher preference for telecommuting among the single persons than any other group. This could be attributed to the fact that single persons may encounter minimal

interference, unlike the married where interference would commonly come from the children or other members of the family.

4.4.8 Distribution of respondents by religion cross tabulated against preference for telecommuting

Table 4.4.8 presents a cross tabulation of respondents by religion against preference for telecommuting. Of the Christians, 60.6 percent of the preferred telecommuting compared to 75 percent for Muslims and 0 percent for others.

Table 4.4.8 Cross tabulation of religious distribution against preference for telecommuting

Religion	Preference for Telecommuting		Total
	Yes	No	
Christian	60.6%(86)	39.4% (56)	100% (142)
Islam	75.0% (3)	25.0% (1)	100% (4)
Others	0% (0)	100.0% (2)	100%(2)
Total	60.1%(89)	39.9% (59)	100%(148)

Majority of the Muslims preferred to telecommute compared to the Christians and others.

4.4.9 Job grades cross tabulated against preference for telecommuting

Table 4.4.9 presents a cross tabulation of job grades against preference for telecommuting. Of 1-4 job grade 57.1 percent preferred telecommuting compared to 61.8 percent of job grade 5-6, 61.5 percent for job grade 7-9, 61.9 percent for job grade 10-11 and 46.2 percent for the job grade 12-17.

Table 4.4.9 Cross tabulation of job grades against preference for telecommuting

Job Grade	Preference for Telecommuting		Total
	Yes	No	
1-4	57.1% (4)	42.9% (3)	100.0% (7)
5-6	61.8% (21)	38.2% (13)	100.0% (34)
7-9	61.5% (32)	38.5% (20)	100.0% (52)
10-11	61.9% (26)	38.1% (16)	100% (42)
12-17	46.2% (6)	53.8% (7)	100% (13)
Total	60.1% (89)	39.9% (59)	100% (148)

The highest preference for telecommuting came from those in job grades 5–11 and lowest came from job grades 12-17. Majority of those who preferred telecommuting were those of middle management and the technical officers and the lowest from lower cadre support staff or subordinates. If telecommuting were to be introduced, it may be necessary to introduce telecommuting incentives for those in the top management so that the loss of support services and the ideal office environment is compensated for.

4.4.10 Years in current employment cross tabulated against preference for telecommuting

Table 4.4.10 presents a cross tabulation of years in current employment against preference for telecommuting.

Table 4.4.10 Years in current employment cross tabulated against preference for telecommuting

Years in Employment	Preference for Telecommuting		Total
	Yes	No	
0-5	59.3% (32)	40.7% (22)	100.0% (54)
6-10	66.1% (37)	33.9% (19)	100.0% (56)
11-15	58.8% (10)	41.2% (7)	100.0% (17)
16-20	14.3% (1)	85.7% (6)	100.0% (7)
21-25	66.7% (4)	33.3% (2)	100.0% (6)
26-30	100.0% (2)	0 % (0)	100.0% (2)
Over 30	60.0% (3)	40.0% (2)	100.0% (5)
Not indicated	0 % (0)	100.0% (1)	100.0% (1)
Total	60.1% (89)	39.9% (59)	100.0% (148)

The preceding table is read in the following manner: For those who have been in employment for 0-5 years, 59.3 percent preferred to telecommute and 40.7 percent did not prefer. In terms of number of respondents, 32 preferred to telecommute while 22 did not.

The highest preference from those who have been in employment for 26-30 years, followed by 21-25 and 6-10 in that order. Those with moderate preference came from those who had been in employment for Over 30 years, followed by 0-5 years and 11-15 years in that order. The least preference came from those who had been in employment for 16-20 years.

4.4.11 Total years in employment cross tabulated against preference for telecommuting

Table 4.4.10 presents a cross tabulation of total years in employment against preference for telecommuting.

Table 4.4.11 Total years in employment cross tabulated against preference for telecommuting

Total years in current Employment	Preference for telecommuting		Total
	Yes	No	
0-5	55.3% (21)	44.7% (17)	100.0% (38)
6-10	67.6% (25)	32.4% (12)	100.0% (37)
11-15	59.4% (19)	40.6% (13)	100.0% (32)
16-20	52.9% (9)	47.1% (8)	100.0% (17)
21-25	64.3% (9)	35.7% (5)	100.0% (14)
26-30	75.0% (3)	25.0% (1)	100.0% (4)
Over 30	60.0% (3)	40.0% (2)	100.0% (5)
Not indicated	0% (0)	100.0% (1)	100.0% (1)
Total	60.1% (89)	39.9% (59)	100.0% (148)

The preceding table is read in the following manner: For those who have been incurrent employment for 0-5 years, 44.7 percent preferred to telecommute while 55.3 percent did not. In terms of numbers, 21 preferred to telecommute while 17 did not.

While majority preferred telecommuting, the highest preference came from those who have been in current employment for 26-30 years, followed by 6-10 years. Those with moderate preference came from those who have been in current employment for 21-15 years, Over 30 years, 11-15 years and 0-5 years in that order while the least were those of 16-20 years.

4.4.12 Cross tabulation of respondents by computer ownership distribution against preference for telecommuting

Table 4.4.12 presents a cross tabulation of computer ownership against preference for telecommuting. Of those who owned a computer, 59.7 percent preferred telecommuting compared to 60.5 percent of those who did not.

Table 4.4.12 Cross tabulation of computer ownership distribution against preference for telecommuting

Own a computer	Preference for telecommuting		Total
	Yes	No	
Yes	59.7% (43)	40.3% (29)	100% (72)
No	60.5% (46)	39.5% (30)	100.0% (76)
Total	60.1% (89)	39.9% (59)	100.0% (148)

About 49 percent of the respondents own computers. It would have been expected that those who own computers would have had a higher preference for telecommuting as they would be used to the use of technology required for telecommuting, however, this was not the case.

4.4.13 Cross tabulation of the academic qualification attained against preference for telecommuting

Table 4.4.13 presents a cross tabulation of the respondents by academic qualifications attained against their preference for telecommuting. Of those who had attained to Secondary school level

of education, 53.3 percent preferred to telecommute compared to 42.9 percent of those with Diploma level of education and 65.4 percent of those who have attained to University level.

Table 4.4.13 Cross tabulation of the academic qualification attained against preference for telecommuting

Highest Academic Qualification	Preference for telecommuting		Total
	Yes	No	
Secondary	53.3% (8)	46.7% (7)	100.0% (15)
Diploma	42.9% (12)	57.1% (16)	100.0% (28)
University	65.4% (68)	34.6% (36)	100.0% (104)
Not indicated	100.0% (1)	0 % (0)	100.0%(1)
Total	60.1% (89)	39.9% (59)	100.0% (148)

The highest preference for telecommuting came from those who had attained to University level of education, followed by those who attained to Secondary level and least came from those with Diploma level. The reason for the majority of those with University education preferring to telecommute could be to their increased exposure and flexibility to modern methods of working.

4.4.14 Factor Analysis

Factor analysis was performed for the responses of Section A question 2 of the questionnaire in order to identify key factors that would explain the attitude of the respondents.

4.4.15 Correlation

From the correlation matrix, Table A1.2.2 in Appendix I, the correlation coefficients are much less than 0.9. This means there was no singularity in the data, thus all the questions were independent of one another and that no question was directly related to another. The determinant for the data is 4.570E-04 which is greater than the necessary value of 0.00001 therefore multi-collinearity is not a problem for these data. Since none of the correlation coefficients were

particularly large and as such there was no need to consider eliminating any questions at this stage.

4.4.16 Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Spericity

Table 4.4.15 presents the results of KMO measure of sampling adequacy and Bartlett's test of sphericity. The KMO test result was 0.615 while the Bartlett's test produced approximate Chi-quare value of 606.296 for 300 degrees of freedom and a significance of 0.000.

Table 4.4.16 KMO and Bartlett's Test

Test	Test item	Value
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.615
Bartlett's Test of Sphericity	Approx. Chi-Square	606.296
	df	300
	Sig.	.000

Since the KMO Measure of Sampling Adequacy is greater than 0.5, factor analysis can be used to yield distinct and reliable factors. Bartlett's Test of Sphericity requires a significance of less than 0.001 otherwise it may not be appropriate to use factor analysis, the significance of the data is less, factor analysis is therefore appropriate. Hence the results of both methods indicate that factor analysis can be used for this data.

4.4.17 Rotation

For better clarity on the factors, Orthogonal rotation using Varimax with Kaiser normalisation was used and factor loadings whose absolute value is less than 0.4 suppressed and results sorted according to size. The results are given in Table A1.2.5 in Appendix I.

4.4.18 Important factors that explain employee attitude

The components which loaded heavily on the above components have been cross tabulated against preference for telecommuting in subsequent tables.

Component 1 - Performance concerns

The following are the questions which loaded heavily on component 1. The general theme seems to be one on performance concerns.

Table 4.4.18 Cross tabulation of performance factors (component 1) against preference for telecommuting

Proposition	PFT	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree		Not indicated		Total
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	%
1. Working a distance away from my supervisor would adversely affect my performance If I were to telecommute	No	2	3.4	11	19.0	6	10.3	24	41.4	12	20.7	3	5.2	100
	Yes			9	10.1	14	15.7	40	44.9	25	28.1	1	1.1	100
	Total	2	1.4	20	13.6	20	13.6	64	43.5	37	25.2	4	2.7	100
2. I would face a high risk of being forgotten in promotions If I were to telecommute	No	2	3.4	11	19.0	7	12.1	27	46.6	9	15.5	2	3.4	100
	Yes	2	2.2	7	7.9	16	18.0	42	47.2	21	23.6	1	1.1	100
	Total	4	2.7	18	12.2	23	15.6	69	46.9	30	20.4	3	2.0	100
3. Telecommuting downgrades the value of jobs	No	5	8.6	14	24.1	8	13.8	22	37.9	7	12.1	2	3.4	100
	Yes	1	1.1	13	14.6	14	15.7	41	46.1	19	21.3	1	1.1	100
	Total	6	4.1	27	18.4	22	15.0	63	42.9	26	17.7	3	2.0	100
4. Balancing work, household and leisure activities is difficult when telecommuting	No	9	15.5	19	32.8	3	5.2	22	37.9	3	5.2	2	3.4	100
	Yes	6	6.7	25	28.1	11	12.4	32	36.0	14	15.7	1	1.1	100
	Total	15	10.2	44	29.9	14	9.5	54	36.7	17	11.6	3	2.0	100
5. Lack of privacy and space at home would make me not to prefer telecommuting	No	9	15.5	20	34.5	3	5.2	18	31.0	6	10.3	2	3.4	100
	Yes	10	11.2	19	21.3	12	13.5	37	41.6	10	11.2	1	1.1	100
	Total	19	12.9	39	26.5	15	10.2	55	37.4	16	10.9	3	2.0	100

For all the above factors, majority of those who preferred telecommuting disagreed with all the above propositions. Those who did not prefer telecommuting disagreed with all except the fourth and fifth factors. It therefore follows that part of the reason why some of the employees did not prefer to telecommute is due to their inability to balance work, household and leisure activities as well as lack of privacy and space in their homes. The house rents for houses outside

the city environs are much lower than those which are further away; however, many employees find it necessary to stay short distances from the city centre due to the need to reach the work place in time. In a telecommuting environment, however, employees would be in a position to rent more spacious and decent houses outside the city environs due to the reduced need of being in the city. The factors were: First - Working a distance away from my supervisor would adversely affect my performance If I were to telecommute, Second - I would face a high risk of being forgotten in promotions If I were to telecommute, Third - Telecommuting downgrades the value of jobs, Fourth - Balancing work, household and leisure activities is difficult when telecommuting and Fifth - Lack of privacy and space at home would make me not to prefer telecommuting

Component 2 - Health and safety

The following is a cross tabulation of the questions which loaded heavily on the second component, the central theme seems to be health and safety.

Table 4.4.19 Cross tabulation of health and safety factors (component 2) against preference for telecommuting

Questionnaire item	PFT	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree		Not indicated		
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	%
1. Telecommuting enhances better safety due to reduced travel	No	6	10.3	29	50.0	8	13.8	11	19.0	2	3.4	2	3.4	100
	Yes	16	18.0	39	43.8	18	20.2	7	7.9	7	7.9	2	2.2	100
	Total	22	15.0	68	46.3	26	17.7	18	12.2	9	6.1	4	2.7	100
2. Telecommuting enhances better health by avoidance of crowds	No	3	5.2	20	34.5	12	20.7	17	29.3	5	8.6	1	1.7	100
	Yes	11	12.4	30	33.7	23	25.8	18	20.2	5	5.6	2	2.2	100
	Total	14	9.5	50	34.0	35	23.8	35	23.8	10	6.8	3	2.0	100
3. I do not like telecommuting as it would lead to an absence of social interactions from fellow employees	No	4	6.9	31	53.4	7	12.1	11	19.0	4	6.9	1	1.7	100
	Yes	4	4.5	19	21.3	19	21.3	30	33.7	13	14.6	4	4.5	100
	Total	8	5.4	50	34.0	26	17.7	41	27.9	17	11.6	5	3.4	100

Majority of those who prefer telecommuting agreed with all except the third proposition. Majority of those who did not prefer to telecommute agreed with all the questionnaire propositions. Whereas those who did not prefer telecommuting agreed that telecommuting would enhance their safety and health, they seemingly attached less importance to both, since they still preferred not to telecommute despite these benefits. They may have however, attached more importance to the absence of social interactions on telecommuting, which those who preferred telecommuting did not. The factors were: First - Telecommuting enhances better safety due to reduced travel, Second - Telecommuting enhances better health by avoidance of crowds, Third - I do not like telecommuting as it would lead to an absence of social interactions from fellow employees.

