

FDRE TECHNICAL AND VOCATAIONAL INSTITUTE

FACULTY OF TVET LEADERSHIP AND MANAGMENT

DEPARTMENT OF TVET LEADERSHIP

AND

MANAGEMENT

The Impact of Trainees Digital Literacy on Information use behavior for Vocational Education

(the case of Entoto Polytechnic College)

(A Thesis Submitted to the Department of TVET Leadership for the Partial Fulfillment of the Requirements for the Degree of Master of Art in TVET Leadership and Management)

By

Teshome Feissa

Advisor

Genene Abebe (PhD)

July 2024

Addis Ababa, Ethiopia

FDRE TECHNICAL AND VOCATAIONAL INSTITUTE

FACULTY OF TVET LEADERSHIP AND MANAGMENT

DEPARTMENT OF TVET LEADERSHIP AND MANAGEMENT

The Impact of Trainees Digital Literacy on Information use behavior for Vocational Education

(the case of Entoto Polytechnic College)

By:

Teshome Feissa

Approved by Board of Examiners

_____	_____
Chairman, Department	Signature
_____	_____
Advisor	Signature
_____	_____
External Examiner	Signature

_____ _____

Internal Examiner Signature

Letter of Certification

This is to certify that Teshome Feissa carried out this research on the topic entitled "The Impact of Trainees Digital Literacy on Information use behavior for Vocational Education" the case of Entoto Polytechnic College. This work is original in nature and is suitable for submission for the award of the Master of Arts Degree in TVET Leadership and Management.

_____

Advisor: Genene Abebe (PhD)

Date: _____

Statement of Declaration

I hereby declare that the work in this research study entitled *"The Impact of Trainees Digital Literacy on Information use behavior for Vocational Education"* the case of Entoto Polytechnic College is my own original work and that all the sources of materials used for this study have been identified and acknowledged as complete references. This research study has not been previously submitted in full or partial fulfillment for any degree in this institute or any other recognized education institution. This research study is being submitted in partial fulfillment of the requirement for Master of Arts degree in TVET Leadership and Management.

_____

Teshome Feissa

Date: _____

Acknowledgment

First and for most I would like to thank my wife W/O Eden Solomon and my two beloved children for the love you showed to me through our life.

I would like to thank my advisor Dr. Genene Abebe for giving me the chance to partake in this thesis and for providing invaluable support and insight during the process of writing this thesis. The motivation and inspiration I received led me to aspire a career in academia. I would also like to thank my instructors, for their advice and the exciting discussions we had during our time studying in the institute. I am sincerely grateful for our time together and I would consider myself lucky to get the chance to work with them again in the future.

Abstract

The purpose of this study is to assess the impact of trainees' digital literacy on the information use behavior for vocational education. Data was gathered by means of a survey using a questionnaire mainly regarding the degree of digital literacy among trainees and how it affects their use of information; how differently trainees use information in digital and non-digital environments. The sample size of the study is 270 trainees from four departments that have been selected. A systematic random sampling method was used for this study, and the respondents were selected at Entoto Polytechnic College. The data was analyzed using SPSS Version 20. The results show that trainees' digital skills will determine the selection of information they use for professional development, and preferring information from a digital environment to a non-digital one has also been indicated in the result.

Table of Contents

Acknowledgment iv
Abstract v
Table of Contents vi
List of Tables viii
List of Figures viii
Chapter One 1
1. Introduction 1
1.1. Background of the study 1
1.2. Statement of the problem 4
1.3. Objective of the study 5
1.4. Research Questions 6
1.5. Significance of the study 6
1.6. Methodological Approach 7
1.7. Expected Results and contributions 7
1.8. Delimitations of the study 8
1.9. Operational Definitions of the key terms 8
1.10. Structure of the study 9
Chapter 2 11
2. Review of The Related Work Literature and Conceptual Framework 11
2.1. Review of Theoretical Literature 11
2.1.1. Concepts of Digital Literacy 11
2.1.2. Technology Consumption Verses Creation 14
2.1.3. Concepts of Information Use Behavior 15
2.2. Importance of digital literacy 18
2.3. Importance of Digital Literacy for trainees and trainers 24

2.4. Impact of digital literacy on learning and teaching 27
2.5. Related Policies and provision of ICT in Ethiopia 28
2.6. Review of Empirical literature 31
2.7. Conceptual Frame work 33
Chapter 3 36
Research Design and Methodology 36
3.1. Research Design 36
3.2. Population Size 36
3.3. Sample Size 37
3.4. Sampling Techniques 38
3.5. Methodology 38
3.5.1. quantitative approach 39
3.5.2. qualitative approach 39
3.5.3. chosen method 40
3.6. Data Collection Tools and Techniques 40
3.7. Data Collection Procedures 41
3.8. Data Analysis and Interpretation Procedure 41
3.9. Ethical Consideration 41
Chapter 4 43
Results and Analysis 43
4.1. Descriptive analysis 43
4.4. Correlations Analysis 52
Chapter 5 57
Conclusions and Recommendations 57
5.1. Conclusions 57
5.2. Recommendations 58
5.3. Limitations and future research directions 59
References 60
Appendix 1: Survey Questionnaire 64

List of Tables

Table 1: Participants Occupations 43
Table 2: Distributions of genders 44
Table 3: Distributions of age 44
Table 4: distributions of Level of trainees enrolled in 44
Table 5: participants level of confident 46
Table 6: The effect of participants digital literacy. 48
Table 7: Participants comfort on utilizing digital tools 49
Table 8: Correlation Analysis 56

List of Figures

Figure 1: Conceptual Framework 35
Figure 2: The digital skill level of the participants 45
Figure 3: Utilization of online resources. 46
Figure 4: participants comfort on using navigating digital libraries 47
Figure 5: Participants choice of information 48
Figure 6: the reliability of information 49
Figure 7: Credibility of information 50

Chapter One

1. Introduction

The current study attempted to examine trainees' information use behavior in digital and non-digital environments and investigate how trainees' digital literacy affected their information use behavior. The study's background history, problem statement, aims, research questions, importance, delimitations, and definitions of operational words unique to this particular research study are all included in this chapter.

1.1. Background of the study

The ability to locate, assess, generate, and convey understandable information via writing and other kinds of communication on a variety of digital platforms is referred to as digital literacy. Utilizing digital technologies is part of digital literacy. Digital devices, including desktop computers, laptops, tablets, and smartphones. The focus of digital literacy has changed from stand-alone computers and digital skills to network devices, such as the Internet and social media use. Instead of taking the place of traditional types of literacy, digital literacy expands upon the knowledge and abilities that underpin them. Digital media is used by people for many different purposes, such as learning, creating, connecting, and discovering.

Being digitally literate is essential in today's environment to being competent and successful. Having digital literacy makes it easier to operate at work, at home, in school, and even when we're job searching. It is now a must for learning because it fosters trainee creativity and productivity while also assisting pupils in understanding their topics in an engaging manner. Our surroundings have changed to become digital ones, and success in them requires having a solid understanding of digital literacy. These days, nearly all of the things we do require some level of digital literacy or understanding to be effective, from using the internet to hunt for jobs to actually doing our jobs.

