

**Adoption of Web Conferencing as a Tool of Collaboration in  
Organizations in Kenya**

**BY**

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**UNITED STATES INTERNATIONAL UNIVERSITY-  
AFRICA**

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**ADOPTION OF WEB CONFERENCING AS A TOOL OF  
COLLABORATION IN ORGANIZATIONS IN KENYA**

**BY**

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**A Project Report Submitted to the Chandaria School of Business in  
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Business Administration (MBA)**

**UNITED STATES INTERNATIONAL UNIVERSITY-  
AFRICA**

**SPRING 2016**

## STUDENT'S DECLARATION

I, the undersigned, declare that this is my original work and has not been submitted to any other college, institution or university other than the United States International University in Nairobi for academic credit.

**Signed:** \_\_\_\_\_ **Date:** \_\_\_\_\_

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This project has been presented for examination with my approval as the appointed supervisor.

**Signed:** \_\_\_\_\_ **Date:** \_\_\_\_\_

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Dean, Chandaria School of Business

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## ABSTRACT

The purpose of this study was to determine the rate of adoption of Web conferencing technology in organizations in Kenya. It had three specific objectives; that is, to determine the benefits that have been achieved in adoption of web conferencing technology, to establish the challenges that hinder the adoption of web conferencing technology and the third one was to find out the strategies employed in adoption of web conferencing technology.

The study used descriptive research design and relied on the primary data. Research was conducted in twenty three organizations and a number of one hundred and twenty eight respondents participated in the survey. All the major findings were captured. The population comprised of staff from ICT departmental functions in the organizations included for this study. The sampling technique used was cluster sampling method, clustering members of the population in different sectors; Civil Service, Education, Banking and financial institution, ICT, NGOs and SMEs. A sample size of 138 staff members was used in this study. Structured questionnaires were administered to collect the data which was finally analyzed using Statistical Package for the social sciences (SPSS).

From this study it was found that, the most importance independent variable from the regression model was the challenges encountered because it had the highest Beta value of (-0.539) then followed by Strategies Employed (beta=0.215) and lastly perceived Benefits(beta =0.205). Regression analysis of this study delivered a R square value of 41.6% which indicates that there is strong relationship between adoption of web conferencing technology and the benefits perceived, challenges encountered and strategies employed.

Further it was found that, web conferencing systems adopted in organizations have to a great extent improved the productivity, Profitability and communication making these organizations more competitive within the industry. Challenges associated with the technology adoption has led to some companies abandoning these collaboration systems and influencing those not yet adopted them to shy away. These challenges can be eliminated if proper strategic policies as regards to Technology adoption are clearly crafted.

Organizations should consult experts on the best, affordable systems and sufficient capacities (bandwidth) required before rushing into adopting these systems without having the right infrastructure in place. When this is not done in the right way challenges eventually outweighs the benefits.

Organizations should strive to purchase systems which are upgradable(that is through software or minimal change in hardware) to avoid rendering them obsolete within short period of existence; this will in turn lower the cost associated with operating new technologies. Management of Change should be encouraged prior to the adoption of any IT systems in Organizations i.e. through seminars, road shows etc. This will avoid backlash that comes with change from employees since human being has inherent resistance to change.

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For the respondents who took their time to complete the questionnaire and offer their opinions I salute you all. My colleagues in USIU-A thanks a lot for the support and wisdom you offered during my studies. It won't have been the same without you.

## **DEDICATION**

I dedicate this research project to my wife Emma, you are the pillar that I will always lean on; and this project would not have been successfully completed without your enormous support, love and patience.

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## **LIST OF ABBREVIATIONS**

ANOVA	Analysis of Variance
DOI	Diffusion of Innovation
FTF	Face to Face
ICT	Information Communication Technology
IP	Internet Protocol
IS	Information System
ISDN	Integrated System Digital Network
IT	Information Technology
NGO	Non-Governmental Organization
PAI	Perceived attributes of Innovation
PEOU	Perceived Ease of Use
PU	Perceived Usefulness
SMEs	Small and Medium Enterprises
TAM	Technology acceptance Model
TIA	Telecommunications Industry Association
VC	Video Conferencing

# CHAPTER ONE

## 1.0 INTRODUCTION

### 1.1 Background of the Problem

Information systems automate many steps in business processes that were formally performed manually. But today, information technology can do much more. New technology can actually change the flow of information, making it possible for many more people to access information, replacing sequential steps with tasks that can be performed simultaneously, and eliminating delays in decision making. New information technology frequently changes the way a business works and supports entirely business models according to Loudon (2012).

By analyzing Business process, you can achieve very clear understanding of how a business works. Moreover, by conducting a business process analysis, you will also begin to understand how to change a business by improving its processes to make it more efficient or effective (Boston, 2006).

According to Khalil (2012), Collaboration is working as a team to achieve common goals. Collaboration focuses on task or mission accomplishment and usually takes place in business or other organizations and between businesses. Collaboration can be short-lived lasting a few minutes, or longer term, depending on the nature of the task and the relationship among the participants. Collaboration can be one to one or one to many. Employees may collaborate in informal groups that are not formal part of the business firm's organization structure or they may be organized into formal teams. Teams are part of the organization's business structure for getting things done. Teams have specific mission that someone in business assigned to them. They have a job to complete. The members of the team need to collaborate on the accomplishment of specific tasks and collectively achieve team mission.

There are many articles and books that have been written about collaboration, some of them by business executives and consultants, and a great many by academic researchers in variety of businesses. Nearly all of this research is anecdotal. Nevertheless, among both business and academic communities there is a general belief that the more a business firm is "collaborative," the more successful it will be, and the collaboration within and among firms is more essential than in the past (Loudon, 2012).

According to Frost and White (2009), a recent global survey of business and information systems, managers found that investments in collaboration technology produced organizational improvements that returned over four times the amount of investment with the greatest benefits for sales, marketing research and development functions. Another study of value of collaboration also found that the overall economic benefit of collaboration was significant; for every word seen by an employee e.g. in e-mails from others, \$70 of additional revenue was generated (Aral and Van,2007).

According to Aral and Van (2007), there are many presumed benefits of collaboration; you really need a supportive business firm culture and the right business processes before you can achieve meaningful collaboration. You also need a healthy investment in collaborative technologies. Requirements of collaboration are collaborative capability i.e. open culture, decentralized structure and breathe of collaboration. Then we have Collaboration technologies i.e. use of collaboration technology for implementation and operations and use of collaborative technology for strategic planning.

According to Khalil(2012), a collaborative, team-oriented culture won't produce benefits if there are no information systems in place to enable collaboration. Currently there are hundreds of tools designed to deal with the fact that, in order to succeed in our jobs, we are all dependent of one another, our fellow employees, customers, suppliers, and managers.

There are fifteen categories of collaborative software's tools (Loudon,2012),these includes: E-mail and instant messaging, Collaborative writing, collaborative reviewing/editing, Event scheduling, File sharing, Screen sharing, Audio conferencing, Video Conferencing, White boarding, Web presenting, Work scheduling, Document sharing (including wikis, mind mapping, Large audience webinars and co-browsing).

According to Khalil (2012), Virtual meeting systems for many businesses including investment banking, accounting, law, technology services, and management consulting, extensive travel is a fact of life. The expenses incurred by business travel have been steadily rising in recent years, primarily due to the increasing energy costs. In an effort to reduce travel expenses, many companies, both large and small, are adopting Video Conferencing and Web Conferencing technologies. Companies such as Heinz, General Electric, and Wachovia are using virtual meeting systems for product briefings, training courses, strategy sessions, and even inspirational chats. An important feature of leading

edge high-end video Conferencing systems is tele-presence technology, an integrated audio and visual environment that allow a person to give the appearance of being present at a location other than his or her physical location. The interactive session on management describes tele-presence and other technologies for hosting these “virtual” meetings.

According to studies by Ferneley and Bell (2006), prior studies have utilized a variety of frameworks which includes Roger Perceived Attributes of innovations (PAI) model, the technology acceptance model (TAM) and theories of planned behavior and reasoned actions (Kenny and Marshall, 2000). Recently researchers have started to focus on the willingness to adopt the web for both general and specific purposes, recognizing that all organizations will immediately appreciate the advantages of new technology (Dubelaar, 2005).

SMEs will remain to be an important segment of the economy and will remain to be the backbone of the economic development in many countries throughout the world (Chong and Lin, 2008). Creative use of internet will allow Small and Medium Enterprises to capitalize on marketing opportunities available (Maguire, 2007). Smaller organizations have been slower in adopting the internet and e-commerce compared to larger ones and relevant research has been slower in developing countries e.g. Kenya (Fillis and Wagner, 2007). Most of these studies focus on the barriers that small organizations can face in adoption of IT systems as well as benefits they can realize.

## **1.2 Statement of the Problem**

For many organizations, pressure to keep up with the competition, providing a means to enhance survival and growth, managing change, promoting services to customers and staying competitive and enhancing innovation abilities have forced them to adopt web conferencing technology without necessarily taking into account on the benefits they intend to achieve, the challenges they might encounter and the strategies to put in place.

Prior research's suggests that as organizations are susceptible to customer pressure, these firms adopted IT systems as a result of demand from customers to develop the efficiency of their inter-organizational dealings (Levy, 2006). Hence, it has become an indispensable strategy for firms to have these technologies, while others suggested that the main driving forces to move toward IT tools adoption in organizational are internal factors., including

industry changes and trends, maintaining current market, finding new markets, opportunities for growth and the necessity to keep up with competition (Southern, 2009).

According to Nguyen (2009), many businesses adopt new IT merely to keep up with other organizations which have implemented these technologies. Under such circumstances, lack of definition or strategy of the purposes of IT adoption will lead to project failure.

Characteristics of IT users, including knowledge of IT, training, attitudes and intention toward IT, and participation and involvement in adoption process could affect IT acceptance, or its adoption process as well (Calderia, 2007). It is widely accepted that employees in small organizations suffer from lack of knowledge and skills. This is more evident with respect to the adoption of IT systems in Small and Medium Enterprises (SMEs) (Mullins, 2007).

Web provides new opportunities for SMEs to extend their business to the global market space. Introducing web based IT systems into SMEs and combining both offline and on-line marketing campaigns is not an easy process (Chaffey, 2006). The process requires decision makers and specialists to acquire new skills. While admitting their lack of skills and knowledge in embracing internet as a new medium of collaboration, most SMEs believed that training employees and managers on the IT technologies could considerably contribute to their success and could achieve more benefits.

### **1.3 General Objective**

The general objective of this study was to establish the adoption of web conferencing as a tool of collaboration in organizations in Kenya.

### **1.4 Specific Objectives**

**1.4.1** To determine Benefits in adoption of Web Conferencing Technology.

**1.4.2** To establish the challenges encountered in the adoption of Web Conferencing.

**1.4.3** To find out the strategies those have been used in the adoption of Web Conferencing Technology.

## **1.5 The Significance of the Study**

This study will help organizations to define the benefits they intend to achieve, challenges they may encounter and on how to minimize them and the strategies to employ for the effective adoption of web conferencing technologies.