Component 3 - Social Conflicts

Two questionnaire items loaded heavily on the third component. The central theme of these factors seems to be social conflicts. Cross tabulation of these questionnaire items against preference for telecommuting is given in Table 4.4.20.

Table 4.4.20 Cross tabulation of social conflicts (component 3) against preference for telecommuting

Questionnaire item	PFT	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree		Not indicated		
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	%
Telecommuting would increase household conflicts	No	2	3.4	13	22.4	12	20.7	24	41.4	5	8.6	2	3.4	100
	Yes	3	3.4	17	19.1	19	21.3	28	31.5	18	20.2	4	4.5	100
	Tot.	5	3.4	30	20.4	31	21.1	52	35.4	23	15.6	6	4.1	100
Telecommuting eliminates office gossip and associated interferences	No	10	17.2	16	27.6	10	17.2	18	31.0	2	3.4	2	3.4	100
	Yes	12	13.5	41	46.1	18	20.2	13	14.6	2	2.2	3	3.4	100
	Tot.	22	15.0	57	38.8	28	19.0	31	21.1	4	2.7	5	3.4	100

Majority of those who preferred telecommuting disagreed with the proposition that telecommuting would increase household conflicts but agreed that it would eliminate office gossip and associated interferences. However, those who did not prefer telecommuting disagreed with both propositions.

Component 4 – Social interferences

Two questionnaire items loaded heavily on component 4, the central theme seems to be social interferences. Cross tabulation of these questionnaire items against preference for telecommuting is given in Table 4.4.21.

Table 4.4.21 Cross tabulation of social interferences factors (component 4) against preference for telecommuting

Questionnaire item	PFT	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree		Not indicated		
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	%
Telecommuting would lead to too much staff independence	No	7	12.1	37	63.8	5	8.6	7	12.1	1	1.7	1	1.7	100
	Yes	13	14.6	45	50.6	12	13.5	16	18.0	1	1.1	2	2.2	100
	Total	20	13.6	82	55.8	17	11.6	23	15.6	2	1.4	3	2.0	100
I would find it hard to concentrate on my work as I would expect interferences from my family members and friends	No	11	19.0	21	36.2	5	8.6	18	31.0	1	1.7	2	3.4	100
	Yes	13	14.6	28	31.5	14	15.7	24	27.0	9	10.1	1	1.1	100
	Total	24	16.3	49	33.3	19	12.9	42	28.6	10	6.8	3	2.0	100

Majority of the respondents both who preferred and who did not prefer telecommuting agreed with the above propositions, though for both cases, the percentages for those who did not prefer telecommuting was higher by about 10 percent. The propositions were: First - Telecommuting would lead to too much staff independence, Second - I would find it hard to concentrate on my work as I would expect interferences from my family members and friends.

Component 5 - Controlled work environment

Table 4.4.22 presents a cross tabulation of the components which loaded heavily for component 5. The theme of the question is controlled work environment.

Table 4.4.22 Cross tabulation of controlled work environmental factors (component 5) against preference for telecommuting

Questionnaire item	PFT	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree		Not indicated		
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	%
The fact that I will be able to control the work environment would make to prefer to telecommute	No	5	8.6	29	50.0	12	20.7	9	15.5	1	1.7	2	3.4	100
	Yes	20	22.5	36	40.4	18	20.2	10	11.2	4	4.5	1	1.1	100
	Total	25	17.0	65	44.2	30	20.4	19	12.9	5	3.4	3	2.0	100

Both those who preferred telecommuting and those who did not valued ability to control the work environment. Majority from both categories agreed with the proposition. The factor was 'The fact that I will be able to control the work environment would make me to prefer to telecommute'.

Component 6 – Supervision

Table 4.4.23 presents questionnaire items that loaded heavily on component 6 cross tabulated against preference for telecommuting. The general theme seems to have been supervision.

Table 4.4.23 Cross tabulation of supervision factors against preference for telecommuting

Questionnaire item	PFT	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree		Not indicated		
		No.	%	No.	%	No.	%	No.			No.	%	No.	%
I would have a better peace of mind in working without my supervisor around	No	0	0	11	19.0	17	29.3	24	41.4	5	8.6	1	1.7	100
	Yes	10	11.2	21	23.6	22	24.7	31	34.8	3	3.4	2	2.2	100
	Tot.	10	6.8	32	21.8	39	26.5	55	37.4	8	5.4	3	2.0	100
Home is not a good environment to support telecommuting	No	4	6.9	17	29.3	8	13.8	26	44.8	2	3.4	1	1.7	100
	Yes	7	7.9	18	20.2	16	18.0	37	41.6	11	12.4	0	0	100
	Tot.	11	7.5	35	23.8	24	16.3	63	42.9	13	8.8	1	0.7	100

Majority of the respondents disagreed with the above propositions both for those who prefer telecommuting and those who do not. The propositions were: First - I would have a better peace of mind in working without my supervisor around, Second - Home is not a good environment to support telecommuting.

Component 7 - Personal issues

The following two questions loaded heavily on the seventh component, the central theme of the questions is on personal issues. Cross tabulation of these questionnaire items against preference for telecommuting is given in Table 4.4.24.

Table 4.4.24 Cross tabulation of personal factors against preference for telecommuting

Questionnaire item	PFT	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree		Not indicated		
		No.	%	No.	%	No.	%	No.			No.	%	No.	%
Telecommuting would enable me to effectively run personal errands and to attend community functions	No	6	10.3	22	37.9	15	25.9	12	20.7	2	3.4	1	1.7	100
	Yes	13	14.6	38	42.7	17	19.1	18	20.2	3	3.4			100
	Total	19	12.9	60	40.8	32	21.8	30	20.4	5	3.4	1	0.7	100
Telecommuting would enable me to have more time with my family	No	6	10.3	25	43.1	9	15.5	13	22.4	4	6.9	1	1.7	100
	Yes	12	13.5	45	50.6	14	15.7	17	19.1	1	1.1			100
	Total	18	12.2	70	47.6	23	15.6	30	20.4	5	3.4	1	0.7	100

Majority of the respondents agreed with all the questionnaire propositions above both for those in favour of telecommuting and those in disfavour.

Component 8 - Consultation and collaboration

The following one question loaded heavily on the eight component, the theme of the question is consultation and collaboration. Cross tabulation of these questionnaire items against preference for telecommuting is given in Table 4.4.25.

Table 4.4.25 Cross tabulation of consultation and collaboration factors (component 8) against preference for telecommuting

Questionnaire item	PFT	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree		Not indicated		
		No.	%	No.	%	No.	%	No.		No.	%	No.	%	N
Lack of consultation and collaboration from my colleagues would not affect my preference to telecommute	No	7	12.1	21	36.2	7	12.1	19	32.8	1	1.7	3	5.2	1
	Yes	7	7.9	32	36.0	13	14.6	27	30.3	9	10.1	1	1.1	1
	Total	14	9.5	53	36.1	20	13.6	46	31.3	10	6.8	4	2.7	1

Majority of the respondents were in agreement with the proposition of the questionnaire item. The response for both for those who prefer telecommuting and those who do not were similar.

Component 9 - Stress

The following two questions loaded heavily on the ninth component, and the central theme of the question is stress. A cross tabulation of these questionnaire items against preference for telecommuting is given in table 4.4.26.

Table 4.4.26 Cross tabulation of stress factors (component 9) against preference for telecommuting

Questionnaire item	PFT	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree		Not indicated		
		No.	%	No.	%	No.	%	No.			No.	%	No.	%
1. Telecommuting will reduce the stress levels of employees	No	9	15.5	24	41.4	7	12.1	12	20.7	4	6.9	2	3.4	10
	Yes	18	20.2	34	38.2	16	18.0	14	15.7	5	5.6	2	2.2	10
	Total	27	18.4	58	39.5	23	15.6	26	17.7	9	6.1	4	2.7	10
2. I do not like telecommuting since I would miss the fun of commuting from home to the workplace	No	3	5.2	5	8.6	6	10.3	30	51.7	11	19.0	3	5.2	10
	Yes	3	3.4	3	3.4	9	10.1	37	41.6	35	39.3	2	2.2	10
	Total	6	4.1	8	5.4	15	10.2	67	45.6	46	31.3	5	3.4	10

Majority of the respondents were in agreement that telecommuting will reduce the stress level of the employees. The response was similar for those who preferred telecommuting and those who do not.

Component 10 - Environmental concerns

The following two questions loaded heavily on the tenth component, and the central theme of the questions is environmental concerns. A cross tabulation of these questionnaire items against preference for telecommuting is given in table 4.4.27.

Table 4.4.27 Cross tabulation of environmental factors against preference for telecommuting

Questionnaire item	PFT	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree		Not indicated		
		No.	%	No.	%	No.	%	No.			No.	%	No.	%
My preference for telecommuting is adversely affected by the degree of silence of the neighbourhood I live in	No	7	12.1	15	25.9	10	17.2	18	31.0	6	10.3	2	3.4	100
	Yes	15	16.9	34	38.2	14	15.7	13	14.6	11	12.4	2	2.2	100
	Total	22	15.0	49	33.3	24	16.3	31	21.1	17	11.6	4	2.7	100
I prefer to telecommute due to my high concerns on environmental pollution	No	2	3.4	11	19.0	12	20.7	22	37.9	8	13.8	3	5.2	100
	Yes	4	4.5	14	15.7	18	20.2	35	39.3	15	16.9	3	3.4	100
	Total	6	4.1	25	17.0	30	20.4	57	38.8	23	15.6	6	4.1	100

Majority of those who preferred telecommuting agreed with the proposition that 'My preference for telecommuting is adversely affected by the degree of silence of the neighbourhood I live in' of the questionnaire but disagreed with the proposition that 'I prefer to telecommute due to my high concerns on environmental pollution', while those who do not prefer telecommuting, disagreed with both.

4.5 Selected aspects of respondents commuting information

In this section, data from Section B of the completed questionnaires were analysed statistically to produce the means and standard deviations. The results were then cross-tabulated against the response on telecommuting to analyse how it varied against the individual preference for telecommuting. The results are summarised and tabulated in the sections that follow.

4.5.1 Hours spent in total for commuting to work

Table 4.5.1a presents a cross tabulation of the average hours spent commuting to the workplace and back by employees. The results indicate that 12.3 percent of the respondents took 0.5 hours while 1.8 percent took 4 hours. The response for those who prefer telecommuting and those who do not were similar.

Table 4.5.1a Cross tabulation of hours in total spent per day in commuting to office against preference for telecommuting

Hours taken	Preference for Telecommuting		Total
	No	Yes	
0.5	12.3% (7)	12.4% (11)	12.3% (18)
1	26.3% (15)	30.3% (27)	28.8% (42)
1.5	29.8% (17)	12.4% (11)	19.2% (28)
2	21.1% (12)	29.2% (26)	26.0% (38)
2.5	5.3% (3)	7.9% (7)	6.8% (10)
3	3.5% (2)	4.5% (4)	4.1% (6)
4	1.8% (1)	2.2% (2)	2.1% (3)
Total	100% (57)	100% (89)	100% (146)

Table 4.5.1b Hours in total spent per day in commuting to office statistical analysis

Item	Values
Number	147
Mean	1.6837
Std. Deviation	1.69920

On average, the respondents spent 1.7 hours in commuting. This is equivalent to 21.25 percent of an eight hours working day and translates to 55 days in for 260 days working year. This indicates that a substantial part of employees' time is spent in commuting. This could be translated to gainful use in a telecommuting environment.

4.5.2 Choice between telecommuting and forfeiting travel allowance with working in the office and retaining the travel allowance

Table 4.5.2 presents a cross tabulation of the choice employees would make between telecommuting where the travelling allowing is forfeited or telecommuting where it is retained. Of those who did not prefer telecommuting 37.3 percent would prefer to telecommute and lose the travel allowance. Of those who preferred to telecommute 60.7 would choose to telecommute and lose travel allowance than to work in the office and retain the allowance.

Table 4.5.2 Cross tabulation of choice between telecommuting with forfeiting travelling allowance against preference for telecommuting

Choice	Preference for Telecommuting		Total
	No	Yes	
Telecommuting without travel allowance	37.3% (22)	60.7% (54)	51.4% (76)
Office with travel allowance	62.7% (37)	38.2% (34)	48.0% (71)
Not indicated	0% (0)	1.1% (1)	0.7% (1)
Total	100% (59)	100% (89)	100% (148)

Evidently, the 37.3 percent of those who had indicated their lack of preference for telecommuting preferred it. Since, the choice they would make between forfeiting their travelling allowance with telecommuting and working in the office while retaining it, they would choose to telecommute.

