ADDIS ABABA UNIVERSITY
SCHOOL OF INFORMATION SCIENCE

ASSESSING THE USAGE OF ICT: IN ETHIOPIAN MANAGEMENT INSTITUTE

By:-

NATNAEL TESFAYE

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A thesis submitted to Addis Ababa University School of information science in partial fulfillment of the requirements for the degree of Master of Science in information science

By:-

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Declaration

This study is my original work and has not been presented in any University or college for an award of certificate.

Sign **date**

NATNAEL TESFAYE GEBRE GSE/0090/07

Name and signature of members of the examining board:

Name	Title	Signature	Date
Dr. MARTHA YIFIRU	Advisor	……	……
Dr. SOLOMON TEFERRA	Examiner	……	……
Dr. WONDOSSEN MULUGETA	Examiner	……	……

DEDICATION

This study is dedicated to my beloved mother Mamite Fantasew, my father Tesfaye, my brother Mulat, my sisters' Tigest, Tsion, Lesan and those who supported me. God bless you abundantly.

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I am sincerely grateful to my advisor Dr. Martha Yifiru for her continuous support, friendly approach and invaluable comment. She spent her precious time in commenting my work and showing me the right direction.

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LIST OF ABBREVIATION

EMI- Ethiopian management institute

HRM- Human resource management

ICT- Information and communication technology

IT- Information technology

IS- information science

GTPII- Growth and transformation plan two

KM- kilo meter

TAM- Technology acceptance model

WWW- World Wide Web

UNESCO- United Nation Education, Scientific and cultural organization

LAN- Local area network

CD- Compact disc

PR- public relation

SPSS- statistical package for social sciences

ABSTRACT

Introduction: These days managements in every organization are operating in highly dynamic and competitive environment. Thus, the current management training institutions are starting to understand the relevance and importance of information and communication technology. They are beginning to appreciate the use of ICT in any organization. This study tried to assess the current day to day usage of information and communication technology (ICT) and by how much work burden is resolved using ICT in Ethiopian management institute.

Objective: The general objective of this study is to assess the usage of information and communication technology in Ethiopian management institute.

Methodology: this study adopted a descriptive survey research design. The target population under the study was the employee of Ethiopian management institute.

To this end, the necessary data were collected from 46 core employee (development program department) and 53 support employee (IT department, Audit, HRM, Women and youth, PR, Accounting and finance, Procurement and supply management and strategic) were included in this study. Self administered questionnaires and interviews were used and SPSS version 21 was utilized to analyze quantitative data, frequency and percentage were used to illustrate the study population.

Conclusion: gaps or problems identified in assessing the usage of ICT were the institute have computers and some other ICT equipment like copiers, printers and scanners the major barrier to use ICT is lack of skill and unaware of what ICT equipments are found in their institute

Recommendation: the study recommended that administrators should work hard to ensure the institute is equipped with latest ICT equipment that could be useful in promoting e- learning and should also consider regular training session to improve the usage of ICT. Further research direction also recommended enhancing usage of ICT in Ethiopian management institute.

Chapter one

Introduction

1.1 back ground

Information and communication technology (ICT) is any combination of information technology and people activities that support operation, management and decision making (Atieno, 2009). It can also be defined as the interaction between people, process, data, and technology. ICTs are playing an increasingly vital role in the daily lives of people, revolutionizing work and changing the rule of doing business by improving the competitive edge of the firm (Zamzami, 2011).

Now a day, all over the world the business and economic activities are undergoing a fundamental structural change driven by many factors. Most of the changes came by information and communication technology (ICT). The ICT revolution may help to make the business better, cheaper in price and faster exchange of information globally.

Business world has been deeply influenced by information and communication technology (ICT) and the application of ICT among business is wide spread.

The use of ICT can provide institute with valuable information, increase knowledge and thereby improve performance. Technologically advanced countries and institutes have taken the opportunity of ICT to get an edge over their competitors unlike the developing countries. There is strong evidence that ICT is the driver for economic growth, reducing transaction cost and helping in expansion of market through ICT which help to save time. Advances in information and communication technology and emergence of the internet have revolutionized business activities enabling new way of conducting businesses referred to us electronic commerce (Zwass, 2003; Turban et al., 2004).

Many of the developing countries` level of using and adopting ICT are weak (Kazi, 2009). To improve these condition different mechanisms must be implemented to assist organizations in achieving certain level of ICT adoption and usage. According to Brown and Duguid (2000), one of the methods to improve usage of ICT is evaluating

the current usage of information and communication technology how much it is important for the current day to day activity and by how much work burden is resolved. According to the federal democratic republic of Ethiopia national ICT policy and strategy (2009), the Ethiopian government acknowledges education and training as the cornerstone of social progress and economic development. Thus, the human resource development should be supported and accelerated by applying ICT.

Ethiopian management institute (EMI) has more than fifty years of experience in designing and delivering a number of management development programs that aim to enhance the managerial capacity of public, private and nongovernmental organization (NGO). Since its establishment it passes in different name and mandate. The inception of EMI goes back to 1950s when modern management was in infant stage in the country. Although some modernization had started to appear in 1900s in Ethiopia, as Wubnesh and Abate (1988) stated central government formation, administrative bureaucracy, foreign alliance and modern school systems were the phenomenon of 1930s and 1940s this event grew more and led to inject modern techniques into the traditional administrative system in 1950s. Because of the introduction of some modern administrative systems, the traditional way of administration become inadequate to cope with the new challenge in the 1950s (EMI, 1995). As the result, the government recognized the importance of establishing an institution that plays the role. To this effect, Ethiopian management institute was established.

Since its establishment, it has been passing through different challenges and opportunities to introduce modern management administrative system to the country. Through different regime different political ideologies enforced the institute to implement its idea in the training program manual. This might challenge the institute (EMI) to cope and go forward with the world. The current challenge and difficulties are different than earlier time due to information and communication technology; to go forward with the current situation equipping oneself with ICT is important.

Kipsoi, Changach & Sang (2012) notes that ICT played a significant role in improving management practices in education system. ICT causes fundamental changes in the nature and application of technology in business. ICT can provide powerful strategic and tactical tools for organizations, which, if properly applied and used, could bring

great advantages in promoting and strengthening their competitiveness (Buhalis, 2004).

1.2 Statement of the problem

The growth in technological advancement has had strong effect on any business all over the world. Information and communications technology are an integral component in the running and management of institutions currently, whether small business, companies or schools (Mc Nergney, 2000). Information and communication technology is promoting new approaches to working and learning, and new ways of interacting (Baloh, 2003).This comes by as a result of conscious efforts through the implementation of strategy to make ICT available.

Ajayi and Ekundayo (2009) note that, "adoption of ICT by the teacher will enhance effective management and teaching. Issues like, good course organization, effective class management, content creation, self-assessment, self-study, collaborative learning, task oriented activities, and effective communication between the actors of teaching learning process and research activities will be enhanced by the use of ICT based technology".

Ethiopian management institute was established by the government of Ethiopia to train managers and management staff to resolve management decision gap and to cope and go forward with the current world management system. The way the business going now is completely different decade ago. This tremendous difference came as a result of the use of information and communication technology (Tompson, 1993).

Alberto and Fernando (2007) argued that the use of ICT can improve business competitiveness with internet providing numerous opportunities for organizations to compete equally with large organizations. In 2004, more than 89% of organization in member states in Europe had internet access and were using it (Marie and Mathy, 2010). Moreover in Europe a large majority of teachers choose to develop their ICT-related skills during their own spare time which may include various means of professional development such as training provided by school staff and participation in online communities (European commission, 2013). In Ethiopia, even if progress is being made in using ICT to provide a wide range of knowledge and information, it is comparatively low from other sub Saharan countries (UNDP, 2012).

The telecommunication sector is one of the strategic pillars in the government`s growth and transformation plan two (GTPII) of 2015/16, in which the state sets an ambitious plan to increase ICT penetration from 18% in 2012 to 67% by 2017 (Mesfin, 2017). This shows that more attention is given to ICT sectors by the government of Ethiopia. Therefore, in light of the discussion made above, the use of ICT is changing the business in positive way. Assessing usage of ICT didn't taken place on EMI this create gap to evaluate and improve the current usage of ICT. This study, therefore assesses whether the EMI uses ICT to improve its competitiveness on the business.

The research attempts to answer the following research questions.

- Does the institute use ICT?
- For what purpose does the institute use ICT?
- In which area is ICT applied in Ethiopian management institute?
- The EMI networked with similar institute through ICT?
- To what extent day to day routine activity is supported by ICT?

1.3 Objective of the study

1.3.1 General objective

The general objective of the study is to assess the usage of information and communication technology in Ethiopian management institute.