According to DigEuLit (DigEulit, 2006), digital literacy is the capacity to navigate and prosper while interacting with the electronic instruments and infrastructures that enable

the twenty-first-century world. Due to several changes, digital literacy has emerged as a key enabler in the educational system.

The potential and importance of information and communication technology (ICT) in language teaching and learning has only lately begun to be recognized by the educational community. Computer Assisted Language Learning (CALL), which almost emerged in the 1980s, is supported by the use of ICT in teaching and learning through resources including CDs, educational software, computer tests, and encyclopedias. Electronic tools are being rapidly adopted by education to improve its quality. The capacity, knowledge, and skills that today's trainees need to deal with current technology are essential, as digitalization has a significant impact on the educational industry.

ICTs, or information and communication technologies, are ingrained in every aspect of modern life. Within this framework, digital literacy consists of a set of fundamental abilities such as creating and utilizing digital media, processing and retrieving information, engaging in social media, creating and disseminating knowledge, and a broad variety of professional computing abilities. The modern world is growing more and more electronic, which benefits those who are familiar with them in terms of prospects, success, work, education, and other facets of life. As a result, there is a need for digital citizens, who are accountable for their use of technology in their daily interactions with others.

The term literacy is defined in a variety of ways. Traditionally, literacy was defined as the capacity to read and write. Literacy refers to the process of reading and writing. Literacy is derived from the Latin adjective *literatus*, which refers to educated individuals who can read and write. As a noun, it refers to someone who can read and write (Harper, 2001 - 2024). Literacy is defined as the ability to read and write at various levels of fluency. The National Literacy Trust defines literacy as reading, writing, speaking, and listening. A literate person is defined as someone who is able to communicate effectively with others and understand written information (Beard, 1998).

The term digital literacy was first introduced by Paul Gilster's 1997 book entitled Digital Literacy (Gilster, 1997). Gilster (1997) first proposed the term digital literacy as the

ability to understand and use information from various digital sources. Digital literacy is the interests, attitudes, and skills of individuals, use digital technology and communication tools to access, manage, integrate, analyze and evaluate information, build new knowledge and create and communicate with others to participate effectively in the community (Djawad, Y. Suhaeb, S., & Jaya, H. , 2018).

Literacy has traditionally been regarded as knowledge derived from print. Literacy used to refer to the capacity to read and write on paper materials. The early definitions of computer literacy also emphasize the development of technical skills and rule sets. But by the 20th century's close, this concept had greatly broadened. Working definition of literacy: "literacy is the ability to identify, understand, interpret, create, communicate, compute and use printed and written materials associated with varying contexts," as decided upon at the UNESCO June 2003 Expert Meeting in Paris (UNESCO, 2003).

Literacy has expanded its semantic scope, according to Lanham as cited by (Lankshear, C. & Knoble, M., 2006), from meaning "the ability to read and write" to meaning "the ability to understand information however presented." This indicates that the concept of literacy has expanded to include the capacity to use information communication tools rather than the old definition, which confines it to the ability to read and write. This is due to advances in modern science and technology.

It is noted by Wagner and Kozma as referenced in (Horning, 2012) that the definition of literacy is evolving due to technology. They continue by stating the following in addition to fundamental writing and reading abilities:

In order to find, arrange, and manage information, understand and analyze data, collaborate with remote teams, interact with people, and use information to solve issues and produce new knowledge and cultural artifacts, new skills are required. These abilities will make inhabitants of the modern world more capable of finding, producing, and using information to further their education and improve their living, working, and economic circumstances.

As a result, the term "literacy" now includes information literacy, critical literacy, electronic literacy, and digital literacy due to the current era's growing digitalization.

Digital literacy is the new term for the ability to use ICT and the Internet. Martin (Martin, 2005) states that in this regard:

In order to identify, assess, manage, integrate, evaluate, analyze, and synthesize digital resources, construct new knowledge, create media expressions, communicate with others, and enable constructive social action in order to reflect on this process, an individual must possess digital literacy.

To put it another way, digital literacy is the capacity to create new information, evaluate existing knowledge, and use digital tools. It is a requirement for creativity and invention, without which trainers and trainees alike cannot develop the abilities and knowledge required to function in the twenty-first century and actively engage in society. It gives trainees access to electronic tools and equipment that facilitate quicker, faster, more pleasant work. Due to the fact that information use behavior varies depending on the degree and skills of learners, it alters how trainees look for information and utilize it in their everyday work and learning. A learner's digital literacy influences how they use information in a digital setting or context.

1.2. Statement of the problem

To succeed in their studies, trainees must possess the knowledge and abilities to use digital technology. The only trainees who can thrive in the 21st century is those who are conversant with the new digital environment. Digitally savvy learners learn more efficiently, retain material more quickly, and are more likely to find employment in any field. In addition to considering the goal, medium, and method of utilizing digital devices for information seeking, learners should be aware of how much they use them and how they use them. Therefore, it is imperative to address the problems pertaining to trainees' digital literacy.

The current state of the teaching and learning process has undergone a paradigm shift as a result of digital advancements. There are differences in learners' information use behavior in digital and non-digital environments in all facets of the behavior. In order to complete tasks with purpose, trainers and trainees alike should possess the knowledge, skills, and capacities to work with digital devices and improve information use behavior.

The usage of digital devices like computers, smartphones, and other technologies has affected both the teaching and learning processes. A complicated process is involved in digital literacy and information use behavior, including the goal of information search, the method of collecting, the types of information used, and the evaluation criteria. As a result, assessing one's level of digital literacy is essential for understanding information usage behavior.

Technology-based learning activities offer more benefits and chances for natural learning than traditional learning activities, according to Chapelle (Chapelle, 2003), in addition to having an effective and quicker positive impact on trainees' accomplishment. The educational environment may benefit from trainee's greater access to and usage of technology. Access to technical resources, however, is meaningless if a trainee lacks the skills necessary to use them effectively in a real-world setting. Therefore, it is necessary to look at trainees' digital literacy and how it affects how they use information.

In our context, digital literacy is the current literacy trend. To engage in digital learning and accelerate their rate of learning and success, trainees must possess digital literacy. Instruction in second or foreign languages and digital literacy should not be taught in isolation. To participate in today's digital environment, one must now possess digital literacy. The usage of ICTs and digital tools in a real world of work, is growing daily. Methods of instruction and learning are becoming more digital. As a result, digital literacy is becoming a fascinating topic for educational research. Numerous research has been conducted in this field, but none have examined how digital literacy affects how people use information. Thus, this study contrasts trainees' information use behavior in digital and non-digital environments and investigates the impact of trainees' digital literacy levels on their information use behavior at the vocational training level.

1.3. Objective of the study

The following were the study's objectives:

a. To investigate the degree of digital literacy among trainees and how it affects their use of information;

b. to assess how differently trainees use information in digital and non-digital environments.

1.4. Research Questions

The research questions that guided this study were as follows:

a) What effects does a trainee's level of digital literacy have on how they use information?
b) How much do trainees behave differently while using information in a digital versus a non-digital environment?