### **1.5.1 Practitioners**

This research study will unearth benefits, challenges and strategies used in the adoption of Web Conferencing as opposed to what is just perceived, helping organizations to make quick decisions. Person(s) incorporating web conferencing in their operations will do so from an informed point as opposed to what is thought to be.

### **1.5.2 Researchers**

This research study will also help those doing further research on similar or related area as it will act as a basis to set their study, it will also demonstrate to those doing other research on how web conferencing technology can be useful in data collection especially to the subject that cannot be easily reached due to disparate geographical location. This will in turn reduce the cost associated with travelling.

### **1.5.3 Government**

The study can be used by the government agencies and departments to guide on what organizations look to when settling to a specific type of technologies. These will also help in coming up with ICT government policies.

## **1.6 Scope of Study**

The study was conducted within Kenyan organizations mostly focusing on ICT Services providers, Banks, Ngo's, Government commissions, Government Ministries. Data collection was conducted in the month of July, 2015.

The researchers expected limitations in data collection process where respondents may not have given accurate information as well providing information on time. The researcher countered this limitation by guaranteeing the respondents of the confidentiality of the information given and also assuring the functional units of the departmental in the organization that the analyzed data will be provided to them so that they could allow respondents enough time to complete the questionnaire.

## **1.7 Definitions of Terms**

### **1.7.1 Video Conferencing**

Video Conferencing is conducting videoconference by a set of telecommunication technologies which allow two or more locations to correspond by concurrent two way video and audio transmissions. It is also called 'visual collaboration' and is a type of groupware (Bjorn, 2005).

### **1.7.2 Web Conferencing**

Web Conferencing is conducting live meetings, presentations, training, collaborations, or marketing and product launches via internet (Thomson, 2014).

### **1.7.3 Telepresence**

Telepresence refers to a set of technologies which allow a person to feel as if they were present, to give the appearance of being present, or to have an effect, via tele-robotics, at a place other than their true location (Fisher, 1991).

### **1.7.4 Telepsychiatry**

Telepsychiatry is the application of telemedicine to the specialty field of psychiatry. The term typically describes the delivery of psychiatric assessment and care through telecommunications technology, usually videoconferencing (Miller, 2005).

### **1.7.5 Telemental**

Telemental is the use of telecommunications technology to provide behavioral health services (Baird, 2012).

## **1.8 Chapter Summary**

This research seeks to understand the benefits, challenges and strategies in the adoption of video and web conferencing as tools of collaboration. Most organizations are adopting these collaboration tools to have a competitive edge in the market. That is, hold face-to-face meetings with employees, prospects, clients, students or anyone you choose via internet. Extend company reach to global markets which they were unable to reach before, due to travel costs. Increase business productivity by allowing departments to hold meetings, interviews and take part in project collaboration. Build customer loyalty by offering personalized sales calls, trainings or technical support. Hold virtual trainings for

employees spread out between many different locations. Promote new product releases fast and effectively. Host large meetings without having to find a location or make travel arrangements, support clients without sending out a technician or a representative. Allow multi-party collaboration on demand. Provide flexibility to employees by offering a completely digital work space.

This chapter is a precursor to the other chapters in this research study. Chapter 2 will be dwelling on the literature review based on the three specific objectives. This will be looking into other studies which have been carried before in this particular area of study, whereas chapter 3 will be addressing the research methodology of this study, which includes the research design, Population and Sampling design, data collection methods and research procedure. Chapter 4 will be discussing results and findings of this study whereas Chapter 5 will dwell on discussions, conclusions and recommendations.

## **CHAPTER TWO**

### **2.0 LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter reviews the literature of the previous studies that have been done relating to this research study. Benefits and challenges in regard to the adoption of virtual collaboration tools have previously been researched, however most of them have been done in Laboratory environment, this research seeks to collect the information from the actual users of these technologies. The adoption strategies that can or have been employed are discussed in this study.

#### **2.2 Benefits of Web/Videoconferencing in Organizations**

Web conferencing technology has been incorporated in many organizations in the world due to the benefits associated with it. Organizations which have adopted it in their operations have to a great deal gained competitive advantage.

##### **2.2.1 Literature on the importance of Web Conferencing in Education**

Arnold, Clayey and Griffith (2006), surveyed ten case studies and provided information on preparing for and implementing Video Conferencing programs. The two authors identified several positive impact including increased collaboration between schools; improved language learning; increased accessibility to learning opportunities; inclusion of subject matter experts and specialized experts into classroom study; improved multicultural contacts; establishment of links between schools, industry, and the community; and increased access to professional development opportunities for teachers. Feedback provided by participating teachers and students were generally supportive of Video Conferencing.

Hepburn and McMillan (2008) conducted an economic evaluation of a videoconferencing program in Canada rural distant schools. Each of the district's five high schools was equipped with sophisticated Video Conferencing suites in each of the personal computers. Hepburn and McMillan estimated the annual cost of the suites at \$445,000. To conduct a cost-effectiveness analysis, they also collected year end achievement data on students whose courses were delivered entirely through the Video Conferencing suites, and they compared this with similar statistics from students in the district who took face-to-face, correspondence or audio graphics courses. The authors employed a quasi-experimental

research design and processed their data using quantitative data analysis techniques. They concluded that when costs and student achievement are considered together, Video Conferencing delivery was more cost-effective than the alternatives.

Yost (2007) evaluated the use of Video Conferencing with little children. Two kindergarten classes were involved in daily videoconferencing interactions. The author concluded that the children enjoyed the practice, increased their understanding of technology and improved their awareness of their environment.

Cifuentes and Murphy (2008) evaluated the usefulness of distance learning and multimedia technologies. Students participated in collaborative activities and shared multimedia files during interactive Video Conferences. The use of technology was found to assist an expanded learning community. Teachers developed empowering multicultural relationships. Students developed a multicultural understanding and encouraging self-concepts.

Gage, Nickson, and Beardon (2006), evaluated the use of Video Conferencing in the study of mathematics by high school students. The technology provided a chance for students to collaborate with other classes. Teachers reported that the collaborative activities were helpful, noting that students frequently worked on problems beyond the normal curriculum. Students valued the opportunity to communicate with others in presentations and discussions of mathematics problems.

Hung and Tan (2004), presented situated learning as a theoretical underpinning for taking students out of the classroom via Video Conferencing, and they suggested activities and outcomes that are consistent with this theory. The authors suggest that 'bringing the community into the classroom', through connecting students to scientists, experts, and professionals, enhances their learning. Students learn about collaboration through tele mentoring.

Pachnowski (2006) explains the use of Video Conferencing as a tool to prepare for and eventually replace field trips. She argues that virtual field trips are cost effective and lessen problems such as student transportation, safety, and time limitations. Pachnowski explains how to find a virtual field trip provider, what features to look for, how to prepare a class for the experience, and costs. Bringing video Conferencing technology into

schools, she argues, opens up new opportunities for curriculum enhancement, cost savings, and learning benefits.

Thurston (2008) investigated the use of Video Conferencing to support international collaborative projects among primary school classes. The aim of the project was to promote multicultural education and awareness. Students in Scotland and the United States delivered presentations to each other from their respective sites. Thurston reports that the students' use of language to define ethnicity became more complex and their attitudes toward ethnic minorities became more inclusive.

Gilham and Moody (2007), discuss the use of Video Conferencing systems to assist youth re-enter their schools and communities after periods of confinement. Using desktop Video Conferencing, community members, correctional personnel, and teachers worked with confined youth to assess their academic, occupational performance and needs. The authors characterize the process as suitable, reasonable, and flourishing.

### **2.2.2 Literature on the benefits of Web Conferencing as demonstrated in Medicine**

A systematic review by Martin (2011), found no patient reports of negative outcomes from frequent communication facilitated by Video Conferencing. Three studies have found that Video Conferencing telepsychiatry reduced Emergency Room (ER) and acute care visits for patients with severe mental illness according to Thomas, Miller, Hartshorn, Speck and Walker (2005). A number of literature reviews, systematic reviews and single studies have established that clients across diagnostic groups generally express high levels of acceptance and satisfaction with mental health services delivered via Video Conferencing, even in comparison to face-to-face (FTF) therapy as found by Krupinski (2005).

Some of the benefits of Video Conferencing to patients, as identified by Hartvigsen (2007) based on the experience of the Norwegian Centre for Telemedicine, and a Canadian study by Urness (2006), include: reduced need for travel, shorter wait times, more timely health benefits, increased access to specialists, and feelings of empowerment. Two studies found that patients felt empowered to participate in and understand clearly their treatment goals according to the study by Detweiler (2011). According to Cruz (2005), the most important advantage of Video Conferencing is that it facilitates the extension of access to care for

groups that are geographically remote or otherwise underserved, including people in rural and remote areas and individuals who will not accept face-to-face treatment.

A Canadian survey conducted by Simms (2011), indicates that mental health workers have overall positive attitudes toward telemental health, mostly when applied in rural and remote areas. In a study of a telemedicine evaluation system for children with special needs in rural Iowa, providers reported that telemedicine was more favorable than face-to-face consultations because it gives positive feedback from parents, led to higher participation rates in consultations, and was a better use of time (Harper, 2006). Cruz (2005), in the study of an Arizona telepsychiatry program found that a few number of providers felt that Video Conferencing equipment problems were distracting and time-consuming.

Three qualitative studies and two reviews of regional/national service provision establish that the use of Video Conferencing for patient consultation offers better efficiency in the form of: increased provider time for other tasks, enabling them to visit more patients in a day; reduced waiting times between first assessment and treatment; and, more efficient use expert services as found by Cruz (2005). In their literature review, Richardson (2009) established that telemental health via Video Conferencing usually requires little to no additional clinician preparation. A Canadian survey and a retrospective study of an Arizona telepsychiatry program propose that the use of Video Conferencing does not compromise effective patient-provider communication and therapeutic relationship building as found by Simms (2011).

### **2.2.3 Importance of Web Conferencing technology in Communication**

Business travel has been on the decline in the United States. Telecommunications Industry Association (TIA) data reports a 4% decline (from 29% to 25%) in business travel volume compared to an increase in holiday travel volume (71% to 75%) (Miller and Washington, 2009). Although the drop has been largely attributed to economic factors, the role and impact of e-conferencing on business travel has never been investigated in both the trade press and academic literature. For instance, the videoconferencing market, a primary e-conferencing tool, has expanded from \$460 million in 2006 to \$950 million in 2009 and is further expected to expand to \$1.5 billion in 2012 (TIA, 2009).

Vodafone, a global mobile telecommunication company, which deployed Tandberg Video Conferencing in fifty sites, believes that, globally, 30% of travel expenditure in three years can be reduced by the greater use of Video Conferencing (Tandberg, 2006). Earlier in this year, Gartner predicted that by the end of 2012, increased utilization of Telepresence solutions would help organizations to save \$3.5 billion annually in travel costs (Tandberg, 2009).

Tandberg argues that Telepresence technology can assist employees to find the right work-life balance by providing employees the ability to collaborate with colleagues from a remote area (Tandberg, 2006). Hopkinson and James (2006), cited by Armstrong (2007) found in a 2006 survey of BT Global Service (BT) that Video Conferencing assists employees to free up time and gives a better work-life balance for employees. Telepresence enables business people to set up meetings on time without the need of travel. The ability to meet people easily regardless of the geographical diversity enables more frequent and timely meetings (Forbes, 2009).