4.5.3 Amount of money required by respondents so as to be indifferent between office and telecommuting

Table 4.5.3 presents data on payment that would make them to be indifferent between telecommuting and working in the office. There were 108 responses on this item, there were those who were already indifferent and thus needed Kshs. 0 while the highest amount was Kshs. 200,000. The average amount was Kshs. 18,073 with a standard deviation of 21,067.

Table 4.5.3 Travelling amount required to be indifferent between office and telecommuting statistic table

Item	Value
Number	108
Minimum	0
Maximum	200000
Mean	18073.15
Std. Deviation	21067.061

4.5.4 Average monthly commuting costs (Fuel, fares, parking, service)

Table 4.5.4 presents statistical information on average monthly commuting costs. There were 136 responses on this item, the minimum figure being Kshs. 200 and the highest amount being Kshs. 100,000. The mean amount was Kshs. 10,838 with a standard deviation of 12,968.

Table 4.5.4 Average monthly commuting costs attributable to work

Item	Value
Number responded	136
Minimum	200
Maximum	100000
Mean	10838.24
Std. Deviation	12967.698

The commuting costs would depend on the distance to the workplace, and the means of transport used. The variance between the costs is quite high. Commuting would translate to direct savings when an employee telecommutes. The average total cost per year was about Kshs. 130,000.

4.5.5 Average annual costs on insurance, repairs and maintenance

Table 4.5.5 presents statistics on insurance, repairs and maintenance related costs of commuting to the workplace. There were 101 responses on this item, There were respondents who do not spent anything on insurance, repairs and maintenance (majority for this category would not be having vehicles) while the highest amount of expenditure was Kshs. 400,000 per year. The mean amount was Kshs. 72,725 with a standard deviation of 76,468.

Table 4.5.5 Average annual costs on insurance, repairs and maintenance related to commuting to the workplace statistics table

Item	Value
Number responded	101
Minimum value	0
Maximum value	400000
Mean value	72724.75
Std. Deviation	76468.058

The average cost is about fifty percent of the average annual salary of a civil servant in the year 2000. When this is added to the commuting costs, this would result in Kshs. 200,000. This would be higher than the average annual salary of a civil servant in the year 2000 by about thirty percent.

4.5.6 Approximate distance between place of stay and workplace

Table 4.5.6 presents statistics regarding approximate distances between the workplace and the office. There were 138 responses on this item, with the minimum distance being 2 Km and the greatest distance being 40 Km. The mean distance was 13 Km with a standard deviation of 7.6.

Table 4.5.6 Approximate distance between working place and residence

Item	Value
Number responded	138
Minimum	2
Maximum	40
Mean	13.28
Std. Deviation	7.638

From the statistics above, most of the respondents did not live far from Nairobi environs. The farthest lived 40 km away, while the nearest lived 2 km away from the city centre.

4.6 Attitude of supervisors towards telecommuting by their subordinates

In this section, data from Section C of the completed questionnaires were cross-tabulated against the response on telecommuting. Table 4.6.1a presents a cross tabulation of responses against preference for telecommuting. Table 4.6.1b presents a cross tabulation of supervisor responses against the proportion of staff supervisors are willing to allow to telecommute.

Table 4.6.1a Cross tabulation of responses from supervisors against preference for telecommuting

	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree		Not indicated		Total	
	No	%	No	%	No.	%	No	%	No	%	No	%	No	%
The staff would encounter great difficulties in comprehending the precise task requirements	7	11.3	24	38.7	9	14.5	20	32.3	2	3.2	0	0	62	100
There would be difficulty in quantifying and costing the work done by a member of staff	9	14.5	17	27.4	8	12.9	25	40.3	3	4.85	0	0	62	100
It would be difficult to appraise the member of staff	4	6.5	15	24.2	4	6.5	35	56.5	4	6.5	0	0	62	100
There would be a loss of control over staff activities	8	12.9	23	37.1	7	11.3	21	33.9	3	4.8	0	0	62	100
There would be delays in meeting deadlines	3	4.8	17	27.4	9	14.5	29	46.8	4	6.5	0	0	62	100
There would be quality degradation due to lack of consultation and collaboration	5	8.1	20	32.3	13	21.0	19	30.6	2	3.2	3	4.8	62	100
Mechanisms for directly monitoring telecommuters while they are working should be pre-requisite to telecommuting	16	25.8	25	40.3	8	12.9	11	17.7	2	3.2	0	0	62	100
Supervising telecommuters would be cumbersome and is bound to adversely affect my productivity as a supervisor	8	12.9	21	33.9	8	12.9	22	35.5	2	3.2	1	1.6	62	100
Telecommuting should only be allowed for members of staff who are disciplined and have good productivity	19	30.6	20	32.3	6	9.7	13	21.0	3	4.8	1	1.6	62	100
Most members of staff lack the discipline to work effectively without close supervision	11	17.7	17	27.4	11	17.7	21	33.9	1	1.6	1	1.6	62	100
It would be difficult to coordinate group work	10	16.1	22	35.5	6	9.7	21	33.9	1	1.6	2	3.2	62	100
Urgent work requiring immediate attention is bound to suffer	17	27.4	17	27.4	10	16.1	14	22.6	3	4.8	1	1.6	62	100

Read Table 4.6.1a as, 7 respondents indicated that they strongly agreed with the proposition that 'The staff would encounter great difficulties in comprehending the precise task requirements' this accounted for 11.3 percent of the total number of respondents.

Table 4.6.1b Cross tabulation of supervisor responses against the proportion of staff they are willing to allow to telecommute

Questionnaire item	PATT	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree		Not indicated		Total	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
The staff would encounter great difficulties in comprehending the precise task requirements	For none	5	27.8	8	44.4	2	11.1	3	16.7	0	0.0	0	0.0	18	100.0
	For a quarter	2	14.3	5	35.7	3	21.4	4	28.6	0	0.0	0	0.0	14	100.0
	For a half	0	0.0	6	60.0	0	0.0	4	40.0	0	0.0	0	0.0	10	100.0
	For three quarters	0	0.0	5	35.7	3	21.4	5	35.7	1	7.1	0	0.0	14	100.0
	For all staff	0	0.0	0	0.0	1	25.0	3	75.0	0	0.0	0	0.0	4	100.0
	Not indicated	0	0.0	0	0.0	0	0.0	1	50.0	1	50.0	0	0.0	2	100.0
	Total	7	11.3	24	38.7	9	14.5	20	32.3	2	3.2	0	0.0	62	100.0
There would be difficulty in quantifying and costing the work done by a member of staff	For none	4	22.2	8	44.4	2	11.1	4	22.2	0	0.0	0	0.0	18	100.0
	For a quarter	2	14.3	6	42.9	1	7.1	5	35.7	0	0.0	0	0.0	14	100.0
	For a half	3	30.0	2	20.0	2	20.0	3	30.0	0	0.0	0	0.0	10	100.0
	For three quarters	0	0.0	1	7.1	1	7.1	10	71.4	2	14.3	0	0.0	14	100.0
	For all staff	0	0.0	0	0.0	2	50.0	2	50.0	0	0.0	0	0.0	4	100.0
	Not indicated	0	0.0	0	0.0	0	0.0	1	50.0	1	50.0	0	0.0	2	100.0
	Total	9	14.5	17	27.4	8	12.9	25	40.3	3	4.8	0	0.0	62	100.0
It would be difficult to appraise the member of staff	For none	1	5.6	10	55.6	0	0.0	7	38.9	0	0.0	0	0.0	18	100.0
	For a quarter	2	14.3	3	21.4	2	14.3	7	50.0	0	0.0	0	0.0	14	100.0
	For a half	0	0.0	2	20.0	1	10.0	7	70.0	0	0.0	0	0.0	10	100.0
	For three quarters	0	0.0	0	0.0	1	7.1	9	64.3	4	28.6	0	0.0	14	100.0
	For all staff	0	0.0	0	0.0	0	0.0	4	100.0	0	0.0	0	0.0	4	100.0
	Not indicated	1	50.0	0	0.0	0	0.0	1	50.0	0	0.0	0	0.0	2	100.0
	Total	4	6.5	15	24.2	4	6.5	35	56.5	4	6.5	0	0.0	62	100.0
There would be a loss of control over staff activities	For none	3	16.7	10	55.6	1	5.6	3	16.7	1	5.6	0	0.0	18	100.0
	For a quarter	4	28.6	4	28.6	3	21.4	3	21.4	0	0.0	0	0.0	14	100.0
	For a half	1	10.0	4	40.0	1	10.0	4	40.0	0	0.0	0	0.0	10	100.0
	For three quarters	0	0.0	4	28.6	1	7.1	7	50.0	2	14.3	0	0.0	14	100.0
	For all staff	0	0.0	0	0.0	0	0.0	4	100.0	0	0.0	0	0.0	4	100.0
	Not indicated	0	0.0	1	33.3	1	33.3	0	0.0	0	0.0	0	0.0	3	100.0
	Total	8	12.9	23	37.1	7	11.3	21	33.9	3	4.8	0	0.0	62	100.0
There would be delays in meeting deadlines	For none	1	5.6	8	44.4	3	16.7	5	27.8	1	5.6	0	0.0	18	100.0
	For a quarter	2	14.3	6	42.9	2	14.3	4	28.6	0	0.0	0	0.0	14	100.0
	For a half	0	0.0	0	0.0	2	20.0	8	80.0	0	0.0	0	0.0	10	100.0
	For three quarters	0	0.0	2	14.3	1	7.1	9	64.3	2	14.3	0	0.0	14	100.0
	For all staff	0	0.0	0	0.0	1	25.0	3	75.0	0	0.0	0	0.0	4	100.0
	Not indicated	0	0.0	1	50.0	0	0.0	0	0.0	1	50.0	0	0.0	2	100.0
	Total	3	4.8	17	27.4	9	14.5	29	46.8	4	6.5	0	0.0	62	100.0
There would be quality degradation due to lack of consultation and collaboration	For none	2	11.1	7	38.9	4	22.2	3	16.7	0	0.0	2	11.1	18	100.0
	For a quarter	2	14.3	8	57.1	0	0.0	3	21.4	0	0.0	1	7.1	14	100.0
	For a half	1	10.0	2	20.0	3	30.0	4	40.0	0	0.0	0	0.0	10	100.0
	For three quarters	0	0.0	2	14.3	5	35.7	6	42.9	1	7.1	0	0.0	14	100.0
	For all staff	0	0.0	0	0.0	1	25.0	3	75.0	0	0.0	0	0.0	4	100.0
	Not indicated	0	0.0	1	50.0	0	0.0	0	0.0	1	50.0	0	0.0	2	100.0
	Total	5	8.1	20	32.3	13	21.0	19	30.6	2	3.2	3	4.8	62	100.0

Questionnaire item	PATT	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree		Not indicated		Total	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Mechanisms for directly monitoring telecommuters while they are working should be pre-requisite to telecommuting	For none	4	21.1	9	47.4	3	15.8	2	10.5	0	0.0	1	5.3	19	100.0
	For a quarter	5	35.7	5	35.7	2	14.3	2	14.3	0	0.0	0	0.0	14	100.0
	For a half	4	40.0	5	50.0	1	10.0	0	0.0	0	0.0	0	0.0	10	100.0
	For three quarters	2	14.3	5	35.7	1	7.1	5	35.7	1	7.1	0	0.0	14	100.0
	For all staff	0	0.0	1	25.0	1	25.0	2	50.0	0	0.0	0	0.0	4	100.0
	Not indicated	1	50.0	0	0.0	0	0.0	0	0.0	1	50.0	0	0.0	2	100.0
	Total	16	25.8	25	40.3	8	12.9	11	17.7	2	3.2	0	0.0	62	100.0
Supervising telecommuters would be cumbersome and is bound to adversely affect my productivity as a supervisor	For none	4	22.2	10	55.6	2	11.1	2	11.1	0	0.0	0	0.0	18	100.0
	For a quarter	2	14.3	6	42.9	1	7.1	4	28.6	0	0.0	1	7.1	14	100.0
	For a half	1	10.0	2	20.0	1	10.0	6	60.0	0	0.0	0	0.0	10	100.0
	For three quarters	1	7.1	1	7.1	4	28.6	7	50.0	1	7.1	0	0.0	14	100.0
	For all staff	0	0.0	1	25.0	0	0.0	3	75.0	0	0.0	0	0.0	4	100.0
	Not indicated	0	0.0	1	50.0	0	0.0	0	0.0	1	50.0	0	0.0	2	100.0
	Total	8	12.9	21	33.9	8	12.9	22	35.5	2	3.2	1	1.6	62	100.0
Telecommuting should only be allowed for members of staff who are disciplined and have good productivity	For none	10	55.6	7	38.9	0	0.0	0	0.0	1	5.6	0	0.0	18	100.0
	For a quarter	7	50.0	2	14.3	2	14.3	2	14.3	0	0.0	1	7.1	14	100.0
	For a half	1	10.0	6	60.0	1	10.0	2	20.0	0	0.0	0	0.0	10	100.0
	For three quarters	1	7.1	4	28.6	3	21.4	5	35.7	1	7.1	0	0.0	14	100.0
	For all staff	0	0.0	0	0.0	0	0.0	4	100.0	0	0.0	0	0.0	4	100.0
	Not indicated	0	0.0	1	50.0	0	0.0	0	0.0	1	50.0	0	0.0	2	100.0
	Total	19	30.6	20	32.3	6	9.7	13	21.0	3	4.8	1	1.6	62	100.0
Most members of staff lack the discipline to work effectively without close supervision	For none	3	16.7	8	44.4	3	16.7	3	16.7	1	5.6	0	0.0	18	100.0
	For a quarter	5	35.7	3	21.4	3	21.4	2	14.3	0	0.0	1	7.1	14	100.0
	For a half	1	10.0	2	20.0	1	10.0	6	60.0	0	0.0	0	0.0	10	100.0
	For three quarters	2	14.3	3	21.4	3	21.4	6	42.9	0	0.0	0	0.0	14	100.0
	For all staff	0	0.0	1	25.0	1	25.0	2	50.0	0	0.0	0	0.0	4	100.0
	Not indicated	0	0.0	0	0.0	0	0.0	2	100.0	0	0.0	0	0.0	2	100.0
	Total	11	17.7	17	27.4	11	17.7	21	33.9	1	1.6	1	1.6	62	100.0
It would be difficult to coordinate group work	For none	5	27.8	10	55.6	1	5.6	2	11.1	0	0.0	0	0.0	18	100.0
	For a quarter	3	21.4	7	50.0	0	0.0	3	21.4	1	7.1	0	0.0	14	100.0
	For a half	1	10.0	2	20.0	1	10.0	4	40.0	2	20.0	0	0.0	10	100.0
	For three quarters	1	7.1	1	7.1	3	21.4	9	64.3	0	0.0	0	0.0	14	100.0
	For all staff	0	0.0	2	50.0	1	25.0	1	25.0	0	0.0	0	0.0	4	100.0
	Not indicated	0	0.0	0	0.0	0	0.0	2	100.0	0	0.0	0	0.0	2	100.0
	Total	10	16.1	22	35.5	6	9.7	21	33.9	89	143.5	0	0.0	62	100.0
Urgent work requiring immediate attention is bound to suffer	For none	6	33.3	7	38.9	1	5.6	2	11.1	2	11.1	0	0.0	18	100.0
	For a quarter	7	50.0	2	14.3	2	14.3	2	14.3	0	0.0	1	7.1	14	100.0
	For a half	2	20.0	3	30.0	2	20.0	3	30.0	0	0.0	0	0.0	10	100.0
	For three quarters	1	7.1	4	28.6	4	28.6	4	28.6	1	7.1	0	0.0	14	100.0
	For all staff	0	0.0	0	0.0	1	25.0	3	75.0	0	0.0	0	0.0	4	100.0
	Not indicated	1	50.0	1	50.0	0	0.0	0	0.0	0	0.0	0	0.0	2	100.0
	Total	17	27.4	17	27.4	10	16.1	14	22.6	3	4.8	1	1.6	62	100.0