1.5. Significance of the study

For people interested in digital literacy in general and digital literacy for training in particular, the current study is important and helpful. The study informs trainees on their level of digital literacy and how it affects how they use information. It gives trainers the competency that a trainee needs while dealing with digital learning and information on the variations in trainees' information use behaviors in digital and non-digital environments.

The results of this research help trainees embrace a framework that supports fundamental ideas for information management, information access, evaluation, integration, and authentic communication. The study's findings help trainees understand how they use information in a digital setting.

For trainees training the contemporary age, this research study is helpful. They get the opportunity to learn about digital literacy, how their information-use habits differ in digital and non-digital environments, and how trainees' digital literacy affects their habits. My research aids trainers in digitizing their instructional and learning processes. Additionally, it is crucial that curriculum designers create curricula that emphasize digital literacy, that trainers conduct trainings and seminars taking into account participants' levels of digital literacy, and that other stakeholders become digital citizens in the modern world.

1.6. Methodological Approach

The research for this thesis uses a quantitative research approach to evaluate the goals and research questions that were previously presented. A conceptual model is created to investigate the influence of digital literacy on information use behavior to use digital technology for learning, taking into account prior research and pertinent components. The conceptual model and the chosen constructs function as a foundation for answering the research questions.

This thesis's empirical data was gathered via survey questionnaire. The respondents are given a brief explanation of the study's objectives before being asked to participate by responding to a series of questions created with the conceptual model in mind. The survey consists of questions about the background information of the participants and questions that are taken from the study questions about information use behavior and digital literacy. Data collection from the targeted trainees is used to distribute the survey questionnaire.

To address the research questions, a descriptive analysis is performed on the collected data. In Chapter 4, the methodological approach will be covered in more detail.

1.7. Expected Results and contributions

Higher self-perception of one's own literacy levels is likely to have a favorable effect on the desire to utilize digital technology for learning, as various facets of digital literacy and information literacy are linked to an individual's self-efficacy. Positive perceptions of performance, effort, hedonic motivation, and habit are expected to have a positive impact on an individual's intentions to use digital technologies for learning, given the selected constructs that represent their information use behavior.

This study adds to and broadens the body of research on digital literacy that already exists. This thesis seeks to provide answers to research questions concerning the effects of digital literacy on information use behavior as well as perceptions of performance, effort, hedonic motivation, and habit. The goal is to shed light on how digital technologies are viewed in educational settings and, consequently, how they might be improved while keeping up with contemporary concerns. As previously said, the

information this thesis provides may be useful to users, educators, and policymakers, as well as anyone carrying out additional research on the subject.

1.8. Delimitations of the study

Delimitations are limits that the investigator establishes to manage the scope of a study. They include details about the study area, data collection instruments, demographic, sample, sampling procedures, and research methodology. The information use behavior of the trainees, the influence of digital literacy on their information use behavior, and the comparison of their information use behavior in digital and non-digital environments were the only areas of focus for this study. It was intended specifically for graduated classes of 2024 academic year trainees at Entoto (TMS) Polytechnic College. Moreover, a survey was used in the research design. To choose a sample from the representative population, I employed a stratified random sampling technique. In order to get the necessary information, my primary research tool was a questionnaire with both closed-ended and open-ended questions to get the necessary data. Also, I conducted a descriptive and statistical analysis of the data that was gathered.

1.9. Operational Definitions of the key terms

Below are the operational definitions for a few of the most important terms utilized in this research study:

Digital literacy: The ability to locate, interpret, assess, and arrange information into personal learning networks is known as digital literacy. It goes beyond simply knowing how to operate a computer or other digital device to include the capacity to recognize, evaluate, communicate, produce, analyze, and construct knowledge and information.

Digital Citizen: People who use information technology to pursue careers in education, social service, politics, or any other sector are referred to as digital citizens.

Digital Device: Modern electronic equipment used by digital citizens, such as computers, smartphones, tablets, e-books, and mobile phones, are referred to as "digital devices." These technologies allow users to engage in lifelong online learning.

Digital literacy areas: In this study, digital literacy areas refer to different literacies like Network literacy, Technical literacy, Media literacy, Information literacy etc. essential in the 21st century era.

Digital literacy skills: In this study, digital literacy skills refer to self-reported skills of the trainees which include cultural skill, cognitive skill, and communicative skill, confident, creativity, critical and civic skill.

Digital literacy level: In this study, digital literacy level refers to self-reported ability of the trainees to access, use and produce new information in digital environment.

Digital technology: Technology in which data is processed, stored, transmitted, displayed and created is called digital technology.

E-learning: E-learning refers to the web-based learning, learning using internet or electronic facilities that is supported or enabled by the use of digital tools and content.

Information use behavior: In this study, information use behavior is defined as a series of individual actions, such as resource type selection and frequency or time spent using the equipment and resources

1.10. Structure of the study

This thesis unfolds as follows, first, followed by this introduction, a review of related work literature and conceptual framework will be discussed as chapter 2. Following the theoretical background, the methodology chapter describes the chosen method used for data collection and analysis. The quantitative and qualitative approach are compared and contrasted as a means to motivate the decision carry out a quantitative study in order to research the subject of this thesis. The ethical considerations are also touched. The main focus of the methodology chapter, however, is to discuss the application of the chosen method, including survey design, data collection and plans for data analysis.

The data analysis is further discussed in the following results and analysis chapter. This chapter presents the results of the conducted research, as the gathered data are introduced through a descriptive analysis. Finally, a discussion is presented, including main

findings, conclusions, limitations and future research suggestions will be part of this chapter.

Chapter 2

2. Review of The Related Work Literature and Conceptual Framework

2.1. Review of Theoretical Literature

Clear concepts regarding research activities are provided by the review of connected literature. In order to conduct the study in a methodical and scientific manner, the researcher formulates all of the concepts. The breadth of theoretical perspectives on digital literacy, digital citizenship, digital literacy domains, digital literacy skills, components of digital literacy, significance of digital literacy for trainers and trainees, effects of digital literacy on teaching and learning, and an examination of laws and regulations aimed at improving ICT in Ethiopian education are all covered in this section.

2.1.1. Concepts of Digital Literacy

Teachers and legislators need to be aware that not all teenagers and young adults are digitally literate as technology use grows in our society. Digitally literate citizens are in demand across the labor and economy, not just in specialist fields (Bergson-Shilcock, 2020). As a result of automation brought about by recent technological developments, fewer jobs overall—especially low-skilled ones—are being created (Arnitz, 2016). Given the shift in the demand for workers, it is critical that those tasked with preparing trainees for the workforce of the future recognize that not all pupils possess the abilities necessary to thrive in a digital age (Cummins P. Y., 2019).

Young adults have experienced major shifts in education, including the use of digital tools and online learning, in addition to changes in the workforce. Research consistently reports low success in college-level online courses (Bettinger, 2017).