1.3.2 Specific objective

The specific objectives of this project are:

- To know whether ICT is used in the Ethiopian management institute or not.
- To know for what purpose ICT is currently used in the institute.
- To identify in which areas ICT is used in the institute.
- To identify how the institute interconnected with other similar institute through ICT.
- To identify how ICT is support a day to day activity

1.4 Significance of the study

This study is carried out on assessing the usage of information and communication technology (ICT) in Ethiopian management institute. Thus, assessing the current usage of information and communication technology will enable the institute to improve the usage of ICTs and help administrator to look forward to advance the institute with ICT.

This study provides necessary input for policy makers to take the right decision when they are planning. Instructors are also other beneficiaries from this study by creating awareness what ICT equipment are found in there institute.

This research can also serve as an input to further study on this area.

1.5 Scope of the study

The scope of the research was limited to assessing the current usage of information and communication technology in main branch of Ethiopian management institute.

1.6 Research Limitations

The study was carried out in Ethiopian management institute head quarter due to financial and other logistical constraints. However, for more conclusive results, both head quarter and Debrezeyet branch should have been studied. Another challenge that was faced in the study was the aspect of time. The researcher worked under tight time restriction. The other limitation on this study was some of the respondents might not have been objective enough when answering the questionnaires due to the fear of knowing some information and communication technology terms

1.7 Organization of the thesis

This study has five chapters. Chapter one contains the introductory part and elaborates important issues that this study deals with including the background of the study, statement of the problem, the research questions, general and specific objectives of the study, significance of the study, scope of the study, and limitations of the study. In chapter two different global and local literatures related to assessing the usage of information and communication technology have been reviewed. Chapter three focused on the methodology and procedures followed for the data collection, analysis and interpretations'. The fourth chapter focuses on the results and discussions of the data analysis.

Finally depending on the finding of the research the summary, conclusion and recommendations are presented in chapter five.

Chapter two

LITERATURE REVIEW

2.1 Introduction

Modern society is evidently experiencing information revolution. The single most important factor enabling the revolution is ICT. Martin (2003) describes information communication technology as a change agent.

In this chapter, the researcher will present a related literature, which will provide a base for analysis. In an attempt to do this literature related to the problem will be reviewed under the following previous theories on ICT use in organization.

2.2 Theoretical framework

One of the well- known models related to technological acceptance and use is the technology acceptance model (TAM), originally proposed by Davis in 1986. TAM has proven to be a theoretical model in helping to explain and predict user behavior of information technology (Legris, Ingham, & Collerette, 2003). In addition, TAM is not only parsimonious but also can provide empirical support to explain determinants of ICT usage (Agarwal and Prasad, 1999). There is W.J Doll & Torkzadeh, (1988) user satisfaction model. This theory dealt with affections and feeling of the user. It was applicable to the study as it captured the attitude of the user. Technological acceptance model (TAM) which explained mainly how the users came to accept and use an IS. Therefore, in this study TAM is only used. TAM further explains that perceived usefulness and perceive ease of use are helpful in explaining different users` intentions (Davis, 1989). In short, it can be conclude that TAM emphasizes on three factors that can influence usage of technology, namely attitude, perceive usefulness and perceive ease of use.

Attitude is a mental and neural state of readiness, organized through experience. Exerting a directive or dynamic influence upon the individual`s response to all objects and situations with which it is related (Horne, 1985). Therefore, one`s actual use of a technology system is influenced directly or indirectly by the user`s behavioral attitude.

Davies, (1989) defined perceived usefulness as the degree to which a person believes that using a particular information system would enhance his or her job performance. In this study, perceived usefulness is defined to the extent to which ICT usage would be useful in improving the performance of Ethiopian management institute.

Davis (1989) defined perceived ease of use as the degree to which a person believes that using a particular information system would be free of effort attitude usually will lead to increase ICT usage while negative attitude will results in reluctant to use ICT (Zhang & Aikman,2009).

Mahmood, (2000) where they stressed that attitude is an important part of ICT usage mainly because a positive attitude is usually an indicative of technology acceptance, that ICT will assist and enhance his or her task performance. According to (Meso and Musa, 2008), perceived usefulness and perceived ease of use greater reliability of the technology and easier access to ICT are the factors that contribute towards greater use of ICT. Furthermore, the available literatures provide evidence on the influence of perceived usefulness on intention to use ICT (Venkatesh and Morris, 2000). Besides, there has been extensive research that explores the relationship between perceived ease of use and intention to use ICT (Venkatesh & Davis, 1996). Interestingly, when employee perceived that ICT is useful, it will create a sustainable usage of ICT among the employee (Rogers, 2003). (Rogers, 2003), furthermore explained that the perceived benefits must exist and continuous. In order for ICT to be perceived useful it must be available easily, has the ability to reach every sector, able to gather large information within a short time and lower cost of sending e-mail (Laudon, 2003).

Technology acceptance model opens ways for better use of ICT which creates avenues for better performance of Ethiopian management institute; conservativeness in not to use ICT can therefore be broken by the TAM model as one of the factors for technology use is perceived usefulness.

2.3 Empirical review

2.3.1 ICT and its application

Information and communication technology (ICT) is often used as an extended synonym for information technology (IT), but is usually a more general term that stresses the role of unified communications and the integration of telecommunications (telephone lines

and wireless signals), computers, middleware as well as necessary software, storage and audio- visual system, which enable users to create, access, store, transmit, and manipulate information. Basically, ICT consists of IT as well as telecommunication, broadcast media and all the other types of audio and video processing and transmission and network based control and monitoring functions (Howe, 2010). Thus, it supports all the activities involving information. ICT is based on the notation that using ICT involves matching it to one`s purposes of which it requires a rationale for using it.

ICT basically depends on the local culture and the particular technology available and how it is configured and managed. The understanding, management and configuration of the available technology might vary the concept of ICT. This variation may be different from a collection of tools and devices used for particular tasks. An organized set of equipment (like a "workshop") for working on information and communication, components of integrated arrangements of devices, tools, services and practices that enable information to be collected, processed, stored and shared with others and to the components in a comprehensive systems of people, information and devices that enables learning, problem solving and higher order collaborative thinking, that is, ICT as key elements underpinning a (sharable) workspace (University of Tasmania, 2011).

ICT application in institute covers a wider scope. This includes the comprehensive approach to innovate training systems, methods, and management through information and communication technology, restructuring training giving system, diversifying teaching- learning methods & practices, engaging all stakeholders and adapting rapid to changes in society and the environment and enhancing education efficiency, effectiveness, and productivity (Gwango-jo, 2009). In the administration of institute, ICT can also be applicable in the administering of human, physical and financial resources.

2.3.2 ICT use in instruction

The use of computers in education dates back to 1924 when Sidney Presley tried out the so called 'teaching machine' for revision and testing at Ohio University in the United States of America. However, use of technology in education was generally slow until the coming of computers (Kavagi, 2010). In the current world situation ICT can play various roles in learning and teaching processes. According to Bransford et al, (2000), several studies have reviewed the literature on ICT and learning and have concluded that it has great potential to enhance student (trainee) achievement. Angrist and Lavy (2002) asserts that education systems need to prepare citizen for lifelong learning in an

information society. This can be characterized by, societal changes as a result of ICT many societies will change in to information societies, competent citizens and new skills due to educational innovations aimed at attaining new skills with the help of ICT and at finding a new balance between old and new educational targets. This will lead to education being more focused on creating opportunities for students to acquire new skill related to autonomous learning, communication skills, authentic problem solving, collaborating in teams via various communication technology.

Technology integration covers a wide area ranging from instruction on programming skill, self- directing drill, testing, instructional delivery, and internet based accessibility to information and communication.

It has been argued by certain scholars that the use of new technology in the classroom is essential for providing opportunities for students to acquire knowledge and skills that will enable them to function in an information age (Bingimlas, 2009). It is therefore evident, as Yelland (2001) argued, that traditional educational environments do not seem to equip the learner with adequate skill to be productive in their place of work in today`s society.

There are several roles that ICT can play in the teaching and learning process. First, ICT has a great potential to enhance learning achievement (Bransford et al., 2000). A number of theorists and scholars assert that the use of computers can make the learners to become knowledgeable, reduce the amount of direct instruction given to them and provide a learning environment where teachers can assist learners with special needs. In addition, use of new technology will motivate the learners and hence develop favorable attitude towards short time management training.

ICT brings about effectiveness in instruction. Kulik (1994) observes that, students learn more in classes in which they receive in which they receive computer based instruction, lessons take less time, student like classes more when they receive computer help in them and they also develop more positive attitudes towards computers when they receive help from them in class.