Legend: PATT – Proportion allowed to telecommute

The above table is read in the following manner, 5 supervisors who were willing for none of the staff reporting to them to telecommute, strongly agreed with the proposition that "The staff

would encounter difficulties in comprehending the precise task requirements". This accounted for 27.8 percent of all the supervisors who not willing for any of their staff to telecommute.

4.6.2 Number of days in a month telecommuters would be required in the central office

Table 4.6.2 presents a cross tabulation of the number of days supervisors would like their telecommuting staff to come to the traditional place of work (central office). The mean number of days is 5.8 days and a standard deviation of 3.3

Table 4.6.2 Cross tabulation of the number of days supervisors would require telecommuters to work in the central location in a month against preference for telecommuting statistics

Preference for Telecommuting	Mean	No.	Std. Deviation	Range	Min	Max
No	6.682	22	3.9	14	1	15
Yes	5.316	38	2.8	10	0	10
Total	5.8	60	3.3	15	0	15

4.6.3 Proportion of staff for which supervisors would prefer to telecommute

Table 4.6.3 presents the distribution of the supervisors by the proportion of staff they would allow to telecommute.

Table 4.6.3 Proportion of staff allowed telecommuting by supervisor's distribution

Response	Frequency	Percentage
No response	3	4.7%
For none	19	29.7%
For a quarter	14	21.9%
For a half	10	15.6%
For three quarters	14	21.9%
For all staff	4	6.3%
Total	64	100.0%

Read the above table as follows, 29.7 percent of the respondents would prefer none of the staff to telecommute while 6.3 percent would allow all the staff to telecommute. Majority of the supervisors were willing to allow between a quarter and three quarters of their staff to telecommute.

4.6.4 Number of employees supervised

Table 4.6.4 presents a cross tabulation of the number of staff supervised by the supervisors against supervisor preference to telecommute. Of those who prefer telecommuting, the number of people supervised ranged from 2 to 100 with a mean of 15 and a standard deviation of 19. Of those who do not prefer telecommuting, the number of those supervised ranged from 2 to 60 with a mean of 9.8 and a standard deviation of 15.

Table 4.6.4 Cross tabulation of the number of people supervised against preference for telecommuting statistics

	Prefer Telecommuting		
Description	**No**	**Yes**	**Total**
Mean	9.8	15.06061	13.41667
Number	15	33	48
Std. Deviation	14.91021	19.17508	17.96194
Range	60	98	100
Minimum	2	2	2
Maximum	60	100	100

In general the supervisors who preferred telecommuting, on average supervised more staff than those supervisors who did not prefer.

4.6.5 FACTOR ANALYSIS OF SUPERVISOR RESPONSES

Table 4.6.5 Descriptive Statistics for supervisor questions

Questionnaire item	Mean	Std. Dev.	No.
The staff would encounter great difficulties in comprehending the precise task requirements	3.21	1.127	61
There would be difficulty in quantifying and costing the work done by a member of staff	3.05	1.217	61
It would be difficult to appraise the member of staff	2.64	1.081	61
There would be a loss of control over staff activities	3.16	1.172	61
There would be delays in meeting deadlines	2.75	1.075	61
There would be quality degradation due to lack of consultation and collaboration	3.25	1.220	61
Mechanisms for directly monitoring telecommuters while they are working should be pre-requisite to telecommuting	3.67	1.151	61
Supervising telecommuters would be cumbersome and is bound to adversely affect my productivity as a supervisor	3.18	1.162	61
Telecommuting should only be allowed for members of staff who are disciplined and have good productivity	3.64	1.265	61
Most members of staff lack the discipline to work effectively without close supervision	3.26	1.168	61
It would be difficult to coordinate group work	2.44	1.218	61
Urgent work requiring immediate attention is bound to suffer	3.51	1.260	61

Table 4.6.6 Correlation coefficients

	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12
A1	1.000	0.588	0.461	0.390	0.443	0.507	0.260	0.466	0.324	0.210	0.379	0.110
A2	0.588	1.000	0.559	0.380	0.328	0.396	0.309	0.359	0.326	0.120	0.491	0.179
A3	0.461	0.559	1.000	0.429	0.367	0.346	0.051	0.331	0.269	0.063	0.338	0.296
A4	0.390	0.380	0.429	1.000	0.535	0.554	0.350	0.529	0.535	0.175	0.427	0.349
A5	0.443	0.328	0.367	0.535	1.000	0.619	0.298	0.410	0.485	0.238	0.275	0.365
A6	0.507	0.396	0.346	0.554	0.619	1.000	0.343	0.403	0.544	0.083	0.363	0.362
A7	0.260	0.309	0.051	0.350	0.298	0.343	1.000	0.294	0.604	0.189	0.177	0.128
A8	0.466	0.359	0.331	0.529	0.410	0.403	0.294	1.000	0.487	0.223	0.402	0.255
A9	0.324	0.326	0.269	0.535	0.485	0.544	0.604	0.487	1.000	0.189	0.213	0.263
A10	0.210	0.120	0.063	0.175	0.238	0.083	0.189	0.223	0.189	1.000	0.339	0.384
A11	0.379	0.491	0.338	0.427	0.275	0.363	0.177	0.402	0.213	0.339	1.000	0.448
A12	0.110	0.179	0.296	0.349	0.365	0.362	0.128	0.255	0.263	0.384	0.448	1.000
Sig. (1-tailed)												
A1		0.000	0.000	0.001	0.000	0.000	0.021	0.000	0.005	0.052	0.001	0.199
A2	0.000		0.000	0.001	0.005	0.001	0.008	0.002	0.005	0.179	0.000	0.084
A3	0.000	0.000		0.000	0.002	0.003	0.349	0.005	0.018	0.315	0.004	0.010
A4	0.001	0.001	0.000		0.000	0.000	0.003	0.000	0.000	0.088	0.000	0.003
A5	0.000	0.005	0.002	0.000		0.000	0.010	0.001	0.000	0.032	0.016	0.002
A6	0.000	0.001	0.003	0.000	0.000		0.003	0.001	0.000	0.263	0.002	0.002
A7	0.021	0.008	0.349	0.003	0.010	0.003		0.011	0.000	0.072	0.087	0.162
A8	0.000	0.002	0.005	0.000	0.001	0.001	0.011		0.000	0.042	0.001	0.024
A9	0.005	0.005	0.018	0.000	0.000	0.000	0.000	0.000		0.072	0.049	0.020
A10	0.052	0.179	0.315	0.088	0.032	0.263	0.072	0.042	0.072		0.004	0.001
A11	0.001	0.000	0.004	0.000	0.016	0.002	0.087	0.001	0.049	0.004		0.000
A12	0.199	0.084	0.010	0.003	0.002	0.002	0.162	0.024	0.020	0.001	0.000	

Determinant = 6.654E-03

The preceding table provides the correlation coefficients of the questionnaire items for supervisors. A correlation coefficient of 1, indicates a perfect correlation, implying the items would be the same or measuring the same thing, which would require that one of the items be dropped. A correlation of 0 implies lack of a relationship between the items. A correlation coefficient of more than 0.5 would be significant. All the above correlations between the different questionnaire items are not significant; hence no relationship existed between the items.

4.6.7 Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy & Bartlett's Test of Spericity

Table 4.6.7 presents the results of KMO measure of sampling adequacy and Bartlett's test of sphericity. The KMO test result was 0.817 while the Bartlett's test produced approximate Chi-square value of 276.528 for 66 degrees of freedom and a significance of 0.000.

Table 4.6.7 KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.817
Bartlett's Test of Sphericity	Approx. Chi-Square	276.528
	Degrees of freedom	66
	Significance	.000

Since the KMO Measure of Sampling Adequacy is greater than 0.5, factor analysis can be used to yield distinct and reliable factors. Bartlett's Test of Sphericity requires a significance of less than 0.001 otherwise it may not be appropriate to use factor analysis, the significance of the data is less, factor analysis is therefore appropriate. Hence the results of both methods indicate that factor analysis can be used for this data.

Table 4.6.8 Communalities

	Initial	Extraction
The staff would encounter great difficulties in comprehending the precise task requirements	1.000	.624
There would be difficulty in quantifying and costing the work done by a member of staff	1.000	.668
It would be difficult to appraise the member of staff	1.000	.657
There would be a loss of control over staff activities	1.000	.592
There would be delays in meeting deadlines	1.000	.539
There would be quality degradation due to lack of consultation and collaboration	1.000	.605
Mechanisms for directly monitoring telecommuters while they are working should be pre-requisite to telecommuting	1.000	.633
Supervising telecommuters would be cumbersome and is bound to adversely affect my productivity as a supervisor	1.000	.476
Telecommuting should only be allowed for members of staff who are disciplined and have good productivity	1.000	.768
Most members of staff lack the discipline to work effectively without close supervision	1.000	.634
It would be difficult to coordinate group work	1.000	.633
Urgent work requiring immediate attention is bound to suffer	1.000	.668

Extraction Method: Principal Component Analysis.

Table 4.6.9 Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.943	41.188	41.188	4.943	41.188	41.188	2.853	23.777	23.777
2	1.296	10.797	51.985	1.296	10.797	51.985	2.822	23.516	47.293
3	1.259	10.492	62.477	1.259	10.492	62.477	1.822	15.185	62.477
4	.920	7.666	70.144						
5	.697	5.806	75.950						
6	.671	5.589	81.539						
7	.588	4.903	86.442						
8	.436	3.636	90.078						
9	.355	2.960	93.037						
10	.323	2.695	95.732						
11	.278	2.313	98.045						
12	.235	1.955	100.000						

Extraction Method: Principal Component Analysis.