There are other names for digital literacy, including information literacy, cyber literacy, internet literacy, multimedia literacy, and online literacy. It can also be described as the ability to assist the user in using different media to participate in social and cultural activities. According to Hobbs (Hobbs, 2010), having a high degree of digital media literacy makes one more capable of expressing one's thoughts and more engaged in social matters. It is associated with having the capacity to utilize a computer, social media, and

the internet. Research by Van Deursen and Van Dijk (Van Deusen, 2009) has shown that age and educational attainment are the primary determinants of variations in digital literacy. A person who is digitally literate can typically seek for and comprehend needed information, openly express and exchange opinions or thoughts, and comprehend others' perspectives better. Digital literacy, according to Eshet-Alkali (Eshet-Alkalai, 2004), is a form of all-encompassing framework that expresses the social, cognitive, and technological skills needed in a digital context. Tool literacy and symbol literacy are the two categories into which Tyner (Tyner, 1998) divides the notion of literacy, which denotes different capacities for utilizing and disseminating ICT and digital information. Information literacy, visual literacy, and media literacy were included in the latter, while computer literacy, network literacy, and technology literacy were included in the former.

The ability to "understand" and "utilize" electronic resources, including the previously mentioned principles, is known as digital literacy (Bawden, 2001). Critical thinking is emphasized by Gilster (Glister, 1997) (1997), who lists four fundamental components of digital literacy: knowledge, Internet search, hypertext search, and content evaluation. According to Bawden (2001), who takes a complete approach to literacy, digital literacy is more widely defined as the capacity to recognize, locate, and utilize electronic information from networks in addition to the comprehension of texts, sounds, and images. According to Fastrez (Fastrez, 2009), there are three types of literacy: technical, cognitive, and social. Thus, the ability to create and disseminate one's own information as well as to empathize with that of others is referred to as digital literacy.

Information and Communication Technology (ICT) Literacy ((ETS), 2002) and Digital Competence (Skov, 2016) are two words that are synonymous with digital literacy. Digital technology use for information creation and communication, as well as for managing, integrating, and assessing digital data, is the foundation of ICT literacy. Digital competence is the ability to create, solve issues, communicate, and manage information by combining technical knowledge with positive attitudes toward technology. It also emphasizes critical thinking, ethics, and an awareness of internet safety.

The European Commission for Education and Culture (2003) states that "digital literacy" refers to the new type of literacy that comes with using ICT and the Internet. Without digital literacy, persons are unable to fully engage in society or acquire the skills and information required to survive in the twenty-first century. Digital literacy is quickly becoming a prerequisite for creativity, innovation, and entrepreneurship.

Similarly, digital literacy is defined as "the skills required to achieve digital competence, the confident and critical use of ICT for work, leisure, learning and communication and equivocates by equating digital literacy to internet skills and using a computer," according to the European Union as cited in (Belshaw, 2012). According to this definition, *digital literacy is the ability to use ICT to become a digitally competent, self-assured, and critical user*. It gives one the information and skills necessary to be familiar with and proficient with a variety of digital technologies in a variety of job and occupational settings.

Similar to this, Eshet-Alkalai (Eshet-Alkalai, 2004) contends that in order for users to function well in digital environments, they require a wide range of complex cognitive, motor, sociological, and emotional skills. These skills go beyond simply knowing how to use software or operate a digital device. It implies that in addition to being able to use technology, a person who is digitally literate must also possess cognitive, sociological, and emotional abilities.

Apart from having basic access, it's important to remember that digital natives have quite different levels of exposure to the digital world in professional and educational settings. The difference in young adults' exposure to specialized apps, gadgets, or programs also produces a gap in their proficiency with digital tools. Since about 25% of American workers between the ages of 16 and 34 lack digital skills, Bergson-Shilcock (Bergson-Shilocock, 2020) said that "a young person might be confident in making a quick TikTok video but stymied when it comes to using a spreadsheet."

Based on their abilities and frequency of use, Green and Hannon (Hannon, 2007) divided these various digital users into four groups: information gatherers, creative producers, digital pioneers, and regular communicators. Innovative creators are generating content;

they are creating blogs, YouTube videos, and new websites that are accessible to anyone. Before it was hip to learn how to code and publish content online, digital pioneers were creating blogs and vlogs. Those who spend their lives on Google and Wikipedia are information gatherers; they are not digital producers but rather digital information consumers. Similar to information gatherers, everyday communicators are mostly consumers in the digital age, despite having access to all online applications and being adept at texting and messaging on social media.

People of all ages are information gatherers, digital pioneers, creative producers, and regular communicators. Additionally, it is typical to see everyday movement of the same individuals among those groups (Hannon, 2007). It is important to realize, though, that falling into any one of these categories and being able to function in some way within them does not equate to being digitally literate. There are wide variations in the ways that people utilize technology, and these variations in purpose and usage lead to divergent degrees of digital literacy (Bennett, S., & Maton, K., 2010).

2.1.2. Technology Consumption Verses Creation

Another crucial component of digital literacy is highlighting the distinction between using technology for creation and consumption (Wilson, 2015). Users just locate and utilize content created by creators on the internet. Although there are two approaches to learning in the digital age, using technology to create offers a more immersive experience that enables trainees to go deeper into the technical and soft skills necessary for the online setting. According to Bennett and Maton (Bennett, S., & Maton, K., 2010), merely consuming information restricts a person's ability to learn other abilities that are only available to people who synthesize and produce digitally.

Both adults and trainees need to be able to interpret the information they find and create. Producing and distributing digital content requires a broad variety of abilities (Hinrichsen, 2014). A learner's comprehension of digital literacy advances when they are creating content, selecting apps, typefaces, and sharing options.

According to Scolari (Scolari, 2019), those who are digital natives do not possess a "built-in chip" that enables them to use technology with ease. Studies show that there is an

uneven distribution of digital literacy capabilities among teenagers and young adults, and that there is no basis for the sanguine belief that digital natives are technologically literate (Calvani, 2012) . Moreover, this disparity in digital literacy won't go away on its own (Horning, 2012). Due to the imbalance in these crucial abilities, educators must intervene to close these gaps and get children ready for postsecondary education and the workforce (Bulfin, S., & McGraw, K., 2015).

2.1.3. Concepts of Information Use Behavior

The term "information use behavior" describes how people find and use information. It has to do with examining how people act when they need to obtain and use information in order to achieve a particular objective. It deals with how people behave in regard to information sources and channels, encompassing both proactive and passive information usage and seeking. Human behavior and the way we seek out and use information are changing as a result of the digital age. Few studies have been conducted that provide insight into how people use information from different sources and how that information affects their knowledge structure.

Information use behavior involves various aspects. Some of them are as follow:

1. Purpose of Information use

The goal of information use behavior is to comprehend how people look for, assess, and use information in different situations. It entails researching the variables—such as individual traits, job demands, and the information environment—that affect information seeking and utilization. Researchers can learn more about how people solve issues, make decisions, and learn by seeing how they use information. In order to better serve users' demands, it also assists institutions and organizations in designing better information systems and services.

This feature relates to the use of many digital resources that include digital information. Information can be used for a variety of tasks, such as writing papers, completing projects, overcoming obstacles in the classroom, getting ready for a presentation, or spotting trends.

2. Information acquisition Path

The process of learning about a specific topic or subject is referred to as the "information acquisition path." It entails a number of processes, including selecting the area of interest, carrying out research, obtaining pertinent data from reliable sources, processing, assessing, and ultimately putting the knowledge to use or imparting it. If we wish to learn about a particular historical event, for instance, we could visit museums or related websites, read books, articles, or research papers, watch documentaries, and converse with experts or informed people as part of our information-gathering process.