Telepresence allows business people to set up meetings promptly without the need of travel. The ability to meet people easily despite the geographical diversity enables more frequent and timely meetings (Forbes, 2009). Frequent communication therefore enhances the collaboration between widely dispersed business units and smoothes the relationships between business entities: for example, vendor and client (Forbes, 2009).

Most of the meetings conducted by e-conferencing can be recorded and presented to non-participants, or stored for future recovery, later podcasts, webcasts and training, or to comply with the requirement of the transparency legislation (Nortel, 2008).

### **2.3 Challenges in Adopting Web/Videoconferencing in Organizations**

What are the reasons why other technologies are more widespread than videoconferencing? In the past, there have been issues with videoconferencing because it has been expensive; the cost of videoconferencing over telephone lines is equivalent to the cost of six long distance calls for the duration of the event according to Kegel (2006). It is complex and the collection of sophisticated equipment associated with videoconferencing can be scary to those who are already engaged in complex activities such as teaching and learning. Gradually, these issues are being resolved.

### **2.3.1 Perceived ease of use in adoption of web based technologies.**

Perceived ease of use is defined as degrees in which a person believes or agrees in using a particular system effort free(David, 2009).An individual's perception of any IT web based technology will allow automatic adoption. However, if users perceive web technologies to be complex, the rate of adoption will be slow.

Altitude plays a key role in one's mind as far as simplicity of new system is concerned. This is demonstrated in studies by (Beiginia, 2007) who revealed that ease of use among other factors plays an important role in altitude towards the adoption of IT systems.

There have been studies explaining the user acceptance of web-based technology through the technology acceptance model (TAM)(Pam, 2002) which reveals that perceived ease of use and perceived usefulness affect the intention to use.

### **2.3.2 Perceived usefulness in the adoption of Web-based technology**

Perceived usefulness is the degree to which a person believes that using a specific system will enhance his or her job performance (David, 2009).Further he elaborated that perceived usefulness has a high correlation to user acceptance of IT and that the perceived usefulness on behavioral intention is different in different countries.

According to studies by (Koufaris,2008),have validated the construct of Perceived usefulness as they were found to influence the potential internet shoppers,though study on internet retailing from Technology acceptance Model(TAM) is limited; nevertheless the perceived usefulness construct still garnered a lot of support from many other technological applications.

### **2.3.3 General challenges in adoption of Web-based technologies in Industry**

There is an ongoing debate within and outside the academic community about the value of ICT to SMEs despite conflicting support for the significance of the factors of ICT adoption and use (Parker and Castleman, 2007). Previous studies on ICT adoption report that SMEs in developing countries have not fully capitalized on technological developments to extend their businesses beyond traditional borders; off-line identification of customers, use of multiple intermediaries and marketing channels constrained by distance (Humphrey,2003).There is a need for a better understanding of the determinants

of ICT usage (Taylor and Todd,2005) and factors that drive or constraint its adoption and use as found byHarindranath (2008).

Although technologies like Telepresence can bring people “inperson” experience during the meeting, they are not able to achieve the social interaction between people after a physical face-to-face meeting that is helpful for building a deeper special personal relationship (Gough, 2009).

There are two major types of videoconferencing systems: group and personal systems, the earlier requires high-quality devices, better technique support and relative larger bandwidth to offer the highest quality video experience (Zielinski, 2009). Modern e-conferences are mostly carried through Internet; making information security issues an unavoidable problem (Suduc, 2009). In addition, the quality of the meeting mainly depends on the facilities with which it has been set (Hartmann, 2009).

A study by Walczuc (2010), finds that the main hurdle to Internet adoption and developing a web presence is the concern that the Internet will not lead to greater efficiency or even lower the cost. Another key barrier identified is the perception that the Internet is not suitable for a particular business. In short, firms would be inactive in using Internet technologies should they fail to observe the value of having Internet connection. In addition, certain industries are not suited to having an Internet connection simply because of the nature of their business.

Compatibility and cost of adoption are two other factors addressed by Alam (2009) in his study of Internet adoption among Malaysian SMEs. When companies have adequate infrastructure for adoption and it is compatible, the adoption and utilization of the web is usually high because the companies are not required to spend a large sum in the infrastructure (Bazar and Boalch, 2007). The cost of adoption can be divided into two types: Internet access fees and company income according to Gattiker, Janz, and Schollmeyer (2006). The lower the cost of adoption and the higher the income of the business, the more likely it can adopt a new innovation.

For Business quality videoconferencing typically runs at a rate of 384 Kbps over Internet Protocol (IP) or integrated Systems Digital Network (ISDN) (Motamedi, 2006).An organization’s network resources predictably determine the amount of bandwidth used during a videoconference Session. The basic theory is that higher bandwidth gives better

resolution and generally overall good quality of the videoconference call. Quality is also affected by other factors such as video and audio algorithms internal to the codec (Frost and Sullivan, 2006).

As organizations modernize from ISDN to IP the availability of network resources becomes part of the greater internal network infrastructure (Frost and Sullivan, 2006). In IP environment, audio, data and video applications perform simultaneously on a common network platform. This usually entails controlling the amount of bandwidth utilized per videoconference session. End users are often unaware they may have an option to run their videoconferences at higher band-widths thus poor experiences have left them with the perception that the technology is not viable as a business communication tool.

Formica and Kohler (2008), claim that recent studies show that tourism organizations have failed to equal consumer demand as businesses have not completely embraced online trends. There appears to be a general agreement that the uptake of technological developments in the tourism industry is lagging and does not meet the level required to operate competitively in an increasingly ICT driven industry (Bruan,2004). Although most Australian tourism organizations have websites, these websites have varying levels of interaction that are often unsuccessful at taking advantage of the latest online developments (Bruan,2004). In a study on Web 2.0 uptake, Schegg, Liebrich, Scaglinone and Ahmad (2008) established that the presence of Web 2.0 applications was low and was limited to innovative newcomers. Traditional tourism companies which comprise the bulk of the industry were slow to use Web 2.0.

According to Evans, Bohrer and Richards (2006), the challenges for larger organizations when implementing new technologies consist of internal politics, organizational hierarchies and standardization. Common barriers to technological adoption amongst SME include less understanding of the benefits and value of technology, an absence of strategic direction for ICT and a lack of training and capital according to Nodder, Mason, Ateljevic and Milne (2008).

According to Purdy and Nye (2006), Videoconferencing is actually less time efficient than face to face collaboration, possibly due to participants' difficulty in understanding each other and regulating conversations. Participants also need more advance preparation to accomplish objectives in video conferencing. There is evidence of less participation in videoconferencing than in face to face communication, perhaps due to dissatisfaction with

current video conference technology or the "theatrical" feel of a video conference room meeting.

One explanation for the reduced cohesiveness seen in videoconferencing may come from experiments on the media's effect on trust. Trust is a broad concept (Mayer, Davis, and Schoolmen, 2005) defined as "readiness to be vulnerable, based on expectations about the actions of others". Bos (2012) assigned teams to face to face, video conference and audio conference conditions and asked them to solve a social dilemma problem. This type of problem is commonly used to measure trust, since social dilemmas are defined as problems in which the best interests of the group conflict with the best interests of each individual example the prisoner's dilemma. In Bos's experiment, the video conference and the audio conference groups did as well as the face to face groups in group payoff (the measure of trust), but the pattern of trust development was different. Video conference and audio conference groups took longer to reach cooperation (an effect Bos calls delayed trust) and exhibited fragile trust that is repeated cycles where one player violates an agreement and others retaliate, followed by group discussion and reestablishment of trust.

At least one study has found that persuasiveness is lower in video conferencing than in face to face (Ferran-Urdaneta, 2011) attributes this to increased cognitive workload and decreased interaction in video conferencing, which results in participants being less willing or able to engage in systematic elaboration of the message. Small delays in video and audio conference can frustrate participants and seriously disrupt their ability to reach mutual understanding. Tang and Isaac (2013) found that the audio delay made it difficult to manage turn-taking and to coordinate eye contact. They ended up turning off the audio and choosing a phone call(using speakerphones), even though the audio arrived before the video, the quality was poorer, and the speakerphone allowed only one party's sound to be transmitted at a time. This observation supports other research findings and my own experience that for most tasks, audio quality and responsiveness are more important for participant satisfaction than is video quality. Clearly, technology is improving, and classic video conference has improved as well.

According to Hearnshaw (2010), for the last 10 years, videoconferencing market has released proprietary issues with development of industry standards. Most vendors have adopted these standards as a common denominator to collectively encourage growth for the overall industry. As a result, vendors have continued enhancing the total

videoconferencing experience for the end user resulting in continued growth. However its adoption is not embraced by many industries.

## **2.4 Strategies Employed in Adoption of Web conferencing**

Review from the previous research has identified a variety of strategic factors that influence the IT adoption process. These factors are such as top management, organizational behavior and characteristics, firm resources, Government, customers, suppliers and external IT consultants and vendors (Ghobakhloo, 2012).

The influencing factors are categorized into Internal and External factors. Internal factors are defined as the ones within the organization context whereas External factors are the ones within the environmental context which describes the arena in which the business carries its operation (Tang, 2012).

### **2.4.1 Internal Factors**

#### **2.4.1.1 Top Management**

IT Adoption process is directly influenced by the Top Management from where all decisions regarding daily operation to future investments are made (Nguyen, 2009). A number of studies have revealed that the role of Top management in organizations are central to the firm, since their decisions influences all firms activities both currently and in future (Fuller, 2006).

Similarly and based on upper echelon theory previous research's suggests that top management demographic characteristics and personality traits of extraversion and openness are significant determinants of information technology usage behavior and performance within Organizations (Chuang, 2009).

The characteristics of Top management should be taken into consideration in the investigation of strategic activities, such as adoption innovation, including IT as new technology (Lefebvre, 2006). Organizations that have adopted IT, are most likely to have Top managers who possess better positive attitudes in its adoption (Thong, 2009). This view was echoed by Caldeira and Ward (2007) who found that the positive attitudes of Top management have resulted in relative adoption of IT in organizations. Additionally it

is argued that greater intention to adopt IT solutions is attributed to more positive attitude of small and minority business owners (Quresh, 2008).

IT adoption literature has provided evidence that support and commitment from Top Management towards IT adoption is a key cornerstone to higher levels of success and satisfaction in its adoption and use (Ghobakhloo, 2010).

Another influencing factor attributed to the Top Management characteristics is top Manager Innovativeness both in general and IT specific terms (Ghobakhloo, 2011).

#### **2.4.1.2 Resources**

Small and Medium Enterprises are distinguished and suffering from lack of adequate financial resources as compared to large organizations (Nieto, 2007). Previous literature on IT adoption suggests that due to unique characteristics of SME's, their financial, technical and managerial resources, information accessibility, internal and external expertise, market accessibility and In house IT knowledge and experience can hinder the adoption of IT (Nguyen, 2009).