Forman and Puffal (2003) explain that, ICT has the potential to be used in support of new educational methods, as tools enabling student learning by doing. Modern learning theories emphasize on critical thinking, problem solving, authentic learning experiences, social negotiation of knowledge and collaboration and pedagogical methods that

challenge the role of the instructor from disseminator of information to learning facilitator, helping students as they actively engage with information and materials to construct their own understandings. That is, trainee learn how to learn, not just what to learn.

ICTs allow teachers and students to access books easily, promotes student interaction, access to wide range of reference materials, helps in saving time while doing research, encourage learner centered learning, exposes students to technology, facilitates revision and conceptualizes complex concepts making them easier for students to understand (Njiru 2012).

Fulton (1998) further asserts that, ICT is important in developing skills for the workplace. After leaving school, to embark on a career, young people can expect the day to day practice of every discipline to be affected by the use of ICT. In the future, economic competitiveness, employment and personal fulfillment may no longer be based on the production of physical goods. Personal and national wealth creation may be linked to the production and dissemination of knowledge and depend on research, education and training and on the capacity to innovate. Having advanced ICT skills and knowing how to use discipline- specific applications may help students` secure suitable employment and enhance their productivity once employed. Furthermore, the ability to engage in lifelong learning opportunities offered by educational institutions around the world is increasingly dependent upon access to and use of ICT (Bates, 2004).

Information and communication technology (ICT) provide the institute support services such as course outline, digitally recorded class room materials, discussion group, laboratory manuals and lab assignment, lecture notes, live lectures for later viewing and re- viewing, links a course with specific websites, online tutorials, and virtual libraries (Jefpeeraer,2005). According to Brown and Duguid (2000) to improve the usage of information and communication technology evaluating the current usage is important.

2.3.3 Purpose of using ICT

According to the Swedish National Agency for School Improvement (2008), information and communication technology (ICT) provide a positive impact on learning and student performance when it becomes an integrated element in the class room and teaching. Usually, performance is a measure of how well a process achieves its purpose. Moulin (2003) define institute`s performance as “how well the institute is managed “and “the

value the institute delivers for customers and other stakeholders." Though ICT have the capacity to facilitate easy access to information and provide more efficient information services to users and consequently improve overall performance of users (Adetimirin, 2009).

ICTs are revolutionizing education by removing distance from education and making knowledge more accessible to all (Industry Canada, 1997). Technology enhances learning performances by empowering learners. It is not surprising therefore to see a growing interest in technology based learning across the world. Technology based learning may be defined as the array of hardware and software used in the teaching and learning system that include computer- based training system, as well as the internet with World Wide Web system (WWW). Technology also provides greater flexibility to adapt teaching and learning to meet a goal.

Although ICTs are by far the most significant element undergirding the foundation of management training, there is paucity of literature and research regarding its implementation and use in this field of education and training.

Limited information on the current use of ICTs in management training institute constrain the researcher to go further

Information and communication technology makes it possible to engage people in widely dispersed locations through computer network, learners can be drawn together from almost anywhere, and they can construct their own learning groups.

A computer network or data network is a telecommunications network which allows nodes to share resources in computer networks; networked computing devices exchange data with each other using a data link. The connections between nodes are established using either cable media or wireless media.

Computer networks support an enormous number of applications and services such as access to the World Wide Web, digital video, digital audio, shared use of application and storage servers, printers and fax machines, and use of e-mail and instant messaging applications as well as many others. A computer network facilitates interpersonal communications allowing users to communicate efficiently and easily via various means providing access to information on shared storage devices is an important feature of many networks.

Information and communication technology (ICT) has increasingly become important in almost all sectors of modern life. According to UNESCO (2007), ICT has the capability of widening education access and subsequently improve learning outcomes.

2.3.4 Availability of ICT resources

The ICT resources in this study refer to ICT tools in the institute necessary for management training. These resources include ICT equipment/ facilities, digital content, and internet available. According to Bandele (2006), Bryers (2004), and Ofodu (2007), ICT facilities/ equipment include desktop computers, LANs, laptops, printers, radio, television, overhead projectors, CD- ROM, internet smart boards, among others. According to Inveneo (2011), computers are the most commonly used form of ICT in many developing countries and they are still very expensive. This study sought to find out the availability of ICT resources accessible to management training in Ethiopian management institute.

Hennessy, et al., (2010), Groves and Zemel (2000) express the fact that the instructors' acceptance and use of ICT is highly dependent on availability of resources. If the resources are not available, the instructors will not be motivated to use ICT in classroom instruction this is also the same for administrative staff for their work at office. However, the study by Teo, et al., (2007) found that the resources were not very important in influencing the teachers` attitudes towards adopting and using ICT. This could be true because there could be resources but inadequate in relation to the number of students, or in bad condition or the teachers may not know how to use them. Therefore, in such a case, availability of resources would not influence teachers` use of ICT. According to Nyaga (2011), lack of computer skills by the instructors makes them not to use ICTs in their instruction. This is because teachers feel bereft of influence because they feel unable to monitor what goes on and are uncertain about their role in the classroom. Fear of losing power in the classroom is probably what makes them behave negatively to the use of ICTs in their classrooms.

Resistance to change and negative attitudes by teachers affect ICT implementation. This study therefore, sought to find out where assessing ICT resources that were found in EMI then assessing the usage of ICT.

Further, a study by Kiptalam and Rodrigues (2010) observed that access to ICT facilities is a major challenge facing most African countries, with a ratio of one computer to 150 students per school against the ratio of 1:15 students per school in the developed countries. This ratio in the developed world has now improved with time to 1:5 per school. An ideal student computer ratio would be 1:1, but due to the advantage of collaboration, 1:2 would be best whereby learners can share a computer and assist each other in the learning process. ICT use also encourages disable students to learn according to Davis (2000) assert that increased availability of ICT is especially useful for students who suffer from learning disabilities science ICT use allows teachers to prepare suitable tasks for individual needs and each individual more effectively.

2.3.5 Accessibility of ICT resources

Successful integration of ICT in any institute would help to access any information and resources via Internet and Intranet. The computer labs and classroom computers need to be sufficient in number to allow ready access by student and staff in most subjects across the institute. A wide range of peripheral and remote working devices, including video- conferencing, is provided and integrated into the curriculum. Large and small group presentation facilities are readily available (School net Africa, 2004). Despite the above desired situation, most institutions in Africa face barriers to effective integration of ICT in the teaching and learning process; limited infrastructure in terms of satisfactory physical condition of laboratories and the subsequent accessibility of the resources (ICT)to the learners (Singh, 1993).

Accessibility and use of ICT allows students to investigate more thoroughly the real world (Bracewell and Laferrie're, 1996). They can more readily access information sources outside the classroom and can use tools to analyze and interpret such information. Information may be accessed through online system or through data logging systems (Riel, 1998). The technologies allow them to receive feedback, refine their understanding, build new knowledge and transfer from school to non- school setting (Committee on developments in the science of learning, 2000). In the past this has been difficult to provide in schools due to logistical constraints and the amount of material to be covered all of which can now be addressed with ICT. What can be learned is broadened and deepened (Re'ginald, 1996).

Now a day in many government and training institutions seem to recognize the importance of introducing ICT in education and training. Much as students and staff

need training on a continuous basis with modern requisite skills to fully exploit the ICT environment in their different functions. Awareness skills only may not be sufficient enough but rather continuous accessibility to ICT resources would do much better. Continuous access to computers helps instructors/teachers feel more secure in their ICT use during lessons and gives them the courage to experiment more and thus helps them integrate ICT into lessons effectively. Many studies also indicates that the impact on learning will increase over time as teachers and students become more experienced in continued practice on using computers (Swedish National Association for School Improvement, 2008).

Dewey (1989) argues that information that is accessed but never put to use during that process, may be difficult to retrieve and use when need arises in the real world. Equal attention must be paid to ensuring that the technology is actually being used by the target learners and in ways that truly serve their needs (Salomon, 1994).where as the above studies looked at the accessibility of information and communication technology resources in institutions of learning, key information in regards to access points like library, laboratory, the frequency of access by the trainee/student and staff was never looked at.

2.3.6 ICT in Ethiopia

The Ethiopian government has made the development of information and communication technology one of its strategic plan priorities (GTP, 2017). ICT in Ethiopia is early stage of development. The major indicators pointing to the low level of ICT development are:-

- The absence of appropriate legal and regulatory frameworks
- Limitations in telecommunication infrastructure and low level of internet service penetration
- Lack of organized data & information resources and poor accessibility to those that exists
- Lack of skilled human resources coupled with low ICT literacy

These constraints present the government with real challenge, but also opportunities, for all accelerated development of ICT in Ethiopia (Government of Ethiopia, 2009).