The sources from which the required information can be gathered are referred to as the information acquisition path. Sources such as one's own collection, a colleague's, a library, publishers and bookstores, conferences, exhibitions, etc. are included.

3. Types of Information Preferred

Another issue pertaining to information use behavior is the preferred forms of information for digital users. Books, scholarly articles, research reports, theses, seminar data, trending information, and statistics are among the favored information types.

1 Practical Information: This category comprises knowledge that is helpful in day-to-day living, like life hacks, guidance on a range of subjects, and tips and tricks. 2. Educational Information: Learning new things and gaining a wider knowledge base are interests shared by many people. This can contain tutorials, explanations of difficult topics, and information on certain subjects.

3. Current Events: For many people, it's critical to stay informed on the most recent developments in news and society. Information regarding politics, social issues, and current events is frequently preferred by people.

4. Entertainment: Whether it's through music, movies, literature, or other media, people like to be entertained. Reviews, recommendations, and information on the newest releases are frequently sought after.

5. Health and Wellness: For many people, looking after their health and wellbeing is of utmost importance. It is usually preferable to provide information on self-care, mental health, fitness, and nutrition.

6. Technology: In the digital world we live in today, technology is a big part of our life. Information regarding the newest hardware, apps, and technological trends is frequently sought after.

7. Travel and Adventure: Many people have a fascination for seeing new places and learning about other cultures. There is a great need for travel destination, itinerary, and tip information.

8. Personal Development: A lot of people work hard to better their personal life and themselves. Knowledge about motivation, success tactics, and personal development is frequently favored.

9. Financial Information: It's critical for everyone to manage their finances and make informed financial decisions. It's common to want information about financial planning, investing, and budgeting.

10. Relationships: Whether they be friendship or relationships, people are interested in strengthening their bonds with one another. It's usually desired to have knowledge about effective communication, handling conflict, and creating lasting relationships.

4. **Information Selection Criteria**

The standards or criteria used to decide what information is pertinent, trustworthy, and appropriate for a certain purpose or context are referred to as information selection criteria. These standards may change based on the particular requirements and objectives of the person or group searching for the information. Typical standards include the following:

1. Relevance: Is the information directly related to the topic or question at hand? Does it address the specific needs or requirements?

2. Accuracy: Is the information reliable and trustworthy? Can it be verified through credible sources or evidence?

3. Currency: Is the information up-to-date and current? Is it the most recent and relevant information available?

4. Authority: Is the information from a credible and authoritative source? Can the author or organization be trusted to provide accurate and reliable information?

5. Objectivity: Is the information unbiased and free from personal opinions or biases? Does it present multiple perspectives or viewpoints?

6. Accessibility: Is the information easily accessible and available? Can it be obtained through reliable sources or databases?

7. Usefulness: Is the information practical and applicable to the intended purpose or context? Does it provide valuable insights or solutions?

5. **Specialized Information Service Used**

Different services that might give us up-to-date and trending information are taken into consideration by specialized information services. Utilizing search engines, blogs, communities, trend analysis services, and information consultancy services are all part of it.

Both digital and non-digital environments exhibit information consumption behavior. In terms of how the environment changes, the characteristics linked to information use behavior could be the same or different. One can exhibit comparable information-use behavior or exhibit behavioral variations. It is dependent on the degree of digital literacy and the users' understanding of information usage behavior in various information environments. As a result, it's critical to examine how trainees' information-use behaviors have changed in both digital and analog environments.

2.2. Importance of digital literacy

In the modern world, digital literacy is a need for adults rather than an option. Most fields require it for work, and it's crucial for career growth in particular (Bejakovic, 2020). To

advance their job trajectory and educate themselves, an individual needs to possess digital literacy. Participating in the digital economy is also essential, as it was a rapidly expanding field prior to the COVID-19 pandemic of 2020.

The significance of digital literacy becomes evident as educators go to explore the concept of multiple languages. In research on how the global economy is interacting with different technologies and growing more interconnected, Cope and Kalantzis (Cope, B., & Kalantzis, M. , 2000) noted this. This study concentrated on the social constructive element of pupils' reading literacy in addition to its cognitive component. The study came to the conclusion that reading a variety of multimodal texts helps people develop their meaning and emphasizes how crucial it is to become familiar with the cultural and technical aspects of this new literacy. The last ten years have witnessed a significant shift in communication, which has also resulted in significant modifications to the definition of literacy (Wilson, 2015).

Trainees need to be able to learn in a flexible setting in order to stay up with the times and produce adults who are prepared for the future (Wilson, 2015) . In addition to learning how to read and write, students also need to learn how to use the technology that they use for communication (Glaus, 2014). Teachers and administrators are nonetheless concerned about the digital literacy abilities of secondary and postsecondary trainees (Gross, M., & Latham, D., 2012). These issues are not new, and they are rooted not only in the study of foundational courses like arithmetic and reading but also in cybersecurity and digital citizenship.

Access to Education

Our educational system is starting to emphasize digital literacy, particularly for higher institutions. Studies finished over twenty years ago continue to be relevant today: people in our society need to grasp technology just as much as they need to read, write, and arithmetic (Kaminiski, 2003). Similar to this, Hart et al. (Hart, C.M.D., Berger, D., Jacob, B., S., & Hill, M., 2019) asserted that students who live in a society that values digital literacy will always benefit from online learning.

Another vicious loop brought on by a lack of digital literacy is the inability to acquire digital literacy without returning to school, yet the requirement for digital literacy in order to succeed in school. For many people, there is a vicious loop whereby they cannot grow or enter the workforce without having digital literacy, but they are also unable to acquire it due to a lack of digital abilities.

The flexibility and appeal of online learning are prevalent in postsecondary education, with alternatives available for most majors. Even technical majors and certificate programs that are thought to be highly hands-on, like automotive service or machine tool operations, offer all of the required math and safety courses completely online for graduation. This demonstrates even further how everyone in today's environment will eventually learn using a computer, even those who don't want to work with them. This shift in schooling also reflects changes in society. When a mechanic is introduced to the company's hardware and software system for customer administration, engine diagnostics, and repairs, they can put their newly acquired digital skills—such as those from an online Automotive Engine Analysis course—to use on the job (Cummins P. Y., 2019)

Digital literacy is particularly important for trainees who have to have completed the National Competency Assessment prior to graduating. The exam included a knowledge question that required online research to be addressed. According to Digby and Bey (Digby, 2014), the majority of students were using online resources to complete an online exam on their own. The National Assessment in our area is exclusively available online, with paper exams only being accepted for individuals who require an accommodation because of a disability (completing the knowledge test on a computer). The transition from paper to digital platforms presents obstacles and unease for individuals seeking personal growth but without the requisite computer abilities.

Research indicates that the number of online courses in education is rising quickly (Hart, C.M.D., Berger, D., Jacob, B., S., & Hill, M., 2019). Adults and students who lack digital literacy may find it difficult to advance their education and careers. Cummins et al. (Cummins P. Y., 2019) states that "a single period of formal schooling is no longer

adequate to keep up with changes in skills demanded by employers in the technology-rich societies." Policymakers, researchers, and educators need to recognize that the root of this problem is not always a rejection of education but rather occasionally a lack of success in an online learning environment (Bergson-Shilcock, 2020).