A study by Ein-Dor and Segev(2008), suggested that, through investing sufficient financial resources, the probability of IT implementation within organizations will be increased. This view was reinforced by Thong (2007) who demonstrated that, after external expertise, IT investment is the most important determinant of IT implementation in Singaporean.

On the other hand and comparing with the large organizations it has been acknowledged that SME suffers from lack of in house expertise in IT which negatively affects the rate of adoption of IT(Cragg ,2005).As a result SME are facing significant risks and problems with computerization due to lack of adequate IT expertise (Igabaria 2007).

Knowledge in IT is a key resource in influence IT adoption in organizations. Development of internal IT knowledge skills is one of the most bases required for providing superior IT adoption and satisfaction (Calderia, 2007).

#### **2.4.1.3 End Users**

In most organizations employees are regarded as most important assets and along with the role of a Manager, seriously affect the firm survival and success(Nguyen,2009).These

assets regarded as the users of IT within organizations are precious resource to firms(Caldeira,2007) which need to be developed to contribute to the success of any business organizations(Zhou,2009).

Characteristics of IT users, including knowledge of IT, training, attitudes and intention toward IT,and participation and involvement in adoption process could affect IT acceptance, or its adoption process as well(Calderia,2007). Lack of training and skills of IT in organizations will result in a limiteduse of IT and lack of success in reaping benefits from computer hardware and software inorganizations. This situation will further lead to a lack of IT adoption success in organizations, given that successful adoption of IT needs the sharing of knowledge, training, and higher levels of skills bythose employees who use IT (Ghobakhloo, 2010).

In order to facilitate the successful implementation of IT in organizations, and to avoid adoption failure, these organizations should also augment the level of IT knowledge among potential IT users through providing employees with computer education and training courses (Thong, 2007).According to Igarara(2007), attitudes towards using IT with Perceived Usefulness (PU) and Perceived ease of use(PEOU) can fully affect the acceptance of IT by its users. Therefore satisfaction with IT by all users is another dimension of IT adoption success in organizations (Yan, 2007).

In summary, it can be concluded that Top Managers in the organizations are not the only users of IT who contribute to the success of its implementation. As the valuable assets of firms, employees also have a critical influence over adoption and successful implementation of new IT. Therefore, development of these resources is necessary for the success of the business (Ghobakhloo, 2011).

#### **2.4.1.4 Organizational Characteristics**

Previous research on IT within organizations have revealed a number of organizational characteristics as potential determinants of the adoption process which include strategies, business size, type of industry, information intensity, organizational culture and technological maturity (Acar,2005).

Strategically, IT tools are employed within organizations in order to achieve pre-determined business strategy. Therefore, organizations investments in IT are strongly

affected by their strategic context, such as cost reduction versus value added strategies (Levy, 2007). According to Nguyen (2009), many businesses adopt new IT merely to keep up with other organizations which have implemented these technologies. Under such circumstances, lack of definition or strategy of the purposes of IT adoption will lead to project failure.

Business size is one of the most important determinants of IT adoption. The importance of firm size is partly due to its role as the source of the firm's capabilities (Mole, 2004).

Another organizational characteristic that affects the adoption of IT in organizations is specification of industry sectors to which they belong. Previous literature provides support for type of business and information intensity as determinants of IT adoption in organizations (Ghobakhloo, 2011).

## **2.4.2 External Factors**

### **2.4.2.1 External and Competitive Pressure**

For many organizations, pressure to keep up with the competition, providing a means to enhance survival and growth, managing change, promoting services to customers and staying competitive and enhancing innovation abilities have forced them to adopt IT (Nguyen, 2009). Prior research suggests that as small businesses are susceptible to customer pressure, these firms adopted IT as a result of demand from customers to develop the efficiency of their inter-organizational dealings (Levy, 2006). Hence, it has become a vital strategy for firms to have these technologies, while others suggested that the main driving forces to move toward IT tools adoption in organizations are internal factors, including industry changes and trends, maintaining current market, finding new markets, opportunities for growth and the necessity to keep up with competition (Southern, 2009).

### **2.4.2.2 Information Technology as a Solution**

The process of IT adoption within organizations also depends on characteristics of marketed IT itself which consist of a cluster of factors including type, process compatibility, user friendliness and popularity of implemented IT, quality of software available in market and the costs of IT (Salmeron, 2006). For adoption of enterprise application software, easy to understand and relatively long experienced enterprise

applications are more effective in organizations as compared too hard to understand and brand new applications (Shin,2006).Given that information systems and technologies are considered as the major enablers of greater business performance, quality of IT products available in the market is important determinant when it comes to deciding on the adoption IS/IT products among organizations (Sardana,2008).

The technological characteristics of IT products available in the market, including their compatibility and security, are also significant determinants of IT adoption in organizations(Grandon,2004).Compatibility is an important technological characteristic perceived by individuals, which was suggested by Diffusion of Innovation(DOI) theory as a driver of the decision to adopt a new system(Amoako,2004).

Several previous studies on IT adoption within Organization found that IT adoption and usage is significantly affected by the compatibility of relative products (Hang, 2006). It is imperative that Top Managers of Organizations consider the most appropriate application in their businesses when deciding whether or not to implement new IT (Nguyen, 2008).

#### **2.4.2.3 External IT Consultants and Vendors**

Existence of external IT expertise, consultants and vendors and their respective quality is one of the most important aspects of the IT adoption process within organizations (Ghobakhloo,2011).Their professional abilities could have positive impacts on the IT adoption process while most organizations suffer from a lack of both IT experts and the hiring of external consultants(Nguyen,2009).Cragg and Zinatelli (2005),pointed out that a lack of internal expertise has seriously hindered IT sophistication and evolution within firms, therefore, they must overcome this problem through either seeking help from external sources or developing their own internal end user computing skills (Shin,2006).

#### **2.4.2.4 Government Support**

According to the literature from previous researches, significant positive relationships could be found between IT adoption and government support (Ahuja, 2009). Because of their size and lack of resources, SMEs generally depend more on external resources and support from the government than other larger organizations (Sarosa, 2008).

## **2.5 Chapter Summary**

Web conferencing as a tool of collaboration has been employed in the fields of Education, Medicine, Tourism, Transport and communication among others. Many benefits have been realized by those firms which have embraced it. Among the benefits include improved productivity, increased profitability, teamwork etc.

For the organizations which have these technologies in place they faced and still face a couple of challenges which includes: limited bandwidth, lack of social interaction after the meeting as compared to the face to face meetings, high cost of the tool etc.

Technology adoption model has been used by most of organizations to adopt information technology systems. TAM out performs the TRA and TPB in terms of explained variance and has been the leading model over two decades.

Chapter 2 looks at literature on the previous studies that have been conducted in the subject area. Chapter 3 will be addressing the research methodology of this study, which includes the research design, Population and Sampling design, data collection methods and research procedure. Chapter 4 will be discussing results and findings of this study whereas Chapter 5 will dwell on discussions, conclusions and recommendations.

## **CHAPTER THREE**

### **3.0 RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter covers the research design and methodology, including population, sampling, data collection methods, research procedure, establishing thoroughness during and after data collection and data analysis. Data was collected through structured questionnaire from the organizations on the adoption of web conferencing technology. The questionnaire was hand delivered where it was possible and emailed for the cases where it was not practical to hand deliver.

#### **3.2 Research Design**

Research design is a blueprint for conducting study with maximum control over factors that may interfere with the validity of the findings according to Burns and Grove (2003). It is also a researcher's overall for answering the research question or testing the research hypothesis according to Polit (2001).

The study focuses on the perceived benefits, challenges encountered and strategies employed in the adoption of web conferencing technologies in the organizations. The research approach was descriptive as it was perceived people were aware of most of the benefits and challenges in the technology adoption; through information obtained from the previous researcher's and text literature. A survey was conducted through administering a Questionnaire to collect the research data once (cross sectional).

For this study the dependent variable was the rate of adoption of web conferencing technology while the independent variables were benefits realized, challenges encountered and strategies employed in web conferencing adoption. The design used for

this study was correlational. It tended to compare the technology adoption with benefits, challenges and strategies associated with it.

### 3.3 Population and Sampling Design

#### 3.3.1 Population

According to Burns and Grove (2003) population is all the elements that meets a criteria for them to be included in a study. This study mostly focused on the organizations which have adopted web conferencing technology (concentrating on the benefits, challenges and strategies employed). The study also ventured into the organizations which have not adopted this technology (in those organization which have not embraced this technology, the study mostly was trying to reveal the hindrances or challenges).

Population is the total number of units from which the data can be collected, such as individuals, artifacts, events or organizations a definition according to Parahoo (2001).

This research focused on the organizations in Kenya but mostly looking at the ones that have adopted this technology especially, corporate in the private sector. It also dwelled on the public sector where it is perceived there is little or no adoption of these technologies. The population targeted in those organizations was two hundred and fifteen respondents (working in the ICT departments), representing the major organizations in the country. The population covered organizations across almost all the sectors of the economy; this included the Education, Medical, Information communication technology, Non-Governmental organizations (Ngo's), Banking and financial industry, Manufacturing, Hospitality and the civil service in general.

**Table 3.1 Number of Employees**

<b>Sector (Cluster)</b>	<b>Target Staff</b>	<b>Percentage</b>
Civil service	36	17%
Banking and Financial Services	26	12%
Medical	14	7%
ICT	70	33%
Education	35	16%
Manufacturing	12	6%
NGO	4	2%
SME's	18	8%
<b>Total</b>	<b>215</b>	<b>100%</b>

Source: Functional departmental Units of the Target Organizations

### 3.3.2 Sampling Design

The sample design is a procedure by which selection of primary elements to be included in the study and the analyses are determined in order to respond to the research questions (Shields and Rangarajan, 2013).

#### 3.3.2.1 Sampling Frame

Sampling frame is the list of elements representing the population from which the sample is drawn (Cooper and Schindler, 2011). Most the researcher may not get direct access to the whole population hence the need on relying on the sampling frame as a representative of the entire population. For this study only staffs who are working in ICT functional units of the target organizations were included as found from their Human Resources departments.

**Table 3.2 The Sampling Frame**

<b>Sector (Cluster)</b>	<b>Number of Organizations</b>	<b>Number of Staff</b>
Civil service	3	23
Banking and Financial Services	2	17
Medical	2	9
ICT	6	45
Education	4	23
Manufacturing	2	7
NGO	2	2
SME's	2	12
<b>Total</b>	<b>23</b>	<b>138</b>

#### 3.3.2.2 Sampling Technique

Sampling Technique is a process of selecting the specific methodology to use in determining the entities in the study (Cramer and Howitt, 2004). Cluster sampling is a sampling technique in which population members are divided into unique and non-

overlapping groups prior to sampling (Henry, 1990). These groups are referred to as clusters as they are naturally occurring e.g. organizations, schools, households or geographical units. This kind of sampling method is used when no master list of population exist but cluster list are obtainable( Babbie,1990).A drawback using cluster sampling occurs within the precision of the statistics(Babbie,1990) and since cluster sampling is convenient when master list of population is not available ,the researcher will run risk of getting inaccurate findings. The way to increase accuracy of cluster sampling is to use many clusters when implementing multistage sampling (Fink, 1995).

In this research the sampling technique used was cluster sampling which is probabilistic in nature.