The strategic directions of Ethiopian government are expanding digital infrastructures, accelerating information and communication development and use ICT for government administration.

The other strategic direction are to reduce the share of the second generation mobile technology from 93% in 2014/15 to 47% by 2019/20, create conditions to enable all government offices and the public benefit from broadband internet (GTP II, 2016).

ICT facilitates the development of education and enables both individuals and countries to meet the challenges presented by the knowledge and information age.

As the vast majority of Ethiopian population lives in remote areas and gets low quality of education, ICT is crucial in addressing access and quality of education. According to Grimus (2000), ICT brings about educational innovations which are important in basic educations as they have a strong pedagogical focus on student- centered and increasingly student- directed didactical approaches facilitated by ICT.

Therefore, the government of Ethiopian to ensure integrating ICT with education

2.4 Summary of reviewed literature

From the above literature, it is evident that the usage of ICT that may influence are the instructors/ teachers competence, their perceptions, availability of adequate operational information and communication technology resources and both the administrative and technical support. If these factors are put in place, then it would be easy for using information and communication technology in Ethiopian management institute.

This study seeks to assess the usage of ICT by Ethiopian management institute, in reference to the instructors' perceptions on ICT usage, adequacy of ICT resources and ICT support available to management

Chapter three

Research Methodology

3.1 Introduction

This chapter outlines the research design and methodology that was used in the study. It described the population to be studied, area of the study and sampling design used. It also discussed the data collection and analysis technique.

3.2 Research design

The study adopted a descriptive survey research design. According to Jones, (2010) the design aimed to illustrate the essential findings in rigorous way that is free from distraction and bias. Thus, descriptive studies help to discover new meaning, described what existed, verified the rate at which something occurred, and categorized the information. Thus, the researcher chose this design for study as it facilitates the precise actions the researcher aimed to achieve such as assessing the current usage of ICT by the institute.

3.3 Target population

The target population under the study was all the employee of Ethiopian management institutes. The institute has two branches head quarter which is found in Addis Ababa and Debrezeyet branch. However the study targeted the head quarter only. Generally the institute categorized its employees into core and support employees. Those who directly participate on research, delivering training and consultants are core employees they are 50 in numbers. On the other hand, those who do not work directly on research and delivering training are support employees and these are 113 in number (8 IT department 6 audit department, 6 human resource department, 2 women and youth department, 4 public relation department, 12 accounting and finance department, 50 facility department, 20 procurement and supply management department, 5 strategic management department). The total number of employees both core and support are 163 in number. The population consider in this study were the entire management development program, IT, audit, human resource, woman and youth, public relation, accounting and finance, procurement and supply management and strategic management department. Employees of the facility department are intentionally left

out because the workers in the department don`t provide necessary information for a study those employees are janitors, waiter/waitress, gardeners and security guards. Therefore, the total populations for this study were 113 employees of Ethiopian management institute.

3.4 Sampling technique

For interviewing purpose, purposive sampling technique was used. Purposive sampling method helps the researcher to select the department and the right people that provide the required data. Hence, the head of IT department, head of audit, head of human resource, head of woman and youth, head of public relation, head of accounting and finance, head of procurement and supply management, head of management development program and head of strategic management, nine in number, were purposively selected. Since the remaining number of employees in each department was small (103 employees) all of them were considered to fill the questionnaire.

No	EMI department	Frequency
1	Development program department	50
2	IT department	8
3	Audit department	6
4	Human resource management department	6
5	Woman and youth department	2
6	Public relation department	4
7	Accounting & finance department	12
8	Procurement and supply management department	20
9	Strategic management	5
	Total	113

Table 1 Obtaining a study sample

3.5 Data source and data collection method

The study relied on primary data sources and secondary data sources. Primary data source are first -hand information collected by the researcher from their original source through various method such as observation, interview, mailing , questionnaires, focus group …etc (Alemayehue, 2009).

Primary data was collected using questionnaire and interview. A questionnaire was used because it is more objective and convenient to both the researcher and the respondent as it is administered.

Interview is one of the major primary data collection methods from the people. According to Kumar (1996), any person –to –person interaction between two or more individuals with a specific purpose in mind is interview. Semi-structured interviews were conducted after questionnaire were collected and analyzed because interview was required to give us further searching about the result obtained.

Secondary data gathered and recorded by someone else prior to use and for a purpose other than the current project. Secondary source of data for the study include articles, journals, and internet sources that are directly related to the study area. For this study the researcher used articles, journals and internet sources to get detail information about this study.

3.6 Data collection procedure

The data was collected by using different types of data collection tools. The goal of data collection was to gain rich data that suits to achieve the research objective. In this regard, this study used primary data collection method (questionnaire and interview) to collect data from respondents. The data collection procedure using questionnaire and interview is presented as follows.

3.6.1 Questionnaires

Questionnaire is a written list of questions the answer to which is recorded by respondents (Kumar, 1996). Questionnaire is an appropriate method of data collection in case of large sample size, which can be prepared in close and open – ended format. Close- ended questions limit respondents answer by forcing them to choose from pre-existing set of answers, such as yes/no, true/false, multiple choice, ranking scale and Likert scale. The other format of questionnaire is open- ended format in which respondents are encouraged to explain their answers to the question by writing sentences or paragraphs.

The questionnaire was mainly contains closed- ended questions and some open- ended questions. Questionnaires are prepared after extensive review of literatures in this field, those questions in the questionnaires focused on the research problems objective and

questions rose in the statement of the problem. Eight of the questionnaire were adopted from (Nkonge, 2011) and (Maingi, 2010) because of the questions are very relevant and helps the researcher to achieve some objectives and these questions directly usable in Ethiopian context.

The questionnaire has two parts: part I contains the background of the respondents, gender, age, education levels and departments. Part II contains questions requesting the respondents to state their agreement or disagreement on the issues of the usage of ICT in their institute. In this study, the 5 point Likert scale is used and open ended questions.

The questionnaire was pre-test to check the validity and reliability of the questionnaire because of all the questionnaires was not adopted from (Nkonge, 2011) and (Maingi, 2010). Two data collectors were selected from EMI since there work was related to information communication technology in the department, the data collectors were responsible to distribute the questionnaires as well as help the subjects, fill the form. The data collectors were trained on how to help the subjects while filling the questionnaires and responsible for collecting back the questionnaires that were distributed.

Research question	Adopted from	Adopted question number
Does the institute use ICT in its work (Q5, Q6)	NKONGE JANET KATHURE(2011)	Q12,Q13
Purpose of ICT used in the institute (Q8, Q9)	MAINGI REGINA MBATHA (2010)	Q11, Q12
Areas of ICT is applied in EMI (Q10)	NKONGE JANET KATHURE(2011)	Q 35
Network with similar institute (Q13, Q15)	MAINGI REGINA MBATHA (2010)	Q5, Q34
A day to day activity supported by ICT (Q16)	NKONGE JANET KATHURE(2011)	Q36

Table 2 Adopted questions

3.6.2 Interview

Interviewing is one of the major primary data collection methods from the people. According to Kumar (1996), any person- to- person interaction between two or more individuals with a specific purpose in mind is interview.

Interview for nine department heads were conducted after the questionnaires were collected and analyzed. The interview was conducted face to face and recorded for the purpose of analysis.

3.7 Validity and reliability of data

Validity is concerned with the extent that a scale accurately represents the construct of interest. Where possible this should be supported by past research and consideration given to the practical things that affect the research (Hair et al., 1998). So, the validity of each question to collect data that focuses on the present research objective was discussed with 10 participants. The feedback also led us to some modifications aimed at increasing the questionnaires validity and clarity. Cronbach`s alpha is a model of internal consistency based on the average inter item correlation. Measure in this study are judged to be reliable if cronbach`s coefficient alpha is 0.7 or greater (Sekaran, 2000).

Cronbach`s alpha was used to measure the reliability of items in part II of the questionnaire.

The questionnaire was pre –test by circulating to 10 members of the employee. These employees were selected by using simple random sampling method; this method was give us equal chance of selection of a sample from each department one from IT department, one from audit department, one from HRM department, one from women and youth department, one from public relation department, one from accounting and finance department, one from procurement and supply management department, one from strategic management department and two from development program department because half of the employees were found in development program department and those who participated in a pre-test were not included to fill the questionnaire. Therefore, improvement and modification were done based on the feedback obtained. Accordingly the consistency of the items in the questionnaire is presented in the table below

Cronbach`s Alpha of each item in the questionnaire

Description of Items	**Number of items**	**Cronbach`s Alpha**
Items related to the availability of ICT resource	12	0.735
Items related to ICT equipment used in EMI	8	0.922
Items related to purpose of ICT use	10	0.831
Items related to areas of ICT is applied in EMI	7	0.776
Items related to network	5	0.70
Items related to ICT used as management tool	5	0.807

Table 3 Cronbach`s Alpha test result

Source: own survey September 2017

3.8 Data management and analysis

Once the quantitative data was collected, data were checked for completeness and incompletes questionnaires were discarded. Percentage, means and frequency counts are employed to analyze quantitative data. SPSS Version 21, the software were used to analyze the cleaned data. This generates average and standard deviations, which we will discuss according to the study objective, addressing the research question appropriately.