Access to workforce

In today's workforce, digital literacy is a necessary ability (Jose, 2016). Employers in the twenty-first century already take for granted that employees would be able to switch between different technologies with ease and will have an open mind to continuously learning new things and updating their abilities (Ng, 2012). The relevance of digital literacy to economic well-being is not new; earlier studies by Wynne and Cooper (Wynne, M.E. & Cooper, W.L., 2007) emphasized this point. It is foreseeable that low levels of digital literacy across countries will impede economic expansion and competitiveness.

Nowadays, the majority of workers must possess digital skills in order to apply for middle level technicians, or looking for an online job (Bergson-Shilcock, 2020). Young adults no longer request an application in person at a physical location to fill out with a pencil and paper. They are now directed to websites where they often have to take online entrance exams in addition to learning how to fill out and submit required paperwork and upload a resume. For instance, prospective employees must submit an online application and complete an online personality test, which can take up to an hour, in order to be considered for employment at Ethiopian Airlines and similar companies.

Digital literacy is also crucial as jobs across the nation change and new ones are created; currently, nearly two-thirds of those postings require medium to advanced levels of digital skills. This further highlights the importance of digital skills to enter and advance in the workforce. Since the beginning of the twenty-first century, the number of jobs requiring advanced digital skills has grown periodically due to technological advancements. The number of jobs not requiring any digital skills has decreased (Muro, 2017).

It's crucial to keep in mind that a large number of trainees in workforce development programs in the future will hold positions that are still unknown. Training students for occupations that do not yet exist requires teaching them how to learn in and out of the classroom in order to maintain a high level of proficiency when market demands shift.

Life Skills

Students will be more successful today and, in the future, if educators teach digital natives how to read, produce, and learn online (Wilson, 2015). Even while technical abilities are crucial, soft skills acquired through online job and communication are just as critical. Because of this, when operating in the online environment, both adults and students need to be aware of their rights and obligations (Atif, 2018). These obligations, which are frequently referred to as "digital citizenship," include knowing and upholding one's own and other people's rights, safeguarding intellectual property, abstaining from cyberbullying, using good etiquette, and staying safe online (Kim, M., & Choi, D., 2018).

According to research (Digby, 2014) it is not reasonable to assume that digital natives are technologically literate or that they know what it means to be a good digital citizen. To assist educators in addressing this subject, Kim and Choi (Kim, M., & Choi, D., 2018)(2018) created the new S.A.F.E. framework for digital citizenship:

- ⇨ Self-identity- understanding one's own values and beliefs and protecting them in a digital environment
- ⇨ Activity online- only engaging in positive and reasonable activity online and only interacting with rational decision makers
- ⇨ Fluency in digital environments- knowing how to use software and hardware to achieve goals and being able to keep up with software and hardware changes
- ⇨ Ethics in digital environments- understanding and respecting the rights of others

Teachers developed the S.A.F.E. framework, which was taken from the International Society for Technology in Education (ISTE) 2016 standards. Digital citizenship has

become a necessary topic through the teaching of digital literacy, and teachers, who need defined criteria for assisting this learning in the classroom, are aware that there are risks associated with the internet. It is critical that our young comprehend these shifts and learn how to maximize the beneficial effects while limiting the negative in a world where traditional culture and online culture coexist and frequently have fuzzy defining lines (Kim, M., & Choi, D., 2018).

Being digitally critical is a life skill in addition to being a good digital citizen (American Library Association, 2013). In order to use digital skills, people must be able to evaluate Internet sources, recognize authenticity, and distinguish between what is and is not true (Ng, 2012). Critical literacy is frequently employed to assist pupils in comprehending the deluge of information that is readily available. One part of this word that has been utilized for years in English schools is that students are taught to question and debate the assumptions or biases in the text in addition to exploring it (Norris, 2012).

Digital literacy involves technology users understanding what is shared online and asking questions about it. To be digitally literate and well-informed, one must know how to use technology to search for, retrieve, and evaluate the quality of information (American Library Association, 2013). When Cordell (Cordell, 2013) said that critical literacy needs to be a prerequisite for everyone in order to operate in today's open society, she further highlighted the need of critical literacy. According to Cordell, "Americans cherish their freedom of speech and information access, but they also need to be able to distinguish between genuine offers and scams and satire."

Lastly, internet etiquette, often known as netiquette, is a vital life skill in the online world. Although the term "netiquette" is still not well defined in research and practice, it is essential to comprehend (Soler-Costa R, 2021). Netiquette, according to Luic (Luic, 2019, November), is an opposite of cyberbullying. In a world where technology has fundamentally altered communication, there is an online environment where hate speech, cyberbullying, and fake news are rampant. This field of research is still in its early stages, despite what the Soler-Costa et al. (Soler-Costa R, 2021) comprehensive literature review

indicated. It also demonstrated how important it is for instructors and students to receive training.

The school system values good netiquette in addition to the viewpoint of the student. Cyberbullying is starting to affect educational systems all over the country in terms of punishment and public relations. Improved instruction on the fundamentals of netiquette and cyberbullying is essential if school systems, educators, and students are to remain out of the spotlight. According to Luic (Luic, 2019, November), schools need to educate students about appropriate online conduct as well as the dangers of hate speech and violent online content. Research shows that teachers and school systems should provide a good example for students when it comes to teaching netiquette. Students are helped to acquire and comprehend this life skill early on by clear guidelines, honest conversations, and appropriate modeling.

2.3. Importance of Digital Literacy for trainees and trainers

To compete in this digital age, educators and learners alike must possess digital competency. Technology and digital literacy impact all professional and educational domains. Living in a digital age has clearly extended and resulted in the demand for technology skills and knowledge in schools, the workforce, and society, according to Rivoltella (Rivoltella, 2008).

With the growing significance of technology in our lives, digital literacy is becoming acknowledged as the most important instrument for lifelong learning. Essentially, social media, technology, and internet resources have a huge impact on us as members of a global society. The constantly changing tech environment has the potential to either benefit or hinder people, both adults and youths.

Adopting digital literacy and technology is essential to promoting learning from childhood to adulthood. Technology is more important, has a stronger impact on education, and promotes academic success. Hague and Payton (Hague, 2010) say that digital literacy is crucial for the younger generation:

An essential right for all young people in an increasingly digital age is digital literacy. It equips kids and teens with the abilities, information, and comprehension necessary to participate fully and actively in today's and tomorrow's social, cultural, economic, civic, and intellectual life.

Teachers who possess digital literacy abilities can cultivate a strong sense of digital citizenship in their pupils by implementing these skills in the classroom. Nevertheless, digital literacy is more than just this elementary notion. Here are the top seven reasons why today's educators and students need to be proficient in digital literacy:

1. **Moving Beyond Google**

Google is a useful resource. Trainees who have access to a computer and the Internet can solve really difficult puzzles. True, in-depth learning is not what trainees get from just Googling answers. Even though the majority of trainees know how to use a search engine, they ought to be taught the extra abilities needed to advance the quality of the responses.