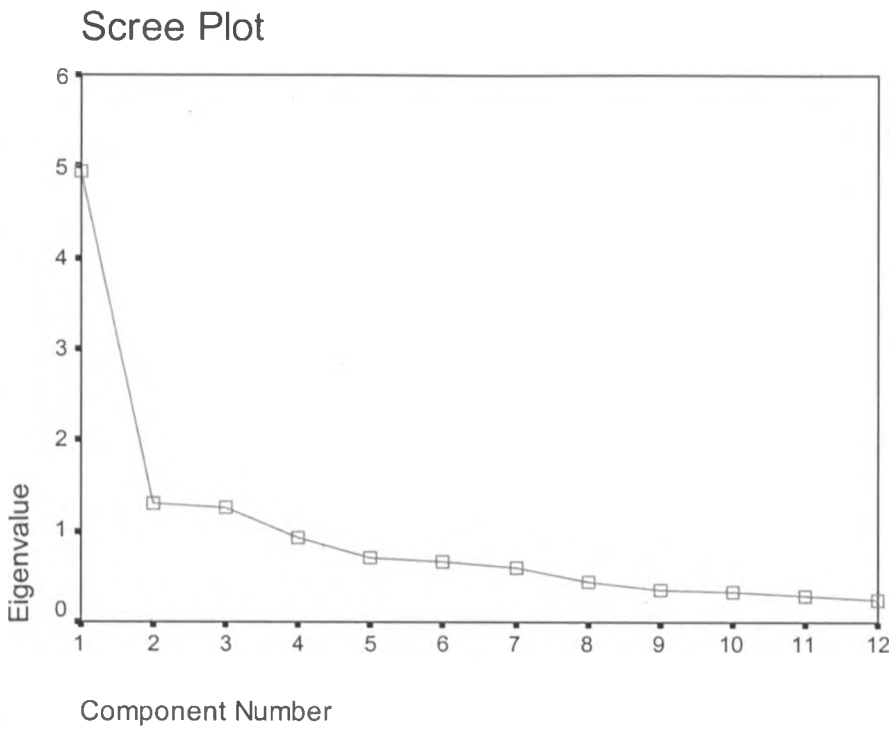

Figure 4.6.11 Scree plot

Table 4.6.10 Component Matrix

Questionnaire item	Component		
	1	2	3
There would be a loss of control over staff activities	.762		
There would be quality degradation due to lack of consultation and collaboration	.751		
There would be delays in meeting deadlines	.719		
Telecommuting should only be allowed for members of staff who are disciplined and have good productivity	.697	-.528	
The staff would encounter great difficulties in comprehending the precise task requirements	.688		
Supervising telecommuters would be cumbersome and is bound to adversely affect my productivity as a supervisor	.688		
There would be difficulty in quantifying and costing the work done by a member of staff	.668		
It would be difficult to coordinate group work	.623	.451	
It would be difficult to appraise the member of staff	.601	.413	
Mechanisms for directly monitoring telecommuters while they are working should be pre-requisite to telecommuting	.513	-.601	
Most members of staff lack the discipline to work effectively without close supervision			.684
Urgent work requiring immediate attention is bound to suffer	.511		.575

Extraction Method: Principal Component Analysis.
a 3 components extracted.

4.6.11 Rotations

For better clarity on the factors, Orthogonal rotation using Varimax with Kaiser normalisation was used and factor loadings whose absolute value is less than 0.4 suppressed and results sorted according to size. The results are given in table 4.6.11 below.

Table 4.6.11 Rotated Component Matrix

Questionnaire item	Component		
	1	2	3
Telecommuting should only be allowed for members of staff who are disciplined and have good productivity	.858		
Mechanisms for directly monitoring telecommuters while they are working should be pre-requisite to telecommuting	.794		
There would be quality degradation due to lack of consultation and collaboration	.619	.450	
There would be delays in meeting deadlines	.580		
There would be a loss of control over staff activities	.579	.437	
Supervising telecommuters would be cumbersome and is bound to adversely affect my productivity as a supervisor	.491	.422	
It would be difficult to appraise the member of staff		.801	
There would be difficulty in quantifying and costing the work done by a member of staff		.789	
The staff would encounter great difficulties in comprehending the precise task requirements		.726	
Urgent work requiring immediate attention is bound to suffer			.786
Most members of staff lack the discipline to work effectively without close supervision			.784
It would be difficult to coordinate group work		.523	.594

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.
a Rotation converged in 5 iterations.

Component 1

The central theme of these factors seems to be performance and quality control issues in respect of telecommuting. The factors were the following:

- Telecommuting should only be allowed for members of staff who are disciplined and have good productivity
- Mechanisms for directly monitoring telecommuters while they are working should be pre-requisite to telecommuting
- There would be quality degradation due to lack of consultation and collaboration
- There would be delays in meeting deadlines
- There would be a loss of control over staff activities

Component 2

The central theme of these factors seems to be management issues in respect of telecommuting. The factors were the following:

- It would be difficult to appraise the member of staff
- There would be difficulty in quantifying and costing the work done by a member of staff
- The staff would encounter great difficulties in comprehending the precise task requirements

Component 3

The central theme of these factors seems to be control issues in respect of telecommuting. The factors were the following:

- Urgent work requiring immediate attention is bound to suffer
- Most members of staff lack the discipline to work effectively without close supervision
- It would be difficult to coordinate group work

Chapter 5 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter discusses the conclusions of the study in line with the objectives of the study. This study sought to establish the attitude of KRA employees towards embracing telecommuting practices, the variation of attitude towards the adoption of telecommuting practises with the managerial levels and functions and the attitude of KRA supervisory staff towards allowing the employees under their supervision to telecommute. The study was basically a survey. The data collected were collected from a sample of the employees of all cadres. The data were analysed primarily by use of descriptive statistical measures such as frequency tables and cross tabulations. The data were also subjected to factor analysis.

5.2 Summary and Conclusions

5.2.1 Important job factors

The study findings indicate that several factors are considered by the respondents to be important to their job. Factors such as conducive work environment and available facilities; feedback and guidance from supervisor; group work, team work and collaborative work; freedom to work independently and a flexible work schedule had a higher proportion of respondents rating higher in terms of importance.

5.2.2 Employee attitude towards telecommuting

1) The results from the factor analysis indicated that most of the respondents who preferred telecommuting disagreed with the all the performance related factors. Those who did not prefer telecommuting agreed with the propositions that balancing work, household and leisure activities is difficult when telecommuting and that Lack of privacy and space at home would make them not to prefer telecommuting.

2) Of those who preferred telecommuting, health and safety factors had a more favourable response where about fifty percent of the respondents agreed with the factors, except the proposition that they did not like telecommuting since it would lead to absence of social interactions from fellow employees.

3) The response of both those who preferred telecommuting and those who do not were same for social conflict factors. The respondents disagreed with the proposition that telecommuting would increase household conflicts but were in agreement that telecommuting would eliminate office gossip and associated interferences.

4) Most of the respondents who preferred telecommuting agreed with social interference, controlled work environment and personal issues factors.

From the summary of the results above, there are issues that require to be addressed in order to increase the level of acceptance of telecommuting practice in KRA, and these are: -

1) About fifty (50) percent of those who did not prefer telecommuting and thirty five (35) percent of those who did; recognised their need of assistance in balancing work, household and leisure activities if they were to telecommute. It is therefore necessary to devise mechanisms of addressing this need during the implementation of any telecommuting program.

2) Sixty (60) percent of those who did not prefer telecommuting agreed with the proposition that they did not like telecommuting due to possible lack of social interactions from fellow employees. Given this high percentage, it would be necessary when designing a telecommuting program to create mechanisms where social interactions amongst employees can take place.

3) Over twenty five (25) percent of those who did not prefer telecommuting and twenty three (23) percent of those who preferred agreed with the factor that telecommuting would increase household conflicts. In a telecommuting program therefore, it may be necessary not to allow telecommuting option for those who fall under this category, or else identify how the cause of conflicts could be managed for telecommuting to succeed.

4) About seventy (70) percent of the respondents agreed that telecommuting would lead to too much staff independence. Devising mechanisms where there is an effective output measurement would ensure that that this freedom would not be abused, should telecommuting be implemented. Such mechanisms could include payment being pegged to the output of the individual so that when the individual abuses the freedom, this would be reflected in his or her performance and result in reduced remuneration.

5) Over fifty five (55) percent of those who do not prefer telecommuting and forty five (45) percent of those who prefer indicated that they would find it hard to concentrate on their work since they would expect interferences from family members and friends. It would be necessary for this class of employees to be considered for telecommuting only from a neighbourhood or telecentre instead of their homes, unless other mechanisms are devised to mitigate against this possible interference.

6) Thirty percent (30) of all the respondents indicated that home is not a good environment to support telecommuting. It would be necessary therefore to ensure that homes where telecommuters would be working from are well equipped to effectively support telecommuting.

7) Collaborative tools would be a necessity to support consultations and collaboration from colleagues. This necessity was indicated by about forty six (46) percent of the respondents who rated the tools as being important to that end.

8) About fifty percent of all the respondents indicated that their performance would be affected by the degree of silence of the neighbourhood they live in. It would therefore be necessary for those employees who live in noisy neighbourhoods to relocate to quiet neighbourhoods, if they have to be allowed to telecommute from their homes. This is made easier since their home location need not be near the city by virtue of telecommuting.

9) Of those who do not prefer to telecommute, 37.3 percent indicated they would prefer to telecommute if they were to choose between working in the office and retaining the travel allowance on one hand and telecommuting and forfeiting the allowance on the

other hand. Given this high proportion from the few who did not prefer to telecommute would indicate that the number of the eventual telecommuters would be much more the percentage we used for those who indicated that they preferred telecommuting.

10) Of the respondents who do not prefer telecommuting 63.8 percent of the respondents provided a distribution for preferred work locations in a year where on average they would be working from the regular workplace 35.6 percent of the time with the rest being home, neighbourhood telecentre, satellite office, foreign country, and virtual office for 25.6, 7.7, 7.5, 4.8, and 13.6 percent of the time respectively. This would indicate that their response of not preferring telecommuting was understood from the perspective of totally working from a remote location and never at the office. It can therefore be deduced that they would actually prefer to telecommute so long as it was not done with the exclusion of working from the office.

The conclusion of study regarding employee attitude towards telecommuting is that the Kenya Revenue Authority employees have a positive attitude towards embracing telecommuting practices.

5.2.3 Attitude of supervisors towards allowing staff to telecommute

Factor analysis results indicated that all but one of the questionnaire items were important. The central theme for the factors which loaded heavily on the first component was performance and quality control issues, management issues for the second and control issues for the last.

Cross tabulation of the proportion of staff allowed to telecommute by their supervisors against questionnaire responses, indicated that most of the supervisors who were not willing for any of

their staff to telecommute agreed with the propositions. Those who were willing to allow all their staff to telecommute for majority of the factors were in disagreement except for the one proposition that there would be difficulty in coordinating group work, where fifty percent were in agreement while twenty five percent were in disagreement. The other proportions were in between these two extremes.

This could be an indication that those who were willing to allow all their staff to telecommute may have been more exposed to modern ways of management including managing employees remotely or methods which can be used to both supervise and measure performance more adequately than their counterparts.

In total, seventy percent of the supervisors were willing to allow between twenty-five (25) to hundred (100) percent of their staff to telecommute.

5.2.4 Demographic factors

Frequency distribution was produced for the demographic factors, however, for the purpose of analysing to identify whether there was any correlation between the demographic factors and preference for telecommuting; cross tabulations were produced of the demographic factors against preference for telecommuting. The findings were as follows: -

1) Sixty two (62) percent of the males preferred telecommuting compared to fifty seven (57) percent of the females.
2) Sixty percent of the respondents with at least 25 years of age preferred telecommuting. Forty percent of those under 25 years of age preferred telecommuting, this would indicate that younger people tend not to like telecommuting.

3) Sixty five percent (65%) of those with University level of education preferred telecommuting while 53% of those with secondary level of education preferred it. Majority of those with Diploma level of education did not prefer telecommuting. Why those with a higher level of education (University) compared to the rest could be due to the level of exposure and flexibility in adopting new ideas.

The conclusion of supervisors attitude, is that majority of the supervisors are willing to allow the staff reporting to them to telecommute.

5.2.5 Attitude toward telecommuting across management levels and functions

Analysis of attitude towards telecommuting across management levels and functions yielded the following: -

Cross tabulation of responses against job grades indicated that the middle job grades (5-11) had a higher preference for telecommuting than the top and bottom grade (1-4 and 12-17). Employees of top grades would mainly be working from a more conducive office environment with benefits such as a prestigious office and support services such as from secretaries, messengers and drivers. Additionally, the costs of commuting would account for a much smaller portion of top manager's expenses than the rest of the employees. Additionally, top level management would most likely be using the employer's vehicles and drivers for their movements.

Employees of lower grades on the other hand would mainly be subordinate staff whose work is to offer support services to the rest of the employees. The tasks of these employees cannot be done remotely, hence their relatively less preference for telecommuting.

There is a variation in attitude towards embracing of telecommuting practices across managerial levels, with the highest acceptance coming from middle management and technical officers (Job grades 5-11).

5.3 Recommendations

Majority of the respondents were in favour of telecommuting. Even then there is need to sensitise more workers in the public sector on the importance of telecommuting. The following measures would be necessary in preparation for introducing a telecommuting program:

1. Increase in the level of skills in the use of computer equipment for employees in the public sector and awareness on telecommuting practices, benefits and challenges.
2. Training of the employees on skills of how to harness maximum benefits out of the ICT and on how to effectively manage and balance their work and other responsibilities with minimum supervision.
3. Evaluation of the current policies including housing policy to take cognisance of and provide for telecommuting as a future working mode.
4. Preparation of the supervisory staff for the added challenges of supervising telecommuting staff. It may be necessary to train managers in 'remote' management skills and in managing by results.
5. Pilot implementation of telecommuting. This should be undertaken selected departments or section in a public sector organisation

6. Development of telecommuting policies which should take cognisance of employee concerns such as social interactions, conducive work environment and collaborative mechanisms while maintaining high level of productivity.
7. Making provisions to ensure that homes where telecommuters would be working from are well equipped to effectively support telecommuting and that working environment in the employee homes and neighbourhoods is conducive.