Qualitative data was described and explained manually. Responses of each informant were initially categorized based on systematic method; similar issues are merged to selected area. Finally, interview was summarized qualitatively.

Chapter four

DATA ANALYSIS AND DISCUSSION

4.1 Introduction

This chapter focused on data analysis, interpretation and presentation. The chapter covers the demographic characteristics, the availability of ICT resources, the purpose of ICT usage in EMI, areas of ICT applications is used and how ICT is used as a management tool in Ethiopian management institute.

4.2 Characteristics of the respondents

A total of 103 questionnaires disseminated and 99 were returned, the left over 4 were discarded. Total employees on development program department were 48; out of the 48 employees 46 (95.8%) filled the questionnaire but two employees went for field work. From a total of 19 Procurement and supply management department employees, two employees didn't participate because one of the employees was on annual leave and one employee didn't fill the questionnaire returns back as it blank. So out of the 19 employee 17 (89.5%) participated in the study. Total employees in IT department (7), Audit department (5), HRM (5), women and youth (1), Public relation department (3), accounting and finance (11) and strategic management (4) fully filled the questionnaires. The overall response rate was 96%.

As shown in Table 4, 46(46.5%) respondents were from development program departments, 7(7.1%) were from IT department, 5(5.1%) were from audit department, 5(5.1%) were from human resource department, 1(1%) was from women and youth department, 3(3%) were from public relation department, 11(11.1%) were from accounting and finance department, 17(17.2%) were from procurement and supply management department and 4(4%) from strategic management department.

	Frequency	Percent	Valid Percent	Cumulative Percent
development program	46	46.5	46.5	46.5
IT department	7	7.1	7.1	53.5
audit department	5	5.1	5.1	58.6
human resource department	5	5.1	5.1	63.6
women and youth dep.	1	1.0	1.0	64.6
public relation dep.	3	3.0	3.0	67.7
accounting and finance dep.	11	11.1	11.1	78.8
procurement and supply management	17	17.2	17.2	96.0
strategic department	4	4.0	4.0	100.0
Total	99	100.0	100.0	

Table 4 Category of participants in this study at EMI departments

4.3 Demographic characteristics

4.3.1 Main division of employee

The demographic characteristic of the Ethiopian management institute were investigated in the first section of the questionnaire. They had presented in this section under department held in the organization, mainly divided by core and support employee and on education level.

	Frequency	Percent	Valid Percent	Cumulative Percent
support employee	53	53.5	53.5	53.5
core employee	46	46.5	46.5	100.0
Total	99	100.0	100.0	

Table 5 Main division of employee in EMI

According to the finding in Table 5, majority of the respondents 53(53.5%) were support employee while 46(46.5) were core employee

	Frequency	Percent	Valid Percent	Cumulative Percent
female	28	28.3	28.3	28.3
male	71	71.7	71.7	100.0
Total	99	100.0	100.0	

Table 6 Gender division

From the finding in the Table 6, majority of employees 71(71.7%) were male employee, 28(28.3%) were female employee.

	Frequency	Percent	Valid Percent	Cumulative Percent
diploma	11	11.1	11.1	11.1
BA/BSC	53	53.5	53.5	64.6
MSC	35	35.4	35.4	100.0
Total	99	100.0	100.0	

Table 7 level of education

From the finding in the Table 7, majority of the employees 53(53.5%) were degree holder, 35(35.4%) were masters holders employees, 11(11.1%) were diploma holders employees.

4.3.2 Demographic correlations

		department	use of ICT	How frequent use ICT
Pearson Correlation	department	1.000	.209	.056
	use of ICT	.209	1.000	.388
	How frequent use ICT	.056	.388	1.000
Sig. (1-tailed)	department	.	.019	.289
	use of ICT	.019	.	.000
	How frequent use ICT	.289	.000	.
N	department	99	99	99
	use of ICT	99	99	99
	How frequent use ICT	99	99	99

Table 8 Correlation of demographic information

From the finding Table 8, considering department as dependent variable and independent variable are use of ICT & how frequent use of ICT and Choosing regression coefficients confidence interval level 95%.

Department are positively correlated with use of ICT (0.209) and how frequent use of ICT (0.056). The value of the correlation how frequent uses of ICT 0.056 show that the association between the two variables are so weak. The two independent variable use of ICT and how frequent use of ICT is positively correlated with the outcome of dependent variable department. The use of ICT and how frequent use of ICT are correlated each other by 0.388 that is less than 0.7 hence the two variables are not redundant.

		level of education	use of ICT	How frequent use ICT
Pearson Correlation	level of education	1.000	-.106	.038
	use of ICT	-.106	1.000	.388
	How frequent use ICT	.038	.388	1.000
Sig. (1-tailed)	level of education	.	.148	.353
	use of ICT	.148	.	.000
	How frequent use ICT	.353	.000	.
N	level of education	99	99	99
	use of ICT	99	99	99
	How frequent use ICT	99	99	99

Table 9 Correlation of demographic information

From the finding table 9 considering level of education as dependent variable and independent variable are use of ICT & how frequent use of ICT and choosing regression coefficients confidence interval level 95%.

Level of education negatively correlated with use of ICT (-0.106) and positively correlated with how frequent use of ICT (0.038). The use of ICT is negatively correlated with level of education (-0.106). The two independent variables are positively correlated each other (0.388).

4.4 Use of ICT in the institution

4.4.1 Availability of computers

	Frequency	Percent	Valid Percent	Cumulative Percent
not at all	1	1.0	1.0	1.0
little	5	5.1	5.1	6.1
moderate	6	6.1	6.1	12.1
good	27	27.3	27.3	39.4
great	60	60.6	60.6	100.0
Total	99	100.0	100.0	

Table 10 level of agreement on the availability of computer

From the findings in Table 10, majority of the respondents (60.6%) indicated that the availability of computer (desktop) were great level, (27.3%) were said good the availability of computer (desktop) while (1%) of the respondents indicated that the availability of computer (desktop) resource had not at all presented. The finding are in line with (Inveneo, 2011) who points that computers are the most commonly used form of ICT in many developing countries. Different methods exist for improving the availability of computer (desktop) of which increasing computers numbers are one. Strategies that enhance the number of computer (desktop) and short term training on ICT are greatly affecting the usage of ICT in Ethiopian management institute.

4.4.2 Availability of copiers and scanners

	Frequency	Percent	Valid Percent	Cumulative Percent
not at all	3	3.0	3.0	3.0
little	12	12.1	12.1	15.2
moderate	29	29.3	29.3	44.4
good	37	37.4	37.4	81.8
great	18	18.2	18.2	100.0
Total	99	100.0	100.0	

Table 11 level of agree on the availability of copiers and printer

From the finding in the Table 11, majority of the employees 37(37.4%) were believed that good level of availability of copiers and printer, 29(29.3%) were said moderate, 18(18.2%) were said great, 12(12.1%) were said little and 3(3%) respondents were said not at all available.

4.4.3 Availability of entertainment device

	Frequency	Percent	Valid Percent	Cumulative Percent
not at all	46	46.5	46.5	46.5
little	24	24.2	24.2	70.7
moderate	23	23.2	23.2	93.9
good	3	3.0	3.0	97.0
great	3	3.0	3.0	100.0
Total	99	100.0	100.0	

Table 12 level of agree on the availability of entertainment device

From the finding in the Table 12, majority of respondents 46.5% believed that entertainment device found not at all, 24.2% said little, 23.2% said moderate, 3% good and 3% respondents' said great. Most of the employees believed that the availability of entertainment devices was important but the availability was weak. Entertainment device is wearable device used for entertainment application. Entertainment is defined as providing amusement or pleasure to the user, including digital media playing

capabilities (ex. Playing music or video on a device) nowadays creating a huge difference in teaching learning areas in this study considering I pad as an example. Tablets are cable of offering enhance e- books featuring images, video and audio.

Entertainment device technology to be appropriately successful for education, they must need to fit into teacher (instructors), as Caron and Caronia (2009) demonstrate in a study of students` resistance to podcasting of lectures: an entertainment device(the iPod in this case) does not always fit neatly into education context.