### **3.3.2.3 Sample Size**

A sample size is proportion of population a definition according to Polit(2001).

The following formula was used to determine the sample size for the survey based on cluster sampling technique.

$$n = (Z^2pqN)/e^2 (N-1) + Z^2pq(\text{Pagano and Gauvreau, 2000})$$

Where

n- Sample size

N-Entire Population

Z-Z-score corresponding to  $\alpha = 0.05$  level of significance

e-Expected Error

P-Probability of success

q- Probability of Failure

p =0.5 (50% Probability of success)

q =0.5 (50% Probability of Failure)

$Z_{0.05} = 1.96$

$e = 0.05$

$N = 215$

Therefore  $n = (1.96^2 \times 0.5 \times 0.5 \times 215) / 0.05^2(215-1) + 1.96^2 \times 0.5 \times 0.5$

Sample Size (n) = 138 respondents.

### **3.4 Data Collection Methods**

A research instrument is a tool used to collect data definition from Parahoo (2001). An instrument is a tool used to measure skills knowledge and altitude. In this research, data was collected using a structured questionnaire which was administered through hand delivery and through email depending with the target organization. The costs of distributing the mailed questions are relatively low considering the geographical area that is to be covered. Questionnaires can be distributed to large population of people within a short time.

Respondents enjoyed a high degree of freedom in completing the questionnaires. Subjects felt comfortable and anonymous and hence they expressed controversial opinions.

The data collection tool was organized in relation to the specific objectives of the study. It was developed in a way that it can be valid for a long period of time without losing the meaning of the target it was meant to capture. This means it can stand test of time. The research tool was able to capture all the information that was required for the success of this study.

### **3.5 Research Procedures**

The general objective of the study was identified as the rate of adoption of web conferencing as tool of collaboration in the organization. This was further broken down into the specific objective which includes the benefits and challenges associated with the adoption and the strategies employed. Pilot testing of ten respondents was conducted in telecommunication industry.

The research design was quantitative in nature; correlation and linear regression models were used. The sample size of one hundred and thirty eight staff members in twenty three organizations was used in this study.

Questionnaire was used as a tool of data collection in this study. This Questionnaire was developed in a way to capture all the three specific objectives of this study. The data collection tool had three parts that is the general demographics, technology adoption and the independent variables.

The data tool was administered via e-mail and others hand delivered to the offices. Completed Questionnaires were collected from the respondents, sorted out, coded and keyed into the SPSS and then the analysis followed. Presentation after analysis was done using Tables and Figures.

Web conferencing systems adopted in organizations has to a great extend improved the productivity, Profitability and communication making them more competitive within the industry. Challenges associated with the technology adoption has led to some companies abandoning these collaboration systems and influencing those not yet adopted to shy away. These challenges can be eliminated if proper strategic policies as regards to Technology adoption are clearly crafted.

### **3.6 Data Analysis Methods**

Data analysis is the process that entails an effort to formally identify themes and to construct hypothesis as they are suggested by data and attempt to demonstrate support for those themes and hypothesis (Bogdan and Taylor, 1975).

Data analysis employed in this study was quantitative; Inferential in nature which involved measurements of relation among the variables. It included correlation and linear regression.

#### **3.6.1 Analytical Model**

The study used the following regression model to establish the relationship between the benefits, Challenges and the strategies.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + E \dots \dots \dots (1)$$

Y is the dependent variable (Rate of web conferencing adoption),

$\beta_0$  is the regression coefficient,

$\beta_1$ ,  $\beta_2$ , and  $\beta_3$ , are the slopes of the regression equation,

$X_1$  is the Benefits variable,

$X_2$  is the challenges variable,

$X_3$  is the strategies Variable.

### **3.7 Chapter Summary**

This chapter describes the whole research process including the tools that were used in data collection, how data was analyzed using SPSS and the way it was presented with tables and figures. It also covers on the characteristic of the population studied and how the sample size was determined.

After the data analysis and further presented as in chapter 4, it was used to form the basis for making the conclusions and recommendations as covered in chapter 5.

## CHAPTER FOUR

### 4.0 RESULTS AND FINDINGS

#### 4.1 Introduction

This chapter provides the analyses, interpretation and findings of the results. The chapter presents analysis of the descriptive data as the first step to understand the data structure, followed by qualitative analysis.

#### 4.2 Response Rate

The samples for the study consisted of 138 respondents from Twenty Three organizations in Kenya. A total of 128 self-administered questionnaires were filled out of the expected 138 yielding a response rate of 92.75 % as depicted in table 4.1. The response rate recorded was high and can be attributed to self-administration of the questionnaire.

**Table 4.1: Response Rate**

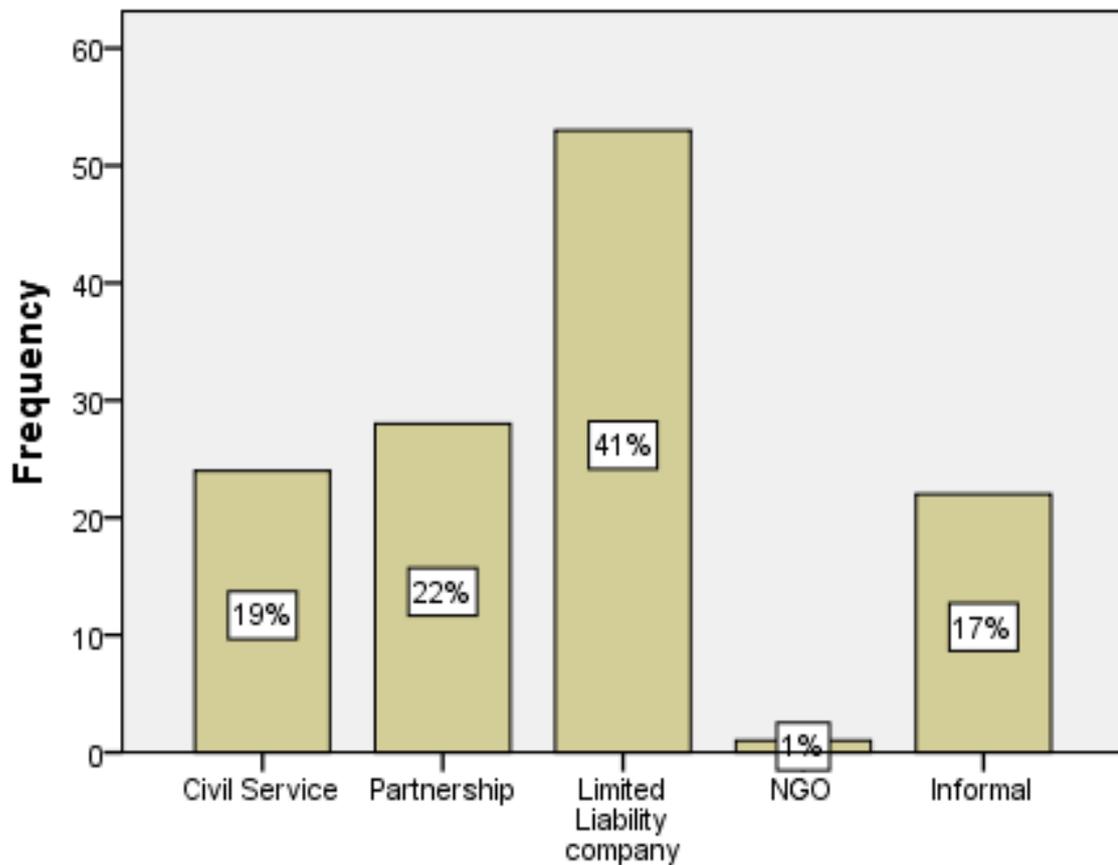
<b>Response rate</b>	<b>Sample size</b>	<b>Percentage (%)</b>
Returned questionnaires	128	92.75
Un-returned questionnaires	10	7.25
<b>Total</b>	<b>138</b>	<b>100</b>

#### 4.3 Firm Demographics

Description of factors involved the summarizing of the dependent and independent variables used in the study. The study had one dependent variable (Rate of adoption of Web Conferencing technology.), three independent variables (Benefits , Challenges and Strategies).

##### 4.3.1 Organization Type

The descriptive results indicated that majority (41%) of the respondents were from limited liability companies, followed by partnerships 22%, Civil service 19% and NGO 1% as indicated in figure 4.1.



**Figure 4.1 Organization Type**

#### 4.3.2 Sector Operating In

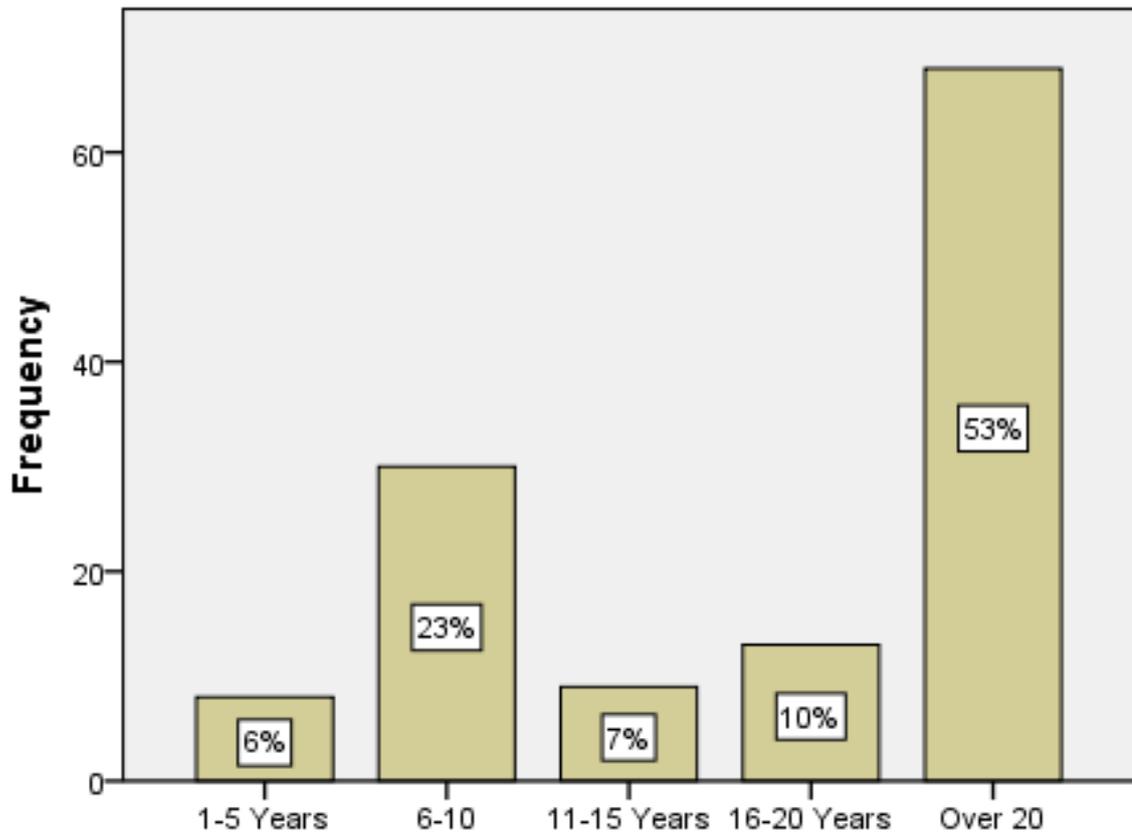
The study sought to investigate the sector in which the respondents' organization operates in, Table 4.2 indicates that majority of the organizations in the study 35% were in ICT industry followed by those in Education 18%. Banking and financial services 13 %, Civil service 13%, medical 7% and Manufacturing 4%.