2. **Teaching Digital Citizenship**

Understanding and putting into practice acceptable and ethical uses of technology and the internet are necessary for becoming a good digital citizen. Digital citizenship includes understanding academic plagiarism, such as anti-plagiarism rules, and social norms that relate to online activity, such as cyberbullying.

3. Closing the digital divide

The difference in having frequent and efficient access to digital technologies and not having it is known as the "digital divide." The rift is widening and highlights harmful achievement disparities. Students that are proficient in digital literacy promote change and look for novel solutions.

4. **Expanding conceptions of the digital world**

Although trainees are adept at using digital tools, their knowledge of these tools' capabilities is frequently lacking. Trainees who are proficient in digital literacy should

be encouraged to leverage modern technology as an effective toolkit to increase their learning chances. For instance, they don't think to use Instagram for art or history projects, but they do use it to share images. They utilize voice memo apps, the likes of TikTok, to record themselves, without realizing that these tools can potentially be used for historical narratives or journalism initiatives.

5. **Enabling Differentiation**

Although it takes time, differentiation in the classroom is necessary to satisfy the requirements of all students. By utilizing technology properly and imaginatively, it is possible to lessen the impact of learners' disparities. Instructors can conduct lectures in front of the class; visual learners use laptops to follow along with illustrations, and auditory learners record the lecture for later review. With the use of technology like this, educators may provide their students a choice in the kind of projects they work on, such as written stories, podcasts, or videos. Establishing the guidelines and parameters for this kind of difference requires digital literacy.

6. **Making thoughtful cultural and platform decisions**

A skilled trainer will be able to leverage their understanding of how their trainees interact and learn to apply technology in ways that will maximize their ability to teach. In diverse classrooms when trainees are bringing in a variety of cultural settings, these abilities become even more crucial. The degree to which trainees are comfortable using the tools and the different cultural norms that exist within their community will determine how successful the content and technologies selected are. Digital decisions made by a considerate educator will take these diverse cultural settings into account.

7. **Improving the technology**

Instructors can provide valuable pedagogical and useful insights to edtech companies that create educational technology for students. These days, educators understand that their classrooms require digital solutions. Teachers can cooperate with colleagues to share technology and improve learning outcomes for their pupils as they become proficient in digital literacy through their lessons. Hence, in order to avoid regulations

that just require giving children access to technology without considering how they will use it, school and district leaders must place a strong emphasis on teacher digital literacy. Teachers that are digitally literate view technology as a creative tool rather than something that is required of them like fashion. Teachers need to comprehend the digital tools, but they don't need to become experts in digital literacy.

2.4. Impact of digital literacy on learning and teaching

The majority of contemporary educational theories acknowledge the enormous potential of ICTs to personalize teaching and learning processes by making them more adaptive and interactive. Digital media is ubiquitous and is a crucial tool for professional success. It is impossible to imagine a life without it.

Enhancing the teaching and learning processes using digital solutions and making educational resources easier to access are two ways to advance digital pedagogy. Tools must constantly be adjusted to teaching and learning methodologies in order to comply with digital pedagogy. For teaching, learning, assessment, management, and communication in schools, an understanding of how to use ICTs is crucial. It facilitates cooperation, creativity, knowledge exchange, and collaborative decision-making.

Furthermore, it is acknowledged that technology may support democracy by facilitating access to education, e-mail and the internet literacy, and open access. Regarding this, (Meurant, 2010) says:

It is necessary to expand the opportunities for computer-mediated second language learning by offering mobile web solutions with multimedia capabilities so that all teachers and students may access the Internet. Campuses with wireless internet networks enable any area to function as a wireless classroom. A teacher's computer console ought to be present in every classroom. Adequate computer resources should be made available to all students at all times and from any location.

In the classroom, computer-assisted language instruction and learning are the norm. Therefore, it is crucial to be able to use, exchange, distribute, create, and transmit content

using digital tools and programs. The digital proficiency is what brings about computerization in the classroom. Similarly, Martin (Martin, 2005) claims:

Similar to other social sectors, education is embracing electronic means at a rapid pace. However, a paradigm changes in the ways that learning and teaching are approached has coexisted with and, to some part, fueled the development of electronic tools for education. Electronic technologies are viewed as essential to creating learning environments as we move toward constructivist and student-centered learning paradigms. Thus, if a student wants to learn effectively, mastery of the tools becomes a requirement.

Different scholars on the fields of study, have highlighted that students who are digitally literate also have greater access to e-learning environments than students who are not.

In other words, digital literacy involves the critical use of technology; it involves the awareness of and critical analysis of agendas and possible dangers with which technology invades our daily lives; it involves educating students to move from a passive consumer of information to an active producer both as individuals and as members of a community; it involves creating, collaborating, communicating, working ethically, and understanding when, if, and how technology should be used to reach efficiently an objective.

Thus, the influence of digital literacy on education is higher. It encourages pupils to study at their own speed using digital gadgets. In a similar vein, it encourages students to be self-directed learners and generates variance in their learning strategies. It provides online education or distance learning. It allows students to participate in topic-based discussion forums and send and receive emails with students across borders. Using real texts, reading or listening to the news, and fostering opportunities for genuine contact can all benefit from it. It provides a method of instruction tailored to the needs, learning preferences, and skills of each individual learner. Students who are digitally literate can make appropriate use of technology to increase their chances of success in life.

2.5. Related Policies and provision of ICT in Ethiopia

Examining how digital literacy affects Ethiopian vocational education offers an intriguing look at the fusion of modern teaching methods and educational technologies.

Digital literacy, or the capacity to find, assess, utilize, and generate knowledge using digital technology, communication tools, or networks, is becoming more and more important in vocational education. It gives students the tools they need to succeed in the modern workplace, increasing their employability and capacity to support Ethiopia's economic growth. Integrating digital literacy into vocational education could present special chances to maintain cultural legacy through new technology while concurrently increasing technical abilities, given Ethiopia's diverse culture and rich history.

With Ethiopia's economy growing at a quick pace and the government emphasizing education as a vital component of development, digital literacy in fields like information technology, construction, and agriculture has the potential to drastically alter the socioeconomic landscape of the nation. Digital tools, for example, can give farmers access to weather forecasts, market pricing, and agricultural techniques, all of which can increase production and sustainability.

ICTs, or information and communication technologies, are one of the main forces behind modern progress and globalization. ICTs are a primary driver of wealth creation and an improvement in the standard of living for people worldwide by enabling the generation, diffusion, and use of knowledge in digital form. Many nations have experienced significant rates of innovation as a result of the expanding influence of ICT and the application of new technological advancements in products and processes, as well as a trend toward more knowledge-intensive industries.

Because of this, the Ethiopian government has considered the advancement of ICT a strategic priority and has given special attention to the role that it plays in economic infrastructure, as outlined in the second Growth and Transformation Plan (GTPII).This is a result of the realization that information and communication technology (ICT) is a major force behind and a significant enabler in Ethiopia's transition from a knowledge-based economy and information society to one centered mostly on subsistence agriculture. ICT will be essential to Ethiopia's goal of becoming a middle-income nation.