4.4.4 Availability of mobile phone services

	Frequency	Percent	Valid Percent	Cumulative Percent
not at all	69	69.7	69.7	69.7
little	5	5.1	5.1	74.7
moderate	5	5.1	5.1	79.8
good	10	10.1	10.1	89.9
great	10	10.1	10.1	100.0
Total	99	100.0	100.0	

Table 13 level of agree on the availability of mobile phone service

From the finding in Table 13, 69.7% the respondents indicated that availability of use of mobile phone services were found not at all, 5% were said little , 5% moderate, 10% were said good and 10% were responds great on the availability of mobile phone services. Smartphone apps are providing solutions for education, businesses and healthcare. some of the solution which give to educations are use mobile phone to share educational material students can easily use mobile phones to take pictures or videos in the field with other students at school and also use mobile phone as e- reader tools most of the smart phone can easily download e- books online and store them on their mobile phone on the other hand mobile phone can create SMS based chat rooms for students using a mobile phone services like Groupme.com can allow you to create a discussion group and communicate with your fellow students using SMS messaging.

4.4.5 Availability of internet

	Frequency	Percent	Valid Percent	Cumulative Percent
little	6	6.1	6.1	6.1
Moderate(fair)	24	24.2	24.2	30.3
good	55	55.6	55.6	85.9
great	14	14.1	14.1	100.0
Total	99	100.0	100.0	

Table 14 level of agree on the availability of internet

From the finding in the Table 14, majority of the respondents 55(55.6%) indicated that the availability of internet access were found in a good condition, 24(24.2%) were said the accessibility of internet in each office are moderate (fair), 14(14.1%) were respond great and 6(6.1%) of the respondents were said the availability of internet are little (small in number)

Instructors can make use of the internet by giving student extra resources and materials from the internet such as interactive lessons. Internet contains a wealth of knowledge that is available instantly upon any search. According to Bradley and Yates (2000), ICTs particularly internet and related technologies are important to better prepare the current generation of students for workplace.

4.4.6 Availability of customized software

	Frequency	Percent	Valid Percent	Cumulative Percent
not at all	32	32.3	32.3	32.3
little	19	19.2	19.2	51.5
moderate	42	42.4	42.4	93.9
good	4	4.0	4.0	98.0
great	2	2.0	2.0	100.0
Total	99	100.0	100.0	

Table 15 level of agree on the availability of customized software

As shown in the Table above 15, 42.4% of the respondents' responded moderate, 32.3% said not at all use customized software in their institute, 19.2% were said little, 2% were said great and 4% were responds good. Customized software is software that is specially developed for some specific organization or other user.

Since customized software is developed for a single customer it can accommodate particular preferences and expectations.

Large companies commonly use customized software for critical functions, including content management, inventory management, customer management, human resource management, or otherwise to fill the gaps present in the existing software packages. Ethiopian management institute working on delivering training as an institute equipping oneself with customized software is necessary like classroom management software, language learning software and the like.

4.4.7 Availability of computer network

	Frequency	Percent	Valid Percent	Cumulative Percent
not at all	5	5.1	5.1	5.1
little	13	13.1	13.1	18.2
moderate	43	43.4	43.4	61.6
good	26	26.3	26.3	87.9
great	12	12.1	12.1	100.0
Total	99	100.0	100.0	

Table 16 level of agree on the availability of computer network

From the finding in the Table 16, majority of respondents 43(43.4 %) responded departments in EMI are interconnected through computer network are available fairly (moderately), 26(26.3%) responded good, 13(13.1 %) said little, 12(12.1%) responded great and 5(5.1%) responded not at all interconnected. Computer network is a digital telecommunication network which allows nodes to share resources. In computer

network, networked computing devices exchange data with each other using a data link. The connections between nodes are established using either cable media or wireless media.

The use of computer network has become increasingly common in schools nowadays as an aid in instruction or to provide educational enrichment. Computer networks provide schools with unique opportunities for statewide, national and international collaboration on class project and idea sharing. According to Tsai & Machado (2003) e-learning does not require learning materials to be delivered by computer; the computer and the network must hold a significant involvement in the learning activity

4.5. ICT equipment used in the institution

4.5.1 personal computer

Another objective of the project was to assess what information and communication technology equipment was used by employee of EMI. Form Table 17, below 1(1%) said personal computer is not used in the institute, most of them 98(99%) respondents that personal computer were used in EMI.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	98	99.0	100.0	100.0
Missing	System	1	1.0		
Total		99	100.0		

Table 17 ICT equipment (personal computer) is used in EMI

4.5.2 Interactive white board

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	58	58.6	100.0	100.0
Missing	System	41	41.4		
Total		99	100.0		

Table 18 ICT equipment (interactive white board) is used in EMI

From the finding in the Table 18, 58(58.6%) of the respondents said that the institute used interactive whiteboard for instruction purpose while 41(41.4%) of the respondents indicated that institute didn't use interactive whiteboard. Solvie, (2001) stated that an interactive whiteboard is an instructional tool that allows computer images to display onto a board using a digital projector. The instructor can then manipulate the element on the board by using his finger as a mouth, directly on the screen. Presences of Interactive white board in EMI were moderate.

4.5.3 video conferencing system

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	65	65.7	100.0	100.0
Missing	System	34	34.3		
Total		99	100.0		

Table 19 ICT equipment (video conferencing system) is used in EMI

From the finding in the Table 19, majority of the respondents 65(65.7%) were respond the institute used video conferencing system while 34(34.3%) were respond didn't used

4.5.4 digital video camera

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	20	20.2	100.0	100.0
Missing	System	79	79.8		
Total		99	100.0		

Table 20 ICT equipment (digital video camera) is used in EMI

From the Table 20, only 20(20.2%) respondents were believed that the institute was used digital video cameras while 79(79.8%) were responds that didn't use digital video camera.

4.5.5 mobile phone services

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	31	31.3	100.0	100.0
Missing	System	68	68.7		
Total		99	100.0		

Table 21 ICT equipment (mobile phone is used in EMI)

According to the finding in Table 21, 68(68.7%) of the respondents indicated that mobile phone services were not used in the institute while 31(31.3%) of the respondents indicated that mobile phone service were used.

4.5.6 use computer in work

	Frequency	Percent	Valid Percent	Cumulative Percent
no	1	1.0	1.0	1.0
yes	98	99.0	99.0	100.0
Total	99	100.0	100.0	

Table 22 use a computer

From the Table 22, majority of the respondents 98(99%) indicated the fact that they use computer for their work while 1(1%) respondent didn't use computer for his/her work.

4.5.7 using computer rate

	Frequency	Percent	Valid Percent	Cumulative Percent
once a week	1	1.0	1.0	1.0
all the time	98	99.0	99.0	100.0
Total	99	100.0	100.0	

Table 23 frequency of use

According to the finding from Table 23, 98(99%) of the respondents said that they use computer all the time while 1(1%) responded that he/she use once a week.

4.6 The purpose of ICT usage in the institute

4.6.1 ICT assisting trainee

Another objective of the project was to assess the purpose of information and communication technology usage in the Ethiopian management institute. As shown in Table 24, Only 2 of them (2%) strongly disagree that the current ICT didn't assist trainees, most of them 45 (45.5%) responded that the purpose of ICT in the institute assisting trainees.

About 40(40.4%) respondents agree ICT helping a trainee. Only 8 (8.1%) said neither agree nor disagree.

	Frequency	Percent	Valid Percent	Cumulative Percent
strongly disagree	2	2.0	2.0	2.0
disagree	4	4.0	4.0	6.1
neither agree nor disagree	8	8.1	8.1	14.1
agree	45	45.5	45.5	59.6
strongly agree	40	40.4	40.4	100.0
Total	99	100.0	100.0	

Table 24 The purpose of ICT (Assisting trainee)

4.6.2 ICT use for data interpretation

As shown in the Table 25 below, this section presents the purpose of information and communication technology on data interpretation.

Majority of the respondents 46(46.5%) agree that ICT is used for development of data interpretation, 26(26.3%) said strongly agree the purpose of ICT was development of data interpretation, 22(22.2%) respond neither agree nor disagree, 3(3%) said disagree and the minimum number of respondents 2(2%) said they were strongly disagree.