5.4 Limitations of the study

There were no serious limitations in this study. Nevertheless, the following limitations came to light: -

1. Though the response rate was high, better results could perhaps have been obtained had all the respondents given their responses.
2. Telecommuting is a new concept that is not yet well understood. It is possible that respondents could have given their responses with this limitation.
3. The study did not incorporate the opinion of the other affected parties such as the spouses or children when considering home as a possible work location. Perhaps the respondents would have given different responses in that respect.

5.5 Recommendations for future research

In the process of carrying out this research, a number of issues arose that needed further research. These included: -

1. How to address ICT security concerns in a telecommuting environment.
2. Feasibility of establishing Telecentres and neighbourhood centres where telecommuting is anticipated.
3. The attitude of the handicapped towards adopting telecommuting practices.
4. Attitude of KRA clients towards being served in a telecommuting environment.

Chapter 6: REFERENCES

Abwao, V.: Information Technology Applications in Business Management within Kenya Companies: A survey of Insurance firms in Nairobi, Kenya, Unpublished MBA research work, University of Nairobi, 2002

Aichholzer, G.: "A social innovation at its infancy, experiences with telework centres", Teleworking: International perspectives, From Telecommuting to the Virtual Organisation, New York, Routledge, 1998, Page 292-302.

Amor, D.: The E-business Revolution, India, Pearson Education Asia, 1999

Brewer, A and Hensher, D.: Flexible work and travel behaviour, Teleworking: Internation perspectives, From Telecommuting to the Virtual Organisation, Routledge, 1998, Page 215-232.

Bussing, A.: Teleworking and quality of life, "Teleworking: International perspectives, From Telecommuting to the Virtual Organisation, New York, Routledge, 1998, Page 144-165

Campbell, A. and Grantham C.: Organisational assessment in the distributed work environment, Using measures of intellectual capital in the planning process, Teleworking International perspectives, From Telecommuting to the Virtual Organisation, New York, Routledge, 1998, Page 169-184

Canavan, T..: "Factors affecting the competitive position of the Indian software industry", Industry and Technology Review, United States Trade Commission,Washington, USITC Publication 3390, January 2001

Central Bureau of Statistics, Ministry of Finance & Planning, "Employment, Earnings and Consumer Prices", Economic Survey 2001, 2001

Decenzo, D. and Robbins, S.: Human Resource Management, Asia, John Wiley & Sons (Asia) Pte Ltd, 2001

Dimitrova, Dima and Salaff, Janet W.: "Telework as social innovation, how remote employees work together", Teleworking: International perspectives, From Telecommuting to the Virtual Organisation, Routledge, 1998, Page 261-280.

Fireman, S.: "Evolution of the telecommuting withdrawal model, A US perspective", Teleworking: International perspectives, From Telecommuting to the Virtual Organisation, New York, Routledge, 1998, Page 281-291.

Goldman, L. and Goldman, B., "Planning for telework", Teleworking: International perspectives, From Telecommuting to the Virtual Organisation, New York, Routledge, 1998, Page 207-214.

Gurstein, P.: Wired to the World, Chained to the Home, Telework in Daily life, UBC Press, The University of British Columbia, 2001.

Haddon, L. "The experience of telewoking, a view from homes", Teleworking: International perspectives, From Telecommuting to the Virtual Organisation, New York, Routledge, 1998, Page 136-143.

Harris, M.: "Rethinking the virtual organisation", Teleworking: International perspectives, From Telecommuting to the Virtual Organisation, New York, Routledge, 1998, Page 74-92.

Irish Business and Employers Confederation (IBEC), Teleworking Personnel Policies And Procedures Guidelines, 1998 http://www.sheilapantry.com/

Johnston, P. and Botterman, M.: "Status report on European Telework – New methods of work 1999, Status report on new ways to work in the information society", European Commission publication, 2000

Kalakota, R. and Robinson, M.: e-Business: Roadmap for Success. Pearson Education Asia, India, ADDISON-WESLEY, Third Indian Reprint 2000.

K'Obonyo, P.: "The Emerging Paradigm of Human Resource Management", The Nairobi journal of Management Vol. 4, January/April 1998)

Kompast, M. and Wagner, I.: "Telework, Managing spatial, temporal and cultural boundaries", Teleworking: International perspectives, From Telecommuting to the Virtual Organisation, New York, Routledge, 1998, Page 95-117.

Laudon, K. and Laudon, J.: Management Information Systems: Organization and Technology , India, Prentice Hall of India, Fourth Edition, 2000

Applegate, M. Lynda, McFarlan, F. Warren, McKennedy, James L., Corporate Information Systems Management, Texts and Cases, USA, Irwin McGraw-Hill, 1996

Makatiani..: "ICT: Kenya can't afford to lag behind", Agenda for action, Daily Nation, 13th January 2003

Mirchandani, K.: "No longer a struggle?, Teleworkers' reconstruction of the work-non-work boundary", Telework: International perspective, Routledge, 1998, Page 118-135.

Nyandiere, C.: An investigation of the challenges facing Enterprise Resource Planning Systems (ERPs) Implementation in Kenya, Unpublished research dissertation, University of Nairobi, 2002

O'Brien, J.: Management Information Systems: Managing Information Technology in the Networked Enterprise, India, Irwin McGraw-Hill, Fourth Edition, 2001

Perin, C.: Work, Space and Time on the threshold of a new century, Teleworking: International perspectives, From Telecommuting to the Virtual Organisation, Routledge, 1998, Page 40-55.

Qvortrup, L.: "From Teleworking to Networking: Definition and trends", Teleworking: International perspectives, From Telecommuting to the Virtual Organisation, New York, Routledge, 1998, Page 21-39.

Rimberia, C.: A survey of the use of flexible human resource practices by manufacturing firms in Nairobi, unpublished MBA research work, University of Nairobi, 2001.

Sato, K., Wendy A.: "Telework and crisis management in Japan", Teleworking: International perspectives, From Telecommuting to the Virtual Organisation, New York, Routledge, 1998, Page 233-244.

Suomi Reima, Ari L., J. Pekkola and Marya Z.: "Telework – the critical management dimension", Teleworking: International perspectives, From Telecommuting to the Virtual Organisation, New York, Routledge, 1998, Page 329-336.

Wasilwa O.: A survey of computer security awareness in the Banking industry in Kenya, Unpublished research work, University of Nairobi, 2002.

Zee, Howell H.: "Taxation and Efficiency", Tax Policy Handbook, Fiscal Affairs Department, International Monetary Fund, 1995.

Chapter 7: APPENDICES

APPENDIX I: Cross tabulation of responses against telecommuting preference

Table A1.2.1 Descriptive Statistics for attitudinal questions

Proposition	Mean	Std. Deviation	Analysis N	
My preference for telecommuting is adversely affected by the degree of silence of the neighbourhood I live in	3.39	1.328	89	1
I would find it hard to concentrate on my work as I would expect interferences from my family members and friends	3.17	1.290	89	2
Lack of consultation and collaboration from my colleagues would not affect my preference to telecommute	3.04	1.224	89	3
The attitude of my family and friends would adversely affect my preference for telecommuting	2.69	1.249	89	4
Lack of privacy and space at home would make me not to prefer telecommuting	2.83	1.272	89	5
Working a distance away from my supervisor would adversely affect my performance If I were to telecommute	2.12	1.009	89	6
I do not like telecommuting since I would miss the fun of commuting from home to the workplace	1.97	1.143	89	7
I would face a high risk of being forgotten in promotions If I were to telecommute	2.21	1.039	89	8
Balancing work, household and leisure activities is difficult when telecommuting	2.78	1.268	89	9
Telecommuting downgrades the value of jobs	2.31	1.072	89	10
Those who telecommute would not be respected workers as those who work in the office	2.35	1.067	89	11
I do not like telecommuting as it would lead to an absence of social interactions from fellow employees	2.81	1.305	89	12
Telecommuting would enable me to effectively run personal errands and to attend community functions	3.45	1.077	89	13
Telecommuting would enable me to have more time with my family	3.56	.988	89	14
Telecommuting would lead to too much staff independence	3.66	1.044	89	15
The fact that I will be able to control the work environment would make to prefer to telecommute	3.69	1.114	89	16
Telecommuting enhances better health by avoidance of crowds	3.34	1.167	89	17
Telecommuting enhances better safety due to reduced travel	3.63	1.171	89	18
Telecommuting should be encouraged as it enhances quick handling of family and neighbourhood emergencies	3.09	1.145	89	19
Telecommuting eliminates office gossip and associated interferences	3.64	1.069	89	20
Home is not a good environment to support telecommuting	2.70	1.162	89	21
I prefer to telecommute due to my high concerns on environmental pollution	2.62	1.257	89	22
Telecommuting will reduce the stress levels of employees	3.58	1.204	89	23
Telecommuting would increase household conflicts	2.67	1.330	89	24
I would have a better peace of mind in working without my supervisor around	3.11	1.172	89	25

a Only cases for which Assuming you could do all your present work remotely by telecommuting from any place of your preference, would you prefer it (telecommute) to working in the office? = Yes are used in the analysis phase.

Table A1.2.2 Correlation Matrix (1-13)

	1	2	3	4	5	6	7	8	9	10	11	12	13
1	1.000	0.246	-0.025	0.233	0.141	0.192	0.121	0.111	-0.028	0.016	0.006	-0.022	0.105
2	0.246	1.000	-0.113	0.344	0.405	0.359	0.274	0.329	0.211	0.216	0.147	0.296	0.149
3	-0.025	-0.113	1.000	0.158	0.005	-0.041	0.188	-0.026	-0.125	0.024	0.014	0.091	-0.145
4	0.233	0.344	0.158	1.000	0.445	0.302	0.279	0.324	0.271	0.304	0.279	0.298	0.030
5	0.141	0.405	0.005	0.445	1.000	0.406	0.387	0.389	0.321	0.164	0.303	0.350	-0.010
6	0.192	0.359	-0.041	0.302	0.406	1.000	0.388	0.473	0.271	0.415	0.234	0.156	0.032
7	0.121	0.274	0.188	0.279	0.387	0.388	1.000	0.370	0.152	0.194	0.215	0.423	-0.043
8	0.111	0.329	-0.026	0.324	0.389	0.473	0.370	1.000	0.460	0.347	0.363	0.450	0.096
9	-0.028	0.211	-0.125	0.271	0.321	0.271	0.152	0.460	1.000	0.404	0.218	0.468	0.050
10	0.016	0.216	0.024	0.304	0.164	0.415	0.194	0.347	0.404	1.000	0.380	0.352	0.152
11	0.006	0.147	0.014	0.279	0.303	0.234	0.215	0.363	0.218	0.380	1.000	0.505	0.050
12	-0.022	0.296	0.091	0.298	0.350	0.156	0.423	0.450	0.468	0.352	0.505	1.000	-0.060
13	0.105	0.149	-0.145	0.030	-0.010	0.032	-0.043	0.096	0.050	0.152	0.050	-0.060	1.000
14	-0.006	-0.048	0.026	-0.012	0.085	-0.002	-0.094	0.170	-0.025	-0.072	0.103	-0.013	0.337
15	0.048	0.262	-0.068	0.127	0.154	-0.003	0.028	0.057	-0.032	-0.006	0.137	0.086	0.096
16	0.015	0.045	0.044	-0.154	-0.030	-0.026	0.009	0.088	-0.067	-0.049	-0.002	0.013	0.034
17	0.060	0.090	0.140	0.144	-0.038	-0.045	-0.025	-0.060	-0.202	-0.113	-0.095	-0.166	0.140
18	-0.059	0.027	0.091	-0.104	-0.058	0.030	-0.171	-0.056	-0.187	-0.141	-0.277	-0.315	-0.155
19	0.238	0.043	0.119	-0.115	0.003	0.069	0.246	0.089	-0.143	-0.014	-0.007	-0.118	0.188
20	0.029	0.127	-0.014	0.153	0.139	0.021	0.130	0.203	0.267	0.030	-0.018	0.244	-0.026
21	0.012	0.323	-0.078	0.325	0.211	0.187	0.172	0.233	0.269	0.260	0.324	0.321	-0.062
22	0.166	-0.030	0.166	0.162	0.116	0.073	0.197	0.281	0.159	0.099	-0.018	0.211	-0.056
23	-0.060	-0.101	0.121	-0.058	-0.135	-0.079	-0.242	-0.019	0.065	-0.162	-0.036	-0.152	-0.100
24	0.048	0.006	-0.117	0.020	0.115	0.039	0.097	0.150	0.334	0.057	0.129	0.108	-0.135
25	-0.109	-0.013	0.099	-0.115	-0.018	-0.060	0.054	0.027	0.002	-0.119	-0.150	-0.023	0.158

Significance (1-tailed)