**Table 4.2 Sector of Operation**

<b>Sector</b>	<b>Frequency</b>	<b>Percentage</b>
Civil service	17	13
Banking and Financial Services	17	13
Medical	9	7
ICT	45	35
Education	23	18
Manufacturing	5	4
SME's(Informal)	12	9
<b>Total</b>	<b>128</b>	<b>100</b>

### 4.3.3 Years of Operation

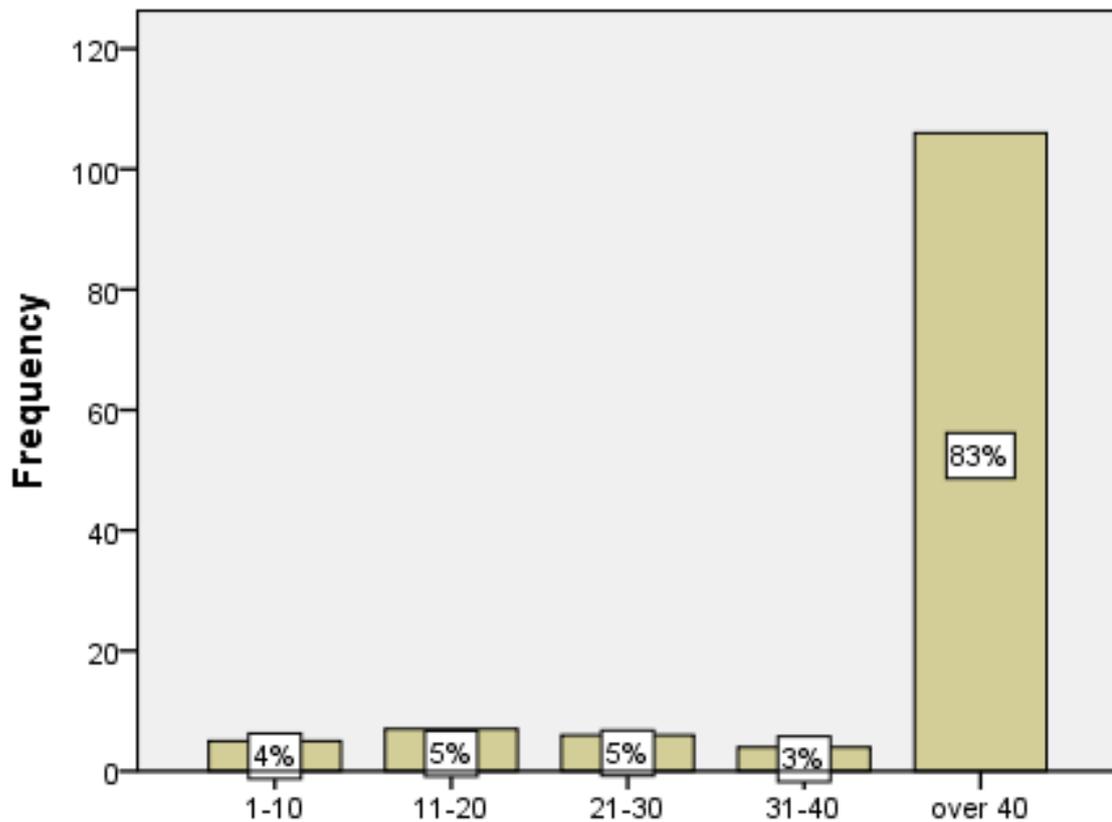
Respondents' years of operation was sought. The study established that majority 53 % had operated for over 20 years; 23% were in operation between 6-10 years, 10% between 16-20 years, 7% between 11-15 years and 6% between 1- 5years as indicated in figure 4.2.



**Figure 4.2 Organization Years of operation**

### 4.3.4 Number of Employees

On the categories of the number of employees working in the organizations under investigation, the study established that majority (85 %) had employees more than 40, followed by 5% with 21-30 employees, 5% with 11-20 employees, 4% with 1-10 employees and 3% with 31-40 employees as shown in figure 4.3.



**Figure 4.3 Numbers of Employees**

#### 4.4 Descriptive Analysis of Study Variables

##### 4.4.1 Adoption of web conferencing technologies.

The Cronbach's alpha was high at 0.667 as shown in Table 4.3. All items of Technology Adoption scale were retained for further analysis.

**Table 4.3 Technology Adoption Reliability**

Technology Adoption	N	Mean	Std. Deviation	Item-Total Correlation	Cronbach's Alpha if Item Deleted
Does your organization engage with Service providers	128	1.0859	.37704	.329	.678
Does your organization have an ICT policy	128	1.3359	.70182	.678	.424
Does your organization have ICT Strategic plan	128	1.5625	.87619	.577	.512
Does your organization have Web conferencing in Place	128	1.4375	.62431	.305	.685
<b>Overall Cronbach Alpha - 0.667</b>					

The study sought to find out how technology is adopted. Table 4.4 Indicates that 95 % of the respondents engage with service providers, 80% of the respondents have an ICT policy, 69% of the respondents have ICT strategic plan and 63% of the respondents have web conferencing facilities.

**Table 4.4 Technology Adoption**

<b>Technology Adoption</b>	<b>Yes (%)</b>	<b>No (%)</b>	<b>Not Sure (%)</b>
Does your organization engage with Service providers	95	2	3
Does your organization have an ICT policy	80	7	13
Does your organization have ICT Strategic plan	69	7	24
Does your organization have Web conferencing in Place	63	30	7

#### 4.4.2 Perceived Benefits

The results in Table 4.5 indicates that Cronbach's alpha of 0.935 implying that the items for benefits acquired were sufficiently reliable for measurement of the construct.

**Table 4.5 Benefits Reliability**

<b>Benefits</b>	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Item-Total Correlation</b>	<b>Cronbach's Alpha if Item Deleted</b>
Has Web conferencing facility deployed improved Productivity	122	3.779	1.110	.851	.916
Has Web conferencing deployed in your organization improved Profitability	122	3.615	1.117	.811	.923
Has Web conferencing deployed improved work flow and business processes	122	3.689	1.143	.850	.916
Has web conferencing deployed improved communication within the organization	122	3.803	1.147	.870	.912
Has web conferencing deployed improved communication with customers	122	3.508	1.180	.757	.934
<b>Overall Cronbach Alpha - 0.935</b>					

The study sought to determine the influence of perceived Benefits on web conferencing Technological Adoption. Five items which depicted perceived Benefits were subjected to descriptive analysis through the use of percentages, mean and standard deviation. From the study findings as shown in Table 4.6, Most of the respondents (41%) agreed that Web conferencing facility deployed had improved Productivity. Most of the respondents (37%) agreed that Web conferencing deployed in their organization improved Profitability. Majority of the respondents agreed that (38%) Web conferencing deployed

had improved work flow and business processes. Most of the respondents (40%) agreed that web conferencing deployed had improved communication within the organization. Most of the respondents (34%) agreed that web conferencing deployed had improved communication with customers.

**Table 4.6 Perceived Benefits on Technology Adoption.**

Benefits	SD (%)	D (%)	N (%)	A (%)	SA (%)
Has Web conferencing facility deployed improved Productivity	6	7	18	41	28
Has Web conferencing deployed in your organization improved Profitability	6	10	24	37	23
Has Web conferencing deployed improved work flow and business processes	7	8	21	38	26
Has web conferencing deployed improved communication within the organization	7	7	16	40	30
Has web conferencing deployed improved communication with customers	7	15	22	34	22

#### 4.4.3 Challenges encountered.

Table 4.7 indicates that Cronbach's alpha of 0.900 implying that the items for challenges construct were sufficiently reliable for measurement of the construct.

**Table 4.7 Challenges Reliability**

Challenges	N	Mean	Std. Deviation	Item-Total Correlation	Cronbach's Alpha if Item Deleted
Has Web conferencing deployed in your organization always available	120	2.967	1.216	.688	.888
Has Web conferencing deployed in your organization easily accessible	120	3.008	1.273	.685	.888
Web conferencing deployed in your organization is reliable	120	3.183	1.181	.659	.890
Does your organization have set budgets for IT systems	120	3.567	1.027	.661	.889
ICT Projects are easily funded in your organization	120	3.458	1.020	.651	.890
Management allocates budget for ICT development	120	3.708	0.911	.635	.891
Management support ICT projects deployed in the organization	120	3.775	0.874	.649	.891
Employees easily adapt to the new ICT systems deployed	120	3.575	1.010	.597	.893
A number of employees have done basic IT training	120	3.975	0.921	.633	.891
Employees in your organization are technology savvy	120	3.875	0.975	.558	.895
A number of employees have a technical background in IT	120	3.858	1.007	.585	.894
<b>Overall Cronbach Alpha - 0.900</b>					

The study sought to examine the respondent's level of agreement with the variable that relates to challenges encountered on web conferencing Technological Adoption adopted. From the findings in Table 4.8, majority of the respondents (32%) agreed Web conferencing deployed in their organization was always available. 27% of the respondents agreed that Web conferencing deployed in their organization was easily accessible. 36% of the respondents agreed that Web conferencing deployed in their organization was reliable. 45% of the respondents agreed that budgets for IT systems are set .40% of the respondents also agreed that ICT Projects were easily funded in their organization. 46% of the respondents agreed that Management allocated budget for ICT development.52% of the respondents agreed Management supported ICT projects deployed in their organization. 42% of the respondents agreed that employees easily adapted to the new ICT systems deployed. 52% of the respondents agreed that a number of employees had done basic IT training.42% of the respondents agreed that employees in their organization were technology savvy and majority of the respondents 46% agreed that a number of employees had a technical background in IT.

**Table 4.8 Influence of Challenges on Technology Adoption**

<b>Challenges</b>	<b>SD (%)</b>	<b>D (%)</b>	<b>N (%)</b>	<b>A (%)</b>	<b>SA (%)</b>
Has Web conferencing deployed in your organization always available	14	24	21	32	9
Has Web conferencing deployed in your organization easily accessible	16	19	25	27	13
Web conferencing deployed in your organization is reliable	12	16	24	36	12
Does your organization have set budgets for IT systems	7	7	25	45	16
ICT Projects are easily funded in your organization	6	10	31	40	13
Management allocates budget for ICT development	3	6	27	46	18
Management support ICT projects deployed in the organization	2	7	21	52	18
Employees easily adapt to the new ICT systems deployed	2	16	23	42	17
A number of employees have done basic IT training	3	6	11	52	28
Employees in your organization are technology savvy	2	6	21	42	29
A number of employees have a technical background in IT	4	5	18	46	27

#### 4.4.4 Strategy employed

Table 4.9 indicates that Cronbach's alpha of 0.866 implying that the items for strategies used were sufficiently reliable for measurement of the construct.