	Frequency	Percent	Valid Percent	Cumulative Percent
strongly disagree	2	2.0	2.0	2.0
Disagree	3	3.0	3.0	5.1
neither agree nor disagree	22	22.2	22.2	27.3
Agree	46	46.5	46.5	73.7
strongly agree	26	26.3	26.3	100.0
Total	99	100.0	100.0	

Table 25 The purpose of ICT (development of data interpretation)

4.6.3 ICT facilitate learner friendly class

	Frequency	Percent	Valid Percent	Cumulative Percent
strongly disagree	6	6.1	6.1	6.1
disagree	11	11.1	11.1	17.2
neither agree nor disagree	27	27.3	27.3	44.4
agree	44	44.4	44.4	88.9
strongly agree	11	11.1	11.1	100.0
Total	99	100.0	100.0	

Table 26 Creation of learner friendly class

As shown in the Table 26, 44(44.4%) of the respondents agreed on the ICT is used for creating learner friendly class, 27(27.3%) respondents neither agree nor disagree and 6 (6.1%) respondents strongly disagree on the ICT do not create learner friendly class.

4.7 Area of ICT application

4.7.1 Organizing work and keeping records

Another objective of the project was to assess in which area information and communication technology was more used in Ethiopian management institute.
As shown in the Table 27, 90(90.9%) ICT used for organizing and keeping records, while 9 (9.1%) didn't believe that.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	90	90.9	100.0	100.0
Missing	System	9	9.1		
Total		99	100.0		

Table 27 Areas of ICT application

4.7.2 finding digital learning

From the finding in Table 28, 79(79.8%) respondents indicated that ICT is more used in the area of finding digital learning resources, while 20(20.2%) said that ICT is not used in the area of finding digital learning resources.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	79	79.8	100.0	100.0
Missing	System	20	20.2		
Total		99	100.0		

Table 28 Areas of ICT application

4.7.3 using chat room and forum

From the finding in Table 29, 62(62.6%) respondents indicated that information and communication technology is more used in the area of using chat rooms and forums like face book and twitter, while 37(37.4%) said ICT is not used in the area of using chat room and forums.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	62	62.6	100.0	100.0
Missing	System	37	37.4		
Total		99	100.0		

Table 29 Chat room and forum ICT application

4.7.4 department use ICT

According to the finding in table 30, 38(38.4%) of the respondents indicated that all department in EMI used ICT, 37(37.4%) said that development program department use more, 17(17.2%) said IT department, 5(5.1%) said accounting and finance department

used more and 2(2%) responded that strategic management department use ICT more than any other.

As shown in graph 1, most of the respondents indicated that all departments use ICT. From the graph we can see that support employees use more ICT than core employees when compared in user number.

	Frequency	Percent	Valid Percent	Cumulative Percent
all department	38	38.4	38.4	38.4
development program dep.	37	37.4	37.4	75.8
IT department	17	17.2	17.2	92.9
accounting and finance	5	5.1	5.1	98.0
strategic management	2	2.0	2.0	100.0
Total	99	100.0	100.0	

Table 30 Department use ICT more

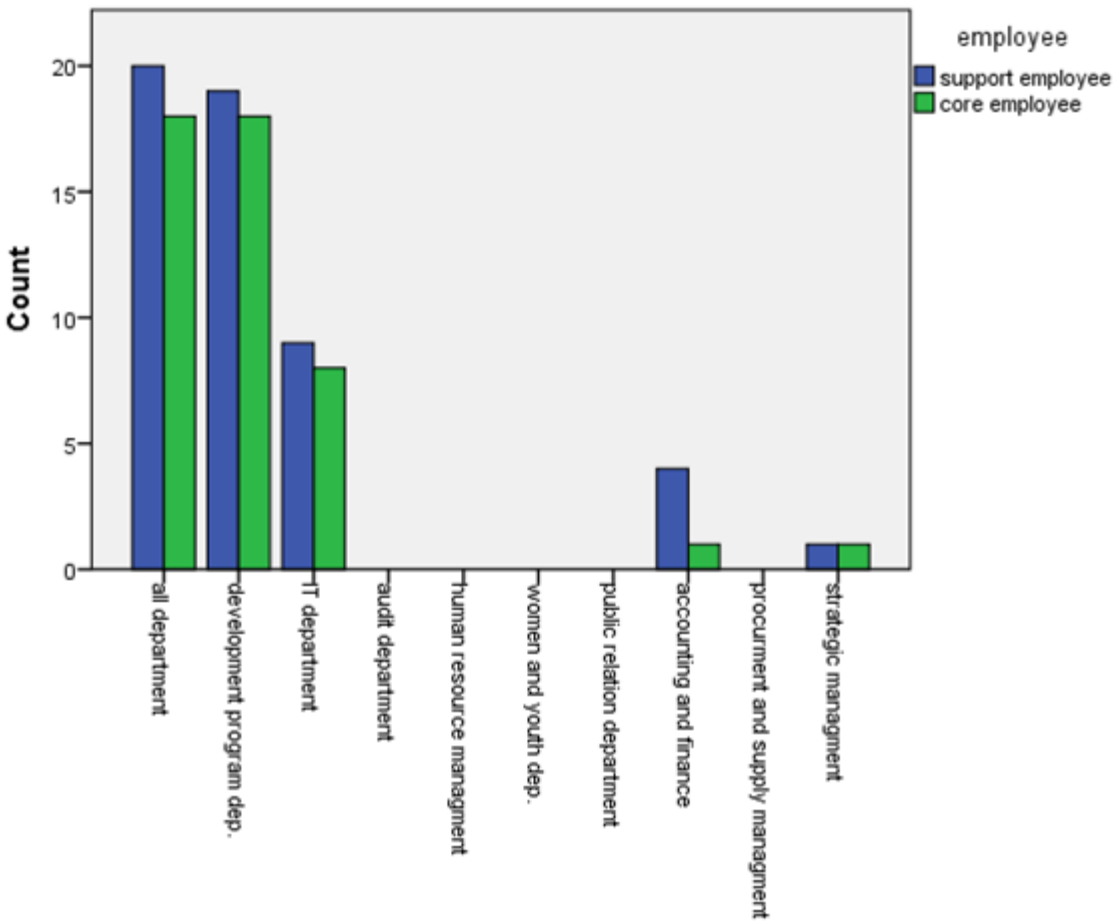

Figure 1 Department use ICT

4.8 Network with similar institute

4.8.1 Computer networking interdepartmental

Another objective of the project was to assess computer network within departments and other similar institutions.

From the finding in Table 31, the respondents indicated that 71(71.7%) all department interconnected with ICT, while 28(28.3%) respondents were said no all department didn't interconnect.

This shows that some department they have computer but do not connected with other different department through computer network; a lot must be done in the future to minimize paper work better to use email rather sending letter.

	Frequency	Percent	Valid Percent	Cumulative Percent
no	28	28.3	28.3	28.3
yes	71	71.7	71.7	100.0
Total	99	100.0	100.0	

Table 31 Network with department

4.8.2 Internet connection

From the finding in Table 32, 94(94.9%) respondents indicated that there was internet connection while 5(5%) said computer interconnection is not available.

	Frequency	Percent	Valid Percent	Cumulative Percent
no	5	5.1	5.1	5.1
yes	94	94.9	94.9	100.0
Total	99	100.0	100.0	

Table 32 Internet network

4.8.3 Internet for communication

According to the finding in Table 33, 94(94.9%) of the respondents said that internet is used for communication purposes while 5(5.1%) do not agree with the fact that internet is used for communication purposes.

	Frequency	Percent	Valid Percent	Cumulative Percent
no	5	5.1	5.1	5.1
yes	94	94.9	94.9	100.0
Total	99	100.0	100.0	

Table 33 Internet network

4.9 ICT for day to day activity

4.9.1 ICT for organizing work and keeping records

Another objective of the project was to assess how ICT was used for day to day activity. From the finding in Table 34, the respondents 97(98%) indicated that ICT was used as management tool to organizing and keeping record while 2(2%) didn't believed that.

	Frequency	Percent
Organizing and keeping record	97	98.0
Not used for Org. &keeping record	2	2.0
Total	99	100.0

Table 34 ICT for day to day

4.9.2 ICT skill

According to the finding in Table 35, 77(77.8%) of the respondents indicated that most of the problem as seen in the institute was lack of ICT skill while 22(22.2%) didn`t encountered lack of ICT skill as a problem.

	Frequency	Percent
Lack of skill is a problem	77	77.8
Lack of skill is not a problem	22	22.2
Total	99	100.0

Table 35 ICT for day to day

4.10 Result of interview:

4.10.1 The opinion on the usage of ICT

The other data source was used using key informants for interview which were nine in number drawn from different department in Ethiopian management institution. The informant were heads of Development program department, IT, audit, human resource management, women and youth public relation, accounting and finance, procurement and supply management and strategic management

Development program department head: now better ICT resources are found in our institute and it is helpful to facilitate work on the other hand there were many difficulties from development program department such as no new updated software, our library was not digital and we are communicate manually old book only found and internet speed is not fast as we need. The respondent suggested that the solution would be updated technology, digitalized library would be best solutions of the above problem.