	1	2	3	4	5	6	7	8	9	10	11	12	13
1		0.010	0.408	0.014	0.095	0.036	0.129	0.149	0.398	0.441	0.476	0.420	0.163
2	0.010		0.146	0.000	0.000	0.000	0.005	0.001	0.024	0.021	0.085	0.002	0.081
3	0.408	0.146		0.069	0.482	0.350	0.039	0.406	0.121	0.413	0.448	0.199	0.088
4	0.014	0.000	0.069		0.000	0.002	0.004	0.001	0.005	0.002	0.004	0.002	0.389
5	0.095	0.000	0.482	0.000		0.000	0.000	0.000	0.001	0.062	0.002	0.000	0.461
6	0.036	0.000	0.350	0.002	0.000		0.000	0.000	0.005	0.000	0.014	0.072	0.383
7	0.129	0.005	0.039	0.004	0.000	0.000		0.000	0.078	0.034	0.022	0.000	0.345
8	0.149	0.001	0.406	0.001	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.185
9	0.398	0.024	0.121	0.005	0.001	0.005	0.078	0.000		0.000	0.020	0.000	0.321
10	0.441	0.021	0.413	0.002	0.062	0.000	0.034	0.000	0.000		0.000	0.000	0.078
11	0.476	0.085	0.448	0.004	0.002	0.014	0.022	0.000	0.020	0.000		0.000	0.320
12	0.420	0.002	0.199	0.002	0.000	0.072	0.000	0.000	0.000	0.000	0.000		0.290
13	0.163	0.081	0.088	0.389	0.461	0.383	0.345	0.185	0.321	0.078	0.320	0.290	
14	0.479	0.326	0.405	0.457	0.214	0.492	0.191	0.056	0.408	0.251	0.168	0.453	0.001
15	0.329	0.007	0.263	0.118	0.075	0.488	0.396	0.299	0.383	0.479	0.100	0.212	0.186
16	0.443	0.337	0.342	0.075	0.391	0.406	0.465	0.206	0.267	0.323	0.491	0.452	0.376
17	0.288	0.200	0.095	0.089	0.362	0.336	0.406	0.288	0.029	0.146	0.187	0.060	0.095
18	0.293	0.402	0.198	0.166	0.296	0.392	0.055	0.302	0.040	0.093	0.004	0.001	0.074
19	0.012	0.343	0.134	0.141	0.490	0.260	0.010	0.204	0.091	0.448	0.473	0.136	0.039
20	0.395	0.118	0.450	0.077	0.097	0.424	0.113	0.028	0.006	0.389	0.432	0.011	0.405
21	0.456	0.001	0.233	0.001	0.024	0.039	0.054	0.014	0.005	0.007	0.001	0.001	0.281
22	0.060	0.390	0.060	0.065	0.140	0.247	0.032	0.004	0.068	0.179	0.432	0.023	0.300
23	0.288	0.174	0.130	0.295	0.103	0.231	0.011	0.430	0.274	0.065	0.368	0.077	0.176
24	0.329	0.478	0.138	0.427	0.142	0.359	0.182	0.081	0.001	0.299	0.114	0.157	0.104
25	0.155	0.453	0.177	0.141	0.435	0.289	0.308	0.402	0.493	0.134	0.081	0.415	0.070

Correlation Matrix (14-25)

	14	15	16	17	18	19	20	21	22	23	24	25
1	-0.006	0.048	0.015	0.060	-0.059	0.238	0.029	0.012	0.166	-0.060	0.048	-0.109
2	-0.048	0.262	0.045	0.090	0.027	0.043	0.127	0.323	-0.030	-0.101	0.006	-0.013
3	0.026	-0.068	0.044	0.140	0.091	0.119	-0.014	-0.078	0.166	0.121	-0.117	0.099
4	-0.012	0.127	-0.154	0.144	-0.104	-0.115	0.153	0.325	0.162	-0.058	0.020	-0.115
5	0.085	0.154	-0.030	-0.038	-0.058	0.003	0.139	0.211	0.116	-0.135	0.115	-0.018
6	-0.002	-0.003	-0.026	-0.045	0.030	0.069	0.021	0.187	0.073	-0.079	0.039	-0.060
7	-0.094	0.028	0.009	-0.025	-0.171	0.246	0.130	0.172	0.197	-0.242	0.097	0.054
8	0.170	0.057	0.088	-0.060	-0.056	0.089	0.203	0.233	0.281	-0.019	0.150	0.027
9	-0.025	-0.032	-0.067	-0.202	-0.187	-0.143	0.267	0.269	0.159	0.065	0.334	0.002
10	-0.072	-0.006	-0.049	-0.113	-0.141	-0.014	0.030	0.260	0.099	-0.162	0.057	-0.119
11	0.103	0.137	-0.002	-0.095	-0.277	-0.007	-0.018	0.324	-0.018	-0.036	0.129	-0.150
12	-0.013	0.086	0.013	-0.166	-0.315	-0.118	0.244	0.321	0.211	-0.152	0.108	-0.023
13	0.337	0.096	0.034	0.140	-0.155	0.188	-0.026	-0.062	-0.056	-0.100	-0.135	0.158
14	1.000	0.042	0.348	0.080	0.015	0.317	0.129	-0.097	-0.081	0.132	-0.119	0.112
15	0.042	1.000	0.181	-0.102	-0.020	0.073	0.094	0.121	-0.151	-0.149	0.010	-0.015
16	0.348	0.181	1.000	-0.153	0.092	0.219	0.267	-0.259	0.059	0.088	-0.124	0.141
17	0.080	-0.102	-0.153	1.000	0.383	0.088	0.025	-0.024	0.004	0.157	-0.002	0.080
18	0.015	-0.020	0.092	0.383	1.000	0.186	0.065	0.017	0.049	0.171	0.213	0.006
19	0.317	0.073	0.219	0.088	0.186	1.000	0.175	-0.073	0.103	-0.080	0.146	0.069
20	0.129	0.094	0.267	0.025	0.065	0.175	1.000	0.021	0.218	0.086	0.301	0.205
21	-0.097	0.121	-0.259	-0.024	0.017	-0.073	0.021	1.000	-0.010	-0.107	0.288	-0.375
22	-0.081	-0.151	0.059	0.004	0.049	0.103	0.218	-0.010	1.000	0.006	0.088	0.145
23	0.132	-0.149	0.088	0.157	0.171	-0.080	0.086	-0.107	0.006	1.000	-0.100	0.235
24	-0.119	0.010	-0.124	-0.002	0.213	0.146	0.301	0.288	0.088	-0.100	1.000	0.097
25	0.112	-0.015	0.141	0.080	0.006	0.069	0.205	-0.375	0.145	0.235	0.097	1.000

Significance 1 tailed test

	1	2	3	4	5	6	7	8	9	10	11	12
1	0.479	0.329	0.443	0.288	0.293	0.012	0.395	0.456	0.060	0.288	0.329	0.155
2	0.326	0.007	0.337	0.200	0.402	0.343	0.118	0.001	0.390	0.174	0.478	0.453
3	0.405	0.263	0.342	0.095	0.198	0.134	0.450	0.233	0.060	0.130	0.138	0.177
4	0.457	0.118	0.075	0.089	0.166	0.141	0.077	0.001	0.065	0.295	0.427	0.141
5	0.214	0.075	0.391	0.362	0.296	0.490	0.097	0.024	0.140	0.103	0.142	0.435
6	0.492	0.488	0.406	0.336	0.392	0.260	0.424	0.039	0.247	0.231	0.359	0.289
7	0.191	0.396	0.465	0.406	0.055	0.010	0.113	0.054	0.032	0.011	0.182	0.308
8	0.056	0.299	0.206	0.288	0.302	0.204	0.028	0.014	0.004	0.430	0.081	0.402
9	0.408	0.383	0.267	0.029	0.040	0.091	0.006	0.005	0.068	0.274	0.001	0.493
10	0.251	0.479	0.323	0.146	0.093	0.448	0.389	0.007	0.179	0.065	0.299	0.134
11	0.168	0.100	0.491	0.187	0.004	0.473	0.432	0.001	0.432	0.368	0.114	0.081
12	0.453	0.212	0.452	0.060	0.001	0.136	0.011	0.001	0.023	0.077	0.157	0.415
13	0.001	0.186	0.376	0.095	0.074	0.039	0.405	0.281	0.300	0.176	0.104	0.070
14		0.346	0.000	0.227	0.444	0.001	0.114	0.182	0.224	0.109	0.134	0.149
15	0.346		0.044	0.172	0.427	0.248	0.191	0.130	0.079	0.082	0.463	0.444
16	0.000	0.044		0.075	0.194	0.020	0.006	0.007	0.291	0.207	0.124	0.094
17	0.227	0.172	0.075		0.000	0.207	0.407	0.411	0.487	0.070	0.494	0.228
18	0.444	0.427	0.194	0.000		0.040	0.273	0.439	0.323	0.054	0.022	0.478
19	0.001	0.248	0.020	0.207	0.040		0.050	0.248	0.168	0.229	0.085	0.261
20	0.114	0.191	0.006	0.407	0.273	0.050		0.423	0.020	0.212	0.002	0.027
21	0.182	0.130	0.007	0.411	0.439	0.248	0.423		0.462	0.158	0.003	0.000
22	0.224	0.079	0.291	0.487	0.323	0.168	0.020	0.462		0.476	0.206	0.087
23	0.109	0.082	0.207	0.070	0.054	0.229	0.212	0.158	0.476		0.176	0.013
24	0.134	0.463	0.124	0.494	0.022	0.085	0.002	0.003	0.206	0.176		0.184
25	0.149	0.444	0.094	0.228	0.478	0.261	0.027	0.000	0.087	0.013	0.184	

Only cases for which Assuming you could do all your present work remotely by telecommuting from any place of your preference, would you prefer it (telecommute) to working in the office? = Yes are used in the analysis phase.
Determinant = 4.570E-04

Table A1.2.3 Communalities

Questionnaire item	Initial	Extraction
My preference for telecommuting is adversely affected by the degree of silence of the neighbourhood I live in	1.000	.778
I would find it hard to concentrate on my work as I would expect interferences from my family members and friends	1.000	.683
Lack of consultation and collaboration from my colleagues would not affect my preference to telecommute	1.000	.718
The attitude of my family and friends would adversely affect my preference for telecommuting	1.000	.693
Lack of privacy and space at home would make me not to prefer telecommuting	1.000	.538
Working a distance away from my supervisor would adversely affect my performance If I were to telecommute	1.000	.793
I do not like telecommuting since I would miss the fun of commuting from home to the workplace	1.000	.737
I would face a high risk of being forgotten in promotions If I were to telecommute	1.000	.648
Balancing work, household and leisure activities is difficult when telecommuting	1.000	.727
Telecommuting downgrades the value of jobs	1.000	.546
Those who telecommute would not be respected workers as those who work in the office	1.000	.643
I do not like telecommuting as it would lead to an absence of social interactions from fellow employees	1.000	.731
Telecommuting would enable me to effectively run personal errands and to attend community functions	1.000	.808
Telecommuting would enable me to have more time with my family	1.000	.719
Telecommuting would lead to too much staff independence	1.000	.661
The fact that I will be able to control the work environment would make to prefer to telecommute	1.000	.745
Telecommuting enhances better health by avoidance of crowds	1.000	.747
Telecommuting enhances better safety due to reduced travel	1.000	.798
Telecommuting should be encouraged as it enhances quick handling of family and neighbourhood emergencies	1.000	.776
Telecommuting eliminates office gossip and associated interferences	1.000	.652
Home is not a good environment to support telecommuting	1.000	.695
I prefer to telecommute due to my high concerns on environmental pollution	1.000	.627
Telecommuting will reduce the stress levels of employees	1.000	.685
Telecommuting would increase household conflicts	1.000	.789
I would have a better peace of mind in working without my supervisor around	1.000	.787

Extraction Method: Principal Component Analysis.
a Only cases for which Assuming you could do all your present work remotely by telecommuting from any place of your preference, would you prefer it (telecommute) to working in the office? = Yes are used in the analysis phase.

Table A1.2.4 Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cum. %	Total	% of Variance	Cum. %	Total	% of Variance	Cumulative %
1	4.481	17.925	17.925	4.481	17.925	17.925	3.134	12.537	12.537
2	2.265	9.060	26.985	2.265	9.060	26.985	1.907	7.627	20.164
3	1.798	7.192	34.177	1.798	7.192	34.177	1.875	7.502	27.665
4	1.750	6.999	41.177	1.750	6.999	41.177	1.731	6.923	34.588
5	1.504	6.017	47.194	1.504	6.017	47.194	1.675	6.698	41.286
6	1.397	5.588	52.783	1.397	5.588	52.783	1.629	6.517	47.803
7	1.257	5.026	57.809	1.257	5.026	57.809	1.546	6.182	53.985
8	1.186	4.742	62.551	1.186	4.742	62.551	1.518	6.071	60.057
9	1.085	4.341	66.892	1.085	4.341	66.892	1.385	5.542	65.598
10	1.001	4.003	70.895	1.001	4.003	70.895	1.324	5.297	70.895
11	.871	3.483	74.378						
12	.786	3.145	77.523						
13	.716	2.865	80.388						
14	.696	2.786	83.174						
15	.631	2.524	85.698						
16	.544	2.176	87.873						
17	.483	1.934	89.807						
18	.460	1.839	91.646						
19	.407	1.629	93.275						
20	.370	1.481	94.756						
21	.347	1.389	96.145						
22	.294	1.177	97.322						
23	.277	1.107	98.429						
24	.222	.889	99.318						
25	.170	.682	100.000						

Extraction Method: Principal Component Analysis.
a Only cases for which Assuming you could do all your present work remotely by telecommuting from any place of your preference, would you prefer it (telecommute) to working in the office? = Yes are used in the analysis phase.