**Table 4.9 Strategies Reliability**

Strategies	N	Mean	Std. Deviation	Item-Total Correlation	Cronbach's Alpha if Item Deleted
Management views ICT as a strategic resource	120	3.850	0.885	.682	.843
Management reward employees who use ICT to solve problems	120	3.092	1.209	.693	.837
Management encourages employees to be ICT Champions	120	3.533	1.159	.759	.818
Management encourages employees to get certification in ICT Proficiency	120	3.567	1.193	.764	.817
A number of employees have a technical background in IT	120	3.900	0.974	.565	.865
<b>Overall Cronbach Alpha - 0.866</b>					

The study sought to examine the respondent's level of agreement on Influence of Strategies employed on web conferencing Technology Adoption. From the findings in Table 4.10, majority of the respondents (46%) agreed that Management viewed ICT as a strategic resource. 21% of the respondents agreed Management rewarded employees who used ICT to solve problems. 36% of the respondents agreed Management encouraged employees to be ICT Champions. 30% of the respondents agreed that Management encouraged employees to get certification in ICT Proficiency and majority 45% agreed that a number of employees had a technical background in IT.

**Table 4.10 Influence of Strategies on Technology Adoption**

Strategies	SD (%)	D (%)	N (%)	A (%)	SA (%)
Management views ICT as a strategic resource	1	7	23	46	24
Management reward employees who use ICT to solve problems	9	25	29	21	16
Management encourages employees to be ICT Champions	6	16	21	36	21
Management encourages employees to get certification in ICT Proficiency	7	14	24	30	25
A number of employees have a technical background in IT	2	10	16	45	28

## 4.5 Inferential Analysis

### 4.5.1 Correlation.

Table 4.11 indicates the correlation coefficient between web conferencing Technology Adoption and Perceived Benefits, challenges Encountered and Strategies Employed. The findings revealed that there is statistically significant positive relationship between web conferencing Technology Adoption and Perceived Benefits ( $r=0.329$ ,  $p<0.01$ ). There is a strong significant negative relationship between web conferencing Technology Adoption and Challenges Encountered ( $r=-0.623$ ,  $p<0.01$ ). There is a strong significant positive relationship between web conferencing Technology Adoption and Strategies Employed ( $r=0.510$ ,  $p<0.01$ ).

**Table 4.11 Correlation**

		Correlations		
		Benefits	Challenges	Strategies
Technology Adoption	Pearson Correlation	.329**	-.603**	.510**
	Sig. (2-tailed)	.001	.000	.000
	N	98	98	98

\*\* . Correlation is significant at the 0.01 level (2-tailed).

### 4.5.2 Regression Analysis

The model analysis of regression is shown in the table 4.12. Regression indicates the strength of the relationship between the independent variables (perceived Benefits, challenges Encountered and Strategies Employed) and the dependent variable (Adoption of web conferencing technologies). The R square value in this case is 0.416 which clearly suggests that there is a strong relationship between Adoption of web conferencing technologies and Benefits perceived, challenges encountered and Strategies employed. This indicates that the Benefits perceived, challenges encountered and Strategies employed share a variation of 41.6 % of Adoption of web conferencing technologies.

**Table 4.12 Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.645 <sup>a</sup>	.416	.398	.56334

a. Predictors: (Constant), Strategies employed , perceived Benefits, Challenges encountered

b. Dependent Variable: Adoption of web conferencing technologies

Table 4.13 indicates that the F-test value result was 22.778 with a p-value of  $0.000 < 0.05$  level of significance, therefore a significant relationship was present between the independent variables (Benefits perceived, challenges encountered and Strategies employed) and the dependent variable (Adoption of web conferencing technologies). In other words the entire model was a good fit.

**Table 4.13 ANOVA**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	21.685	3	7.228	22.778	.000 <sup>b</sup>
	Residual	30.465	96	.317		
	Total	52.151	99			

a. Dependent Variable: Adoption of web conferencing technologies

b. Predictors: (Constant), Strategies employed , perceived Benefits, Challenges encountered

The established multiple linear regression equation becomes

$$Adoption = -0.171 + 0.150X_{benefits} - 0.416X_{challenges} + 0.153X_{strategies} + Error$$

For the constant, if all the independent variables are held constant then the Adoption of web conferencing technologies will be -0.171. The coefficient of the constant is significant since  $t\text{-value} = -2.989$  ( $p\text{-value} = 0.004 < 0.05$  level of significance) as indicated in table 4.14.

The regression coefficient of Perceived Benefits is 0.150 with a  $t\text{-value} = 2.025$  ( $p\text{-value} = 0.046 < 0.05$  level of significance) .This shows that one unit change in perceived Benefits results in 0.150 unit increase in Adoption of web conferencing technologies.

The regression coefficient of Challenges encountered is -0.416 with a t-value =-5.369 (p-value=0.000<0.05 level of significance) .This shows that one unit change in challenges Encountered results in 0.416 unit decrease in Adoption of web conferencing technologies.

The regression coefficient of Strategies Employed is 0.153 with a t-value =2.092 (p-value=0.039<0.05 level of significance) .This shows that one unit change in Strategies Employed results in 0.153 unit increase in Adoption of web conferencing technologies.

**Table 4.14 Coefficients**

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	-.171	.057		-2.989	.004
Perceived Benefits	.150	.074	.205	2.025	.046
Challenges Encountered	-.416	.078	-.539	-5.369	.000
Strategies Employed	.153	.073	.215	2.092	.039

a. Dependent Variable: Adoption of web conferencing technologies

### 4.5.3 Order of importance

Most importance independent variable in the regression model is challenges Encountered. It has the highest Beta value of (-0.539) then followed by Strategies Employed (beta=0.215) and lastly perceived Benefits (beta =0.205).

### 4.6 Chapter Summary

Chapter 4 gives the results and finding of the study. Research was conducted in twenty three organizations and a number of one hundred and eight respondents participated in the survey. All the major findings were captured and thereafter analysis using SPSS was done. All discussions, conclusions and recommendations are carried in chapter 5.

## CHAPTER FIVE

### 5.0 DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

#### 5.1 Introduction

This chapter discusses the results and findings of the study and relates this to the prior studies. The summary of results is reviewed and the detailed discussions follow after. Conclusions of the study are drawn after the findings. Finally recommendations to improve in practice and for further research are drawn.

#### 5.2 Summary

The general objective of this study was to determine the rate of Web Conferencing adoption in organization in Kenya. The specific objectives being the benefits and challenges associated with the adoption of this tool and the strategies employed.

The research methodology employed was inferential; correlation and linear regression. The idea was to compare the rate of adoption with the benefits, challenges and the strategies employed. A survey was conducted through administering a Questionnaire to collect the research data once (cross sectional). The study was drawn to only include the population which was able to give the needed information.

The study established that 95 % of the respondents engage with service providers, 80% of the respondents have an ICT policy, 69% of the respondents have ICT strategic plan and 63% of the respondents have web conferencing facilities.

Five items which depicted perceived Benefits were subjected to descriptive analysis through the use of percentages, mean and standard deviation. From the study findings as shown in table 4.6, Most of the respondents (41%) agreed that Web conferencing facility deployed had improved Productivity. Most of the respondents (37%) agreed that Web conferencing deployed in their organization improved Profitability. Majority of the respondents agreed that (38%) Web conferencing deployed had improved work flow and business processes. Most of the respondents (40%) agreed that web conferencing deployed had improved communication within the organization. Most of the respondents (34%) agreed that web conferencing deployed had improved communication with customers.

From the findings in table 4.8, majority of the respondents (32%) agreed Web conferencing deployed in their organization was always available. 27% of the respondents agreed that Web conferencing deployed in their organization was easily accessible. 36% of the respondents agreed that Web conferencing deployed in their organization was reliable. 45% of the respondents agreed that budgets for IT systems are set .40% of the respondents also agreed that ICT Projects were easily funded in their organization. 46% of the respondents agreed that Management allocated budget for ICT development.52% of the respondents agreed Management supported ICT projects deployed in their organization. 42% of the respondents agreed that employees easily adapted to the new ICT systems deployed. 52% of the respondents agreed that a number of employees had done basic IT training.42% of the respondents agreed that employees in their organization were technology savvy and majority of the respondents 46% agreed that a number of employees had a technical background in IT.

From the findings in Table 4.10, majority of the respondents (46%) agreed that Management viewed ICT as a strategic resource. 21% of the respondents agreed Management rewarded employees who used ICT to solve problems.36% of the respondents agreed Management encouraged employees to be ICT Champions.30% of the respondents agreed thatManagement encouraged employees to get certification in ICT Proficiency and majority 45% agreed that a number of employees had a technical background in IT.

### **5.3 Discussion**

The rate of adoption of web conferencing systems in Kenya organizations stands at 63%. Benefits perceived, challenges encountered and Strategies employed share a variation of 41.6 % of Adoption of web conferencing technologies.

#### **5.3.1 Benefits of Web conferencing technology adoption**

The findings from this study reveal that there is statistically significant positive relationship between web conferencing Technology Adoption and Perceived Benefits. Therefore most organizations are employing these technologies in their day to day operations to reap on those benefits and give them an upper hand in the ever competitive business environment.

Productivity, Profitability, Business workflow and communication within and without the organizations are significant in influencing the rate of adoption according to this study. These are the key things that most organizations are seeking when adopting web conferencing technologies in order to give them competitive advantage. According to the previous researches this is true as most findings concur with this study i.e. Hung and Tan (2004) presented situated learning as a theoretical underpinning for taking students out of the classroom via Video Conferencing, and they suggested activities and outcomes that are consistent with this theory. The authors suggest that 'bringing the community into the classroom', through connecting students to scientists, experts, and professionals, enhances their learning. Students learn about collaboration through tele mentoring. This shows an increase in productivity.

Business travel has been on the decline in the United States. Telecommunications Industry Association (TIA) data reports a 4% decline (from 29% to 25%) in business travel volume compared to an increase in holiday travel volume (71% to 75%) (Miller and Washington, 2009). This shows that a lot of resources used during travel are saved as profits and channeled to other areas to increase in the productivity of the company. This by extension gives such organizations a competitive advantage.

Vodafone, a global mobile telecommunication company, which deployed Tandberg Video Conferencing in fifty sites, believes that, globally, 30% of travel expenditure in three years can be reduced by the greater use of Video Conferencing (Tandberg, 2006). This is in agreement with this study as majority 37% strongly believe that profitability within the organizations has increased by the adoption of web conferencing technology.

Workflow has been enhanced by this technology. From the results majority 38% agreed that, the way work process is designed is enhanced. This is echoed by prior studies that the ability to meet people easily regardless of the geographical diversity enables more frequent and timely meetings (Forbes, 2009).

Majority 40% agree that communication has improved within and without the organization. Frequent communication therefore enhances the collaboration between widely isolated business units and smoothens the relationships between business entities: for example, vendor and client (Forbes, 2009).