Internet connection is available in EMI the speed is some time good some time very slow anyway it is very important for work

As a department we didn’t sow the institute having extra budget for improving ICT usage

IT department head: the current usage of information and communication is good but some time employees do not recognize what ICT resources are found in their institute the main reason of need for update our self with information and communication technology were important to improve our goal

Audit department head: as a department they use information and communication technology but some time there is challenge according to the department head responded that document were damaged and lost some time. Another main problem of audit department was the absent of matured software system which help the work.

HRM department head: the current ICT usage was not that much matured enough we had using computer to save record and retrieve when necessary

Women and youth department head: the department head respond that the current ICT usage was good and they had using internet and different ICT equipments to create awareness

Accounting and finance department head: information and communication had great impact on accounting processes. It was difficult to find anybody doing manual accounting with paper and pencil these days. Besides the equipment, accountants appreciate the software. Main problem of accounting and finance department was the absent software program that keeps all data organized and centralized one location.

Procurement department head: the department head respond that the current ICT usage was good and they had using internet and different ICT equipments. The main weakness was each department was not networked in a good manner.

Strategic management department head: the current ICT usage was good but there were many problems some communication modes are few and websites were not update frequently.

Chapter five

Summary, conclusion and recommendations

5.1 Introduction

This chapter in this study which gives the summary of the findings, the conclusions and recommendations of the study based on the objective of the study. The chapter finally presents the suggestions for further studies.

5.2 summary of the finding

Finding of this study revealed that most ICT resources computer (desktop), copiers, internet and computer networks were found in Ethiopian management institute. The implication of this is that ICT resources have found and accessible in the institute. Personal computer, video conferencing system and interactive whiteboards were used by employee on their work while mobile phone services, video camera were found in weak level.

The results of this study also revealed that the most of the respondents articulated that ICT was used for exchange data, planning, searching file and downloading necessary information. In Ethiopian management institute ICT were used for a purpose of assisting trainees, data interpretations and accessing recorded data.

The study found out that organizing work and keeping records, preparing lessons, designing learning styles and facilitating work were areas of ICT in EMI. The study shows that 90.9% respondents believed that organizing and keeping records was a major area of ICT application in EMI.

Information and communication technology were used for creating network through memo, e-mail and telephone but using websites was weak even didn't update regularly that was main problem

5.3 Conclusions

This study established that usage of information and communication technology in Ethiopian management institute is moderate; administrators should work hard to ensure the institute is equipped with latest ICT equipment that could be useful in promoting e- learning. This study also revealed that some department in the study sample had inadequate ICT facilities. In view of this finding, it is recommended that the EMI managers look into ways and means of sources for more facilities especially mobile phone services, websites, security appliances and digital video cameras.

The respondents felt that there all employees should be trained on ICT use and institute should also facilitate in-service training. Employees on the other hand should be exposed more to computer use. The EMI management committees should create awareness on the important of ICT use to ensure there was secure.

On the extent of information and communication technology integration in training of management, this study revealed that ICT was mainly used at the planning stage of lessons especially typing of plans, keeping records and finding learning resources. However, ICT use during lesson delivery was minimal despite the fact that most of the core employee had been trained in use of computers. There were some factors that influence ICT usage in Ethiopian management institute. The possession of the necessary skills and knowledge in use of ICT is an important consideration that determines the extent of ICT usage in EMI and on the other hand the attitudes towards use of ICT is another factor

From the study finding, the study conclude that information and communication technology which includes communication network, mobile phone technology and internet applications are used but a lot must been done to improve and awareness must be created to fully utilize ICT resources.

5.4 Recommendations

From the finding, summary and conclusion the following recommendations may be given to:

- A similar study could also be carried out in Debrezeyet branch to determine whether finding established by this study also apply

- Research could be carried out to determine how various information and communication software and hardware are made use of in training process. This study focused more on assessing the usage of ICT in EMI.
- Continuous staff training on use of ICT is mandatory for smooth adoption and usage of ICT.
- A study could be carried out to how ICT help a day to day activity in EMI.

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APPENDICES

Appendix one: Questionnaire

This questionnaire is distributed for the employees of Ethiopian management institute (EMI) to assess the usage of information and communication technology. The trainees are excluded to fill this questionnaire because of shortness of time and budget constrain. The researcher would like to thank you for taking your invaluable time in order to fill this questionnaire. This study is purely for academic purpose only. Your response is confidential and is not given for any third party.

Part I Demographic information

1. I am a

   Please choose **only one** of the following

   □ Core employee

   □ Support employee

2. Gender:

   Please choose **only one** of the following:

   □Female

   □Male

3. Name of the department you are working in

   Please write your answer here:

   ._____.

4. Your educational level:

   Please choose **only one** of the following:

   □Diploma □ Masters Degree

   □BA/Bsc. □ PhD □ Other

Part II A) Use of ICT in the institution

5. which ICT devices do you use where 5= Great; 4= Good; 3= Moderate; 2= little; 1= Not at all

Computer hardware& software	**5**	**4**	**3**	**2**	**1**
Computer (desktop)					
Copiers, printer& scanners					
CDs and Flash disk					
Laptops					
Entertainment devices (Cassette tapes, radio, CD…)					
Mobile phone services					
Presentation tools (projector, light pointer …)					
Security appliances (firewalls, content filtering devices, intrusion detection...)					
Customized operation software (HRM software, classroom management software…)					
Internet					
Free or paid-up websites					
Computer network					

6. What ICT equipment is used in your institution? (you can tick more than one)

Personal computer [ ]
Interactive whiteboards [ ]
Video conferencing system [ ]
Audio equipment [ ]
Digital cameras [ ]
Digital video cameras [ ]
Mobile phone [ ]
Projection system [ ]
Other (please specify)_____

7. a) computer facility in your organization

[ ] available [ ] not available

b) If available, how frequently do you use it?

[ ] All the time [ ] once a week

8. (a) Your attitude for ICT?

[ ] positive attitude [ ] negative attitude

(b) Please explain why

_____.

_____.

_____.

B) The purpose of ICT usage in the institute

9. For what purpose you use ICT?

. _____.

. _____.

. _____.

10. For what purpose ICT more important in your institute please indicate your level of agreement

    5= strongly agree; 4= agree; 3= neither agree nor disagree; 2= disagree; 1= strongly disagree

Importance of ICTs	5	4	3	2	1
Assisting trainee					
Development of data interpretation					
Reduction of direct instruction					
Improvement of trainee achievement					
Creation of learner friendly classrooms					
Development of skills for further careers					
Improve knowledge sharing					
Keeping& accessing record					
To create net-work with different institutions and universities					
To support teaching learning and other related with technology enabled education					

C) Areas of ICT application in EMI

11. In which area the ICT is more used in your institution? (mark all that is applicable)
    - Organizing work and keeping records [ ]
    - Finding digital learning resource [ ]
    - Preparing lessons [ ]
    - Designing learning styles [ ]
    - Supporting creative thinking [ ]
    - Facilitating work [ ]
    - using chat rooms and forums (face book, twitter) [ ]
    - other,_____

12. Which department do you think use more ICT?

_____

D) Network with similar institute

13. a) Department in Ethiopian management institute(EMI)

□ interconnected with computer network □ not interconnected with computer network

b) If not interconnected, what is the reason? Please tick

□ Lack of fund

□ Lack of attention from administrations

□ Lack of technician support

□other, _____

14. a) Availability of internet in your institute?

□ provided by the administration □ not provided by administrators

b) If available, how is the speed?

□ Fast □medium □slow

c) If NO, what is the reason? Please tick

□ Poor network connection □ lack of funds

□ Lack of technician support

□ Other, _____

15. Do you use information and communication technology for communication with other similar institutions in a local (Addis Ababa management institute) or foreign?

□ Yes □ No

If yes, what is the common mode of communication within the institutions?

Through memo
E-mail
College website
Telephone
Short messaging service (SMS)
Mention others, if any_____
_____

E) ICT for day to day activity

16. How is ICT used as a management tool in your institute to Support a day to day routine activity

Organizing work and keeping records [ ]

Finding digital learning resources [ ]

Preparing lessons [ ]

Designing learning styles [ ]

Supporting creative thinking [ ]

Others, if any_____
_____

17. What problem do you encounter as you use ICTs in your institute?
    [ ] Negative attitude towards ICT use
    [ ] Lack of ICT skill
    [ ] Lack of computers
    [ ] Lack of finance
    [ ] other, please explain_____.
    _____.

Appendix two: Interview

1. What is your opinion on current ICT usage in your department?
2. How do you communicate with various departments in your institute?
3. What is your level of expertise in dealing with the technology?
4. How is the internet connectivity in the institute?
5. Does the institute grant an extra budget for the ICT usage?