A1.2.5 Rotation

For better clarity on the factors, Orthogonal rotation using Varimax with Kaiser normalisation was used and factor loadings whose absolute value is less than 0.4 suppressed and results sorted according to size. The results are given in table A1.2.5 below.

Table A1.2.5 Rotated Component Matrix

Rotated Component Matrix	Component									
	1	2	3	4	5	6	7	8	9	10
Working a distance away from my supervisor would adversely affect my performance If I were to telecommute	.833									
I would face a high risk of being forgotten in promotions If I were to telecommute	.719									
Telecommuting downgrades the value of jobs	.634									
Balancing work, household and leisure activities is difficult when telecommuting	.536		.485							
Lack of privacy and space at home would make me not to prefer telecommuting	.515			.477						
Telecommuting enhances better safety due to reduced travel		.856								
Telecommuting enhances better health by avoidance of crowds		.560								
I do not like telecommuting as it would lead to an absence of social interactions from fellow employees		-.532								
Telecommuting would increase household conflicts			.789							
Telecommuting eliminates office gossip and associated interferences			.683							
Telecommuting would lead to too much staff independence				.716						
I would find it hard to concentrate on my work as I would expect interferences from my family members and friends	.424			.669						
The attitude of my family and friends would adversely affect my preference for telecommuting				.422						
The fact that I will be able to control the work environment would make to prefer to telecommute					.839					
I would have a better peace of mind in working without my supervisor around						-.808				
Home is not a good environment to support telecommuting						.655				
Those who telecommute would not be respected workers as those who work in the office						.470				
Telecommuting would enable me to effectively run personal errands and to attend community functions							.834			
Telecommuting would enable me to have more time with my family					.525		.629			
Lack of consultation and collaboration from my colleagues would not affect my preference to telecommute								.827		
Telecommuting will reduce the stress levels of employees									.763	
I do not like telecommuting since I would miss the fun of commuting from home to the workplace	.478							.412	-.500	
Telecommuting should be encouraged as it enhances quick handling of family and neighbourhood emergencies					.413				-.489	
My preference for telecommuting is adversely affected by the degree of silence of the neighbourhood I live in										.847
I prefer to telecommute due to my high concerns on environmental pollution										.504

APPENDIX II: Approval to carry out the research

Kenya Revenue Authority

Ref: 5708

19th February, 2003

KENYA REVENUE AUTHORITY
CHIEF MANAGER
20 FEB 2003
MANAGEMENT INFORMATION SERVICES
P. O. Box 48240

Mr. Joseph K. Siror
Manager, MIS

Thro' Chief Manager, MIS

forwarded.
Please furnish MIS department with a copy of your final report.
20/2/03

Dear Sir,

REF: AUTHORITY TO CARRY OUT RESEARCH

I refer to your letter of 11th February, 2003 ref: KRA/5/1005/03/Vol. V/23 requesting authority to undertake research/feasibility study on "telecommuting in the Kenyan public sector." Permission is hereby granted for the same

You will be required to give a copy of your final report to this office for retention by the Authority.

I wish you all the best in your efforts.

Yours faithfully,

M. A. Onyura
Chief Human Resources & Admin. Manager

MAO/vmm

N.s.s.f Building • Block A • 18th Floor
Bishops Road • P O Box 48240 • Nairobi • Kenya
Tel: 715423810 Fax: 728960

APPENDIX III: **Letter of introduction to respondents**

15th July 2003

Dear Sir/Madam,

I am an MBA student in the University of Nairobi undertaking a research on Telecommuting. I am requesting for your response to the questionnaire attached on this subject.

Telecommuting is defined as: *The partial or total substitution of telecommunications services for bringing the work to the worker*. Telecommuters are therefore capable of performing their office functions while working from a flexible choice of locations such as at home in a plane or in an overseas country among others; enabled by Information Communications Technology.

Your participation in answering the attached questionnaire will assist in the development of knowledge in this rather new field of study in Kenya. Your contributions are of great value to the success of this research. Please answer all questions. Findings will be treated confidentially and respondents are not expected to write their names in the questionnaire.

Thank you.

JOSEPH K SIROR
Times Tower Building, 27th Floor., Extension: 7039
E-mail: Joseph.Siror@revenue.go.ke or Joseph.Siror@kra.go.ke

APPENDIX IV: Questionnaire

TELECOMMUTING QUESTIONNAIRE

Please answer the following questions honestly from your view point. Tick (√) or Check (x) the appropriate box. You need not write your name anywhere in this questionnaire.

SECTION A

1. Factors that are important in my job (tick appropriate box)	Of Utmost importance	Very Important	of moderate	of Little importance	of very little
Moral support from fellow employees and social interactions					
Group work , teamwork and collaborative work					
Opportunities for work done out of office such as field works					
Freedom to work independently and a flexible work schedule					
Work related travel					
Feedback and guidance from my supervisor					
Conducive work environment and available facilities					
Local and overseas professional trips and seminars					
The degree of influence on the range of tasks, pace of work and the way I work					
Interactions with outsiders as part of my job					
High scope of independent work					
Others: specify:					

2. Tick ( ) the appropriate box which would accurately describe the degree to which you agree or disagree with following statements in respect of telecommuting	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
My preference for telecommuting is adversely affected by the degree of silence of the neighbourhood I live in					
I would find it hard to concentrate on my work as I would expect interferences from my family members and friends					
Lack of consultation and collaboration from my colleagues would not affect my preference to telecommute					
The attitude of my family and friends would adversely affect my preference for telecommuting					
Lack of privacy and space at home would make me not to prefer telecommuting					

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
My preference for telecommuting stems from my great dislike for group work and teamwork					
Working a distance away from my supervisor would adversely affect my performance If I were to telecommute					
I do not like telecommuting since I would miss the fun of commuting from home to the workplace					
I would face a high risk of being forgotten in promotions If I were to telecommute					
Balancing work, household and leisure activities is difficult when telecommuting					
Telecommuting downgrades the value of jobs					
Those who telecommute would not be respected workers as those who work in the office					
I do not like telecommuting as it would lead to an absence of social interactions from fellow employees					
Telecommuting would enable me to effectively run personal errands and to attend community functions					
Telecommuting would enable me to have more time with my family					
Telecommuting would lead to too much staff independence					
The fact that I will be able to control the work environment would make to prefer to telecommute					
Savings on commuting costs and time would not be enough to justify telecommuting					
Telecommuting enhances better health by avoidance of crowds					
Telecommuting enhances better safety due to reduced travel					
Telecommuting should be encouraged as it enhances quick handling of family and neighbourhood emergencies					
Telecommuting eliminates office gossip and associated interferences					
Home is not a good environment to support telecommuting					
Telecommuting should be allowed only for staff who work in big towns					
Telecommuting should only be allowed for married men or women					
Those who telecommute should not be given travel allowance					
Telecommuting should be allowed as a reward for good performance					
Supervisors should have the final say on who is or is not allowed to telecommute					
Telecommuting is only suitable for those who are about to retire					
Employees with health problems/disabilities should not be allowed to					

telecommute					
I prefer to telecommute due to my high concerns on environmental pollution					
Mothers with young babies should not be allowed to telecommute					
Telecommuting will reduce the stress levels of employees					
Telecommuting would increase household conflicts					
I would have a better peace of mind in working without my supervisor around					
Newly recruited employees should be allowed to telecommute					
Telecommuters should bear the cost of purchasing computers, accessories and space to enable them to telecommute					

3. Prior to this questionnaire, had you ever heard of concepts such as teleworking or telecommuting?

   [ ] No

   [ ] Yes. Provide the name of an organisation where it is practised.

   State.....

4. Which mode of remuneration would you prefer, if you were to telecommute (tick or check one)?

   [ ] Normal salary

   [ ] Payment based on tasks accomplished

   [ ] Payment based on hours worked

   [ ] Payment based on a percentage of the market rate

   [ ] Agreed upon retainer and the rest based on the tasks accomplished

   [ ] Payment based on the complexity of the task being undertaken

   [ ] Payment based on the market rate

   [ ] Other: State.....

5. Assuming that you could telecommute from any place of your choice, what would be the ideal **percentage distribution** in a year for each of the following possible work locations?

   [ ] Regular place of work

   [ ] Home (designated work space at home installed with a computer with a communications link to the office)

   [ ] Neighbourhood telecentre (Work space for employees of unrelated businesses in a neighbourhood)

   [ ] Satellite Office (Remote office for a single company located within a concentration of employee residences)

   [ ] Foreign country

   [ ] Virtual office (Any location where an employee accesses office systems by use of a telecommunications link)

   [ ] Other: State .....

6. If you were to decide on an appropriate time period for an eight hour working day, what would be your ideal time period(s)? It need not be continuous eight hours. State: .....

7. If you were to telecommute, how many hours would you apportion between office and home?

   Home [ ]

   Office [ ]

   What are the proportions currently?

   Home [ ]

   Office [ ]

SECTION B

8. On average how many hours in total do you spent per day in commuting from home to the office and back?

   [ ] 0.5 [ ] 1 [ ] 1.5

   [ ] 2 [ ] 2.5 [ ] 3

   [ ] 3.5 [ ] 4 [ ] Other: state .....

9. Assuming you could do all your present work remotely by telecommuting from any place of your preference, would you prefer it (telecommute) to working in the office?

   [ ] No

   [ ] Yes

10. Suppose you were to choose between telecommuting (where you forfeit your current travelling allowance) and working in the office (where you retain your current travelling allowance) what would you choose?

    [ ] Telecommuting

    [ ] Office

11. Suppose you were to specify the travelling amount to be paid so as to make you indifferent between office and telecommuting (working at home) what amount would you require? **Note that if you work at home you would forfeit this amount and if you work from the office you would have it**. Kshs. ...per month.

12. What are your average monthly commuting costs attributable to work (Fuel, fares, parking, service)? State average amount: Kshs.....

13. What are your average annual costs on insurance, repairs and maintenance related to commuting to the workplace? State: Kshs.....

14. What is the approximate distance between your working place and where you stay?

    State:.....

SECTION C - ONLY FOR SUPERVISORS (IF YOU ARE NOT A SUPERVISOR SKIP THIS SECTION AND GO TO SECTION D)

15. Indicate your degree of agreement or disagreement to the following statements about telecommuting for the staff reporting to you (tick the appropriate box)	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
The staff would encounter great difficulties in comprehending the precise task requirements					
There would be difficulty in quantifying and costing the work done by a member of staff					
It would be difficult to appraise the member of staff					
There would be a loss of control over staff activities					
There would be delays in meeting deadlines					
There would be quality degradation due to lack of consultation and collaboration					
Mechanisms for directly monitoring telecommuters while they are working should be pre-requisite to telecommuting					
Supervising telecommuters would be cumbersome and is bound to adversely affect my productivity as a supervisor					
Telecommuting should only be allowed for members of staff who are disciplined and have good productivity					
Most members of staff lack the discipline to work effectively without close supervision					
It would be difficult to coordinate group work					
Urgent work requiring immediate attention is bound to suffer					

16. If the staff I supervise were to telecommute, as a minimum I would require them to come for meetings in a central location such as the formal office for the following number of days in a month?

    State number of days: .....

17. I totally support telecommuting for the following proportion of staff I supervise

    [ ] For none

    [ ] For a quarter

    [ ] For a half

    [ ] For three quarters

    [ ] For all the staff

18. How many people do you supervise?

    State number of people:.....

SECTION D

19. Sex:

[ ] Male

[ ] Female

20. Age in years

[ ] Under 25 [ ]26-30

[ ]31-35 [ ]36-40

[ ]41-45 [ ]46-50

[ ]51-55 [ ]56-60

[ ]over60

21. Marital status:

[ ] Single

[ ] Married

[ ] Separated

[ ] Widowed

[ ] Divorced

22. Religion:

[ ] Christian

[ ] Islam

[ ] Hindu

[ ] Others: Specify.....

23. Job grade category:

[ ] 1-4

[ ] 5-6

[ ] 7-9

[ ] 10-11

[ ] 12-17

24. Which department do work in (e.g. MIS, ITD etc)? State:.....

25. Indicate number of children you live with in the following age brackets.

[ ] 0-3 Years

[ ] 4-7 years

[ ] 8-12

[ ] 13-19 years

26. Indicate the type of house you live in.

[ ] Rented

[ ] Own

[ ] Employer's

[ ] Relative's owned/rented

[ ] Friends owned/rented

27. Do you have a telephone connection in the house you live in?

[ ] Yes

[ ] No

28. Which is the highest academic qualification you have attained?

[ ] Primary

[ ] Secondary level

[ ] Diploma

[ ] University

[ ] Other: state...

29. How do you travel to work?

[ ] Own car

[ ] Office transport

[ ] public means

[ ] Other: state.....

30. How long have you worked for this organisation?

[ ] 0-5

[ ] 6-10

[ ] 11-15

[ ] 16-20

[ ] 21-25

[ ] 26-30

[ ] Over 30

31. How long have you been in employment?

[ ] 0-5

[ ] 6-10

[ ] 11-15

[ ] 16-20

[ ] 21-25

[ ] 26-30

[ ] Over 30

32. Do you own a computer?

[ ] Yes

[ ] No

END OF QUESTIONNAIRE