### **5.3.2 Challenges encountered in the adoption of Web conferencing technology**

This study revealed that, there is a strong significant negative relationship between web conferencing Technology Adoption and Challenges Encountered. There are a couple of challenges that either hinders or come with the adoption of Web conferencing systems according to the study. These include:

System unavailability occasioned by downtimes due power outages, transmission media failure etc. There is negative correlation between its adoption and the availability according to the study. Lack of technical skills and training in handling new technologies also contributes to its low adoption. The systems must be easily usable by any member of the staff at least to realize the benefits.

Reliability also plays a key role in adoption of web conferencing facilities. Such systems should be in such a way that they can be dependable to achieve the same results as face to face. Lack of support from the top management through setting budgets, financing and bureaucracy within organizations has led to slow adoption of web conferencing.

Dynamics of emerging technologies, there is rapid change in technology evolution making the adopted technology obsolete within a short time. Organizations find it expensive to keep on modernizing their IT systems. Limited bandwidths and security challenges associated with IT Technologies hinders its adoption.

According to previous study for Business quality videoconferencing typically runs at a rate of 384 Kbps over Internet Protocol (IP) or integrated Systems Digital Network (ISDN) (Motamedi, 2006). An organization's network resources predictably determine the amount of bandwidth used during a videoconference Session. The basic theory is that higher bandwidth gives better resolution and generally overall good quality of the videoconference call. This agrees with this study as 30% majority agreed that reliability is a key challenge.

As organizations modernize from ISDN to IP the availability of network resources becomes part of the greater internal network infrastructure (Frost and Sullivan, 2006). In IP environment, audio, data and video applications perform simultaneously on a common network platform. This usually entails controlling the amount of bandwidth utilized per videoconference session. End users are often unaware they may have an option to run their videoconferences at higher band-widths thus poor experiences have left them with

the perception that the technology is not viable as a business communication tool. This concurs with this study as majority 36% strongly agreed that reliability is one of the major challenge that hinders the adoption of web conferencing technology.

According to Evans, Bohrer and Richards (2006), the challenges for larger organizations when implementing new technologies consist of internal politics, organizational hierarchies and standardization. Common barriers to technological adoption amongst SME include less understanding of the benefits and value of technology, an absence of strategic direction for ICT and a lack of training and capital according to Nodder, Mason, Ateljevic, and Milne (2008). From this study it was revealed that majority 42 % agree technology acceptance by the employees is a key to smooth implementation of any IT Technology. Also management putting IT plans and budget in place is important to enhance adoption. Majority 46% agree with this as per this study. Employee technical training in IT also contributes 50% in lack of adoption.

A study by Walczuc (2010), finds that the main hurdle to Internet adoption and developing a web presence is the concern that the Internet will not lead to greater efficiency or even lower the cost. Another key barrier identified is the perception that the Internet is not suitable for a particular business. In short, firms would be inactive in using Internet technologies should they fail to observe the value of having Internet connection. In addition, certain industries are not suited to having an Internet connection simply because of the nature of their business. This is echoed by this study as majority 42% of employees don't easily accept the new projects in the organization. Human has a natural nature of resistance to change.

### **5.3.3 Strategies in adoption of Web Conferencing in the organizations**

This study revealed that there is a strong significant positive relationship between web conferencing Technology Adoption and Strategies Employed. ICT strategic plans put in place by organizations contributes to faster adoption of technologies according to this study. There is positive correlation between management strategic plans and its adoption. ICT policies within organizations also contributes to its adoption to a great extent: encouraging employees to get professional certification in IT, rewarding staff members who come up with innovations and appointing IT champions within the functional units of the organization all have positive correlation with its adoption.

From the prior studies; In order to facilitate the successful implementation of IT in organizations, and to avoid adoption failure, these organizations should also augment the level of IT knowledge among potential IT users through providing employees with computer education and training courses (Thong, 2007). From this study majority 30% agree that management should encourage employees to get certification in IT systems. Majority 45% believes that employees who have strong technical background in IT enhances the rate of adoption of IT systems. Therefore, when doing recruitment organizations should employ strategy of recruiting individuals who have got some percentage level of background in IT.

The characteristics of Top management should be taken into consideration in the investigation of strategic activities, such as adoption innovation, including IT as new technology (Lefebvre, 2006). Organizations that have adopted IT are most likely to have Top managers who possess better positive attitudes in its adoption (Thong, 2009). This view was echoed by Caldeira and ward (2007) who found that the positive attitudes of Top management have resulted in relative adoption of IT in organizations. Additionally it is argued that greater intention to adopt IT solutions is attributed to more positive attitude of small and minority business owners (Quresh, 2008). From the finding of this study majority 46% agrees that management views IT systems adoption as a strategic resource. This strategy helps in enhancing its adoption.

Strategically, IT tools are employed within organizations in order to achieve pre-determined business strategy. Therefore, organizations investments in IT are strongly affected by their strategic context, such as cost reduction versus value added strategies (Levy, 2007). This study echoes this, as majority 46% believes that management having IT strategies in place will enhance the adoption of IT systems in the organizations.

## **5.4 Conclusions**

### **5.4.1 Benefits of Web Conferencing Technology Adoption**

The results in Table 4.5 indicates that Cronbach's alpha of 0.935 implying that the items for benefits acquired were sufficiently reliable for measurement of the construct.

Web conferencing systems adopted in organizations has to a great extent improved the productivity, Profitability and communication making them more competitive within the industry.

#### **5.4.2 Challenges Encountered In the Adoption of Web Conferencing Technology**

Table 4.7 indicates that Cronbach's alpha of 0.900 implying that the items for challenges construct were sufficiently reliable for measurement of the construct.

Challenges associated with the technology adoption has led to some companies abandoning these collaboration systems and influencing those not yet adopted to shy away. These challenges can be eliminated if proper strategic policies as regards to Technology adoption are clearly crafted.

#### **5.4.3 Strategies in Adoption of Web Conferencing in the Organizations**

Table 4.9 indicates that Cronbach's alpha of 0.866 implying that the items for strategies used were sufficiently reliable for measurement of the construct.

IT strategies put in place by organizations are paramount to having smooth adoption. This study has revealed that if no proper IT strategies are put in place implementation of any IT system will always fail.

### **5.5 Recommendations**

#### **5.5.1 Recommendations for Improvement**

From the results of this study there is a come out a couple of improvements that can be implemented to accelerate in the adoption of web conferencing Technology.

##### **5.5.1.1 Recommendation on the Benefits of Web Conferencing Adoption in Organizations**

A number of people in the organizations are not informed on the benefits that come with the adoption of web conferencing technology. Informing people through trainings, advertisements (online and memos) and roadshows by respective departments to other staff members on the technologies that are available and their associated benefits is of paramount importance.

##### **5.5.1.2 Recommendations on the Challenges on Web conferencing Adoption In Organizations**

Organizations should consult experts on the best, affordable systems and sufficient capacities (bandwidth) required before rushing on adopting the systems without having

the right infrastructure in place. When this is not done the right way then challenges eventually outweighs the benefits.

Organizations should strive to purchase systems which are upgradable(through software or minimal change in hardware) to avoid rendering them obsolete within short period of existence; this will in turn lower the cost associated with adoption of new technologies.

### **5.5.1.3 Recommendations on the Strategies Employed In Web Conferencing Adoption in Organizations**

Management of Change should be encouraged prior to the adoption of any IT systems in Organizations i.e. through seminars, roadshows etc. This will avoid backlash from employees since human being has inherent resistance to change.

Training on new IT systems should always be done prior for their implementation to encourage ease of use.

### **5.5.2 Recommendation for Further Research**

Further study should be conducted to find which other factors apart from Benefits, challenges and strategies influence its adoption. Especially the constant value in the regression model of this study

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## APPENDIX I: Questionnaire

Answer the following questions by ticking or marking the boxes using X or  $\surd$  or by filling the empty boxes.

### PART I: General Demographics

1. What is your organizations type?  
Civil Service  Partnership  Limited Liability Company  NGO   
Other
2. What industry is your organization operating in?  
Civil Service  Banking and Financial Services  Medical  ICT   
Education  Hospitality  Manufacturing   
Others (Specify).....
3. How many years has your organization been in operation?  
1-5  6-10  11-15  16-20  over 20
4. What number of employees do you have in your organization?  
1-10  11-20  21-30  31-40  Over 40

### PART II: Technology Adoption

1. Does your organization engage with ICT Service Providers?  
Yes  No  Not sure
2. Does your organization have an ICT policy in place?  
Yes  No  Not sure
3. Does your organization have ICT Strategic plan  
Yes  No  Not sure
4. Does your organization have a Web /Video Conferencing in place?  
Yes  No  Not sure

**PART III: Independent Variables**

Please indicate the degree to which you agree or disagree with the following statements. Use a scale of 1-5 where; [1] strongly disagree; [2] disagree; [3] neutral; [4] agree; and [5] strongly agree.

**A. Benefits**

	<b>Strongly disagree (1)</b>	<b>Disagree (2)</b>	<b>Neutral (3)</b>	<b>Agree (4)</b>	<b>Strongly agree (5)</b>
1. 1.Webconferencing facility systems deployed have improved productivity	( )	( )	( )	( )	( )
2.	( )	( )	( )	( )	( )
3. Webconferencing systems deployed have improved work flow and improved business processes	( )	( )	( )	( )	( )
4. Web conferencing systems deployed have improved communication within the organization	( )	( )	( )	( )	( )
5. Web conferencing systems deployed have improved communication with customers	( )	( )	( )	( )	( )

## B. Challenges

	<b>Strongly disagree (1)</b>	<b>Disagree (2)</b>	<b>Neutral (3)</b>	<b>Agree (4)</b>	<b>Strongly Agree (5)</b>
6. The Web Conferencing systems in your organization are always available	( )	( )	( )	( )	( )
7. The Web Conferencing systems in your organization are easily accessible	( )	( )	( )	( )	( )
8. Web Conferencing systems in my organization are reliable	( )	( )	( )	( )	( )
9. Your organization has got a set budget for ICT systems	( )	( )	( )	( )	( )
10. ICT projects are easily funded in your organization	( )	( )	( )	( )	( )
11. Management allocates a budget for ICT development	( )	( )	( )	( )	( )
12. Management supports ICT projects deployed in the organization	( )	( )	( )	( )	( )
13. Employees in the organization easily adapt to the new ICT Systems deployed	( )	( )	( )	( )	( )
14. A number of employees have done basic training in IT	( )	( )	( )	( )	( )
15. Employees in your organization are technology savvy	( )	( )		( )	( )
16. A number of employees have a technical background in ICT	( )	( )	( )	( )	( )

### C Strategies

	<b>Strongly disagree (1)</b>	<b>Disagree (2)</b>	<b>Neutral (3)</b>	<b>Agree (4)</b>	<b>Strongly Agree (5)</b>
17. Management views ICT as a strategic resource	( )	( )	( )	( )	( )
18. Managements rewards employees who use ICT to solve business problems	( )	( )	( )	( )	( )
19. Management encourages employees to be ICT champions	( )	( )	( )	( )	( )
20. Management encourages employees to get certification in ICT proficiency	( )	( )	( )	( )	( )
21. A number of employees have a technical background in ICT	( )	( )	( )	( )	( )

22. In your opinion, what other factors affect the adoption of new technologies in your organization?

.....  
 .....