The accomplishment of the seventeen UN Sustainable Development Goals (SDGs) also heavily relies on ICT. The focus of Goal 9 and its objectives is on the role that

technological advancement and closing the digital divide play in finding long-term solutions for problems relating to the environment and the economy 2020 is the deadline set by Target 9c for providing everyone with affordable broadband access. Moreover, digital technologies play a major role in helping to fulfill the other SDGs.

The Ministry of Communication and Information Technology (MCIT) was established by the Ethiopian government in 2010 after it realized the importance of ICT for the country's development. Proclamation No. 916/2015 and the MCIT's establishment gave the MCIT a broad mandate to support the growth and development of ICT.[1]

According to Moges Yigezu (Yigezu, 2021), the results demonstrate that Ethiopian schools are only beginning to employ digital technology, primarily as a result of inadequate infrastructure development for information and communication technology (ICT) and a shortage of human resources with the necessary training. Ethiopia ranked 179th out of 193 nations in the 2018 United Nations E-Government Development Index, in the case of E-participation Index ranked 163rd of 193 nations (Nations, 2024). This will be suggesting that the nation has benefited from little in the way of technical innovation. Ethiopia has nevertheless made significant efforts to integrate ICT into its educational system.

In this regard, two significant ICT initiatives have been put into action: the General Education Quality Improvement Program II (GEQIP II), an ICT intervention designed to enhance the learning environment in schools, and the SchoolNet initiative, which seeks to create a wide-area network connecting schools throughout the nation by making the internet and online education accessible (Government of Ethiopia , 2013). A revised National ICT Policy and Strategy has also produced an enabling environment (Government of Ethiopia , 2016)

Social and economic progress are made possible by information and communication technology. To direct the ICT sector, a national ICT policy is essential. Ethiopia's ICT policy is examined by Yared Mamo (Mammo, 2017) as, the National ICT Policy and

[1] The National Information and Communication Technology (ICT) Policy and Strategy (2016)

other government policies, such as the National Development Policy, the National e-strategy, and Sectoral ICT policies, were analyzed in his study.

The outcome shows that the National ICT Policy and Strategy is consistent with government development plans and builds upon fundamental policies. ICT is seen as an economic sector unto itself as well as one that supports other sectors. Furthermore, the outcome showed that Ethiopia's national ICT strategy and policies are coherent. The pattern indicates that the national ICT strategy should concentrate on a wide range of fundamental and developing concerns that are essential to the ICT ecosystem, including social media, users, infrastructure, services, applications, and universal access. Developing broadband infrastructure is regarded as a crucial policy initiative. The report suggests that national ICT policies be wide and dynamic so that many industries can create ICT policies and strategies that help create a vibrant information society.

2.6. Review of Empirical literature

Prior research is necessary to validate the current findings through research activity. In light of this, this section aims to review pertinent research, papers, and articles. This comprises a critical synthesis of earlier studies carried out in this relevant topic. As the linked literature in this area, I have studied a few research on the use of ICT in teaching and learning, e-learning, and digital literacy.

Moges Yigezu (Yigezu, 2021) has carried out a research on “Digitalization in teaching and education in Ethiopia *Digitalization future of work and the teaching profession project”.* His objective was to explore the current practices, challenges and prospects related to the use and integration of digital technology in education in Ethiopia, and how digital technology is impacting the teaching-learning process in terms of preparing students for a knowledge-based economy. To achieve his objectives, he reviewed the existing policy documents and manuals from the Federal Ministry of Education, Ministry of Science and Higher Education, and associated institutions such as the colleges of teacher education and the Federal TVET Agency. A desk review of selected research papers related to the use of ICT in education was also carried out. In order to obtain more detailed information on the use of digital technology in education, qualitative data were also collected through interviews from ten key informants at the Federal Ministry of

Education, the Ministry of Science and Higher Education, the colleges of teacher education, the Ethiopian Teacher's Association (ETA) and non-governmental organizations.

According to research conducted by Melaku Mulugeta (Mulugeta, 2021) on "Assessing Contextual and Prospective Situations Of E-Learning Integration In Ethiopian Higher Education Institutions: the Case of Addis Ababa University". The research aimed at investigating the status of contextual and prospective e-based enabler factors for e-learning integration process in AAU with special focus on instructor related and institutional support aspect. Apart from empirical review of the literature, the researcher employed a mixed approach i.e. employing both quantitative and qualitative methods design. Instructors, academic and managerial staff and digital resources are used as sources of data, the sample population of the research consisted of 502 consisted of instructors, students, managers and key informants. He classified into different departments use simple random sampling method after selecting 126 instructors in a sampling frame. The main findings of the researcher, the e-learning practice level in aspects of instructional planning, delivery and browsing for professional development was insignificant. The technical support need was not consistent; was comparatively better among departments. The absence of e-learning policy and frameworks are very limited digital literacy and reluctant and uninformed top-level engagement were found as prominent challenges for this low stage of e- learning integration in the university.

Gizealew and Sisay (Gizealew Alazie and Sisay Ebabye, 2019) has reviewed the article in titled with "Current State of The Art Digital Literacy in Ethiopia: Article Review" The purpose of the study is to examine the general level of information and digital illiteracy (IDL) in developing nations and the ways in which it impedes the development of both people and governments. The example of Ethiopia will be used to highlight the pervasiveness of low levels of digital and information literacy. It also seeks to address the general disadvantages of successful IDL in underdeveloped African nations. Design, procedure, and strategy. In order to meet the study's goals, the results of surveys conducted in Ethiopia and the literature review are utilized to assess the level of IDL among professors and students at one university while incorporating the results into a

conversation. Results: It was discovered that, similar to other places, Ethiopian libraries and educational institutions do not typically employ IL/IDL practice and instruction. Instead, they are not operational priorities.

The current state of information illiterate citizens is a result of the educated classes' low rate of IL/IDL. It also proves that crucial knowledge consumption is a prerequisite for both individual and societal empowerment. Uniqueness and worth Using Ethiopia as an example, the paper examines the general state of IDL in developing nations. It recommends carrying out local study on IL/IDL and contextually relevant literacy. The report expresses gratitude for integrating IL/IDL into educational initiatives at all levels. Participation in the digital age has come to be linked with lifelong learning, impacting everything from the availability of information technology to its application in education. Thus, it follows that educators will inevitably look to digital literacy practices to assess their impact on and contribution to learning.

In order to examine what a group of higher education students who had little prior access to digital resources think are the problems and opportunities presented by technology, this study examines their digital literacy practices and how they make up for uneven access.

The present study entitled “The Impact of Trainees Digital Literacy on Information use behavior for Vocational Education” is different from those of the above reviewed research works. There is no particular study that has yet been carried out at the vocational education related to this research problem. So, my research is a new work in existing research area. It will add new dimension on research area related to ICTs and digital literacy.

2.7. Conceptual Frame work

The task is represented visually by the conceptual framework. It is made up of the framework within which the research investigation is situated. The primary objective of the conceptual framework is to illustrate the connections between the different concepts and study variables. A conceptual framework is described as “a written or visual representation that explains either graphically or in narrative forms” in this context by

Miles and Huberman ((Miles, 1994). I reviewed a variety of study- and literature-related resources while conducting this research. I created the following conceptual framework based on all of the documents that were read in order to move this study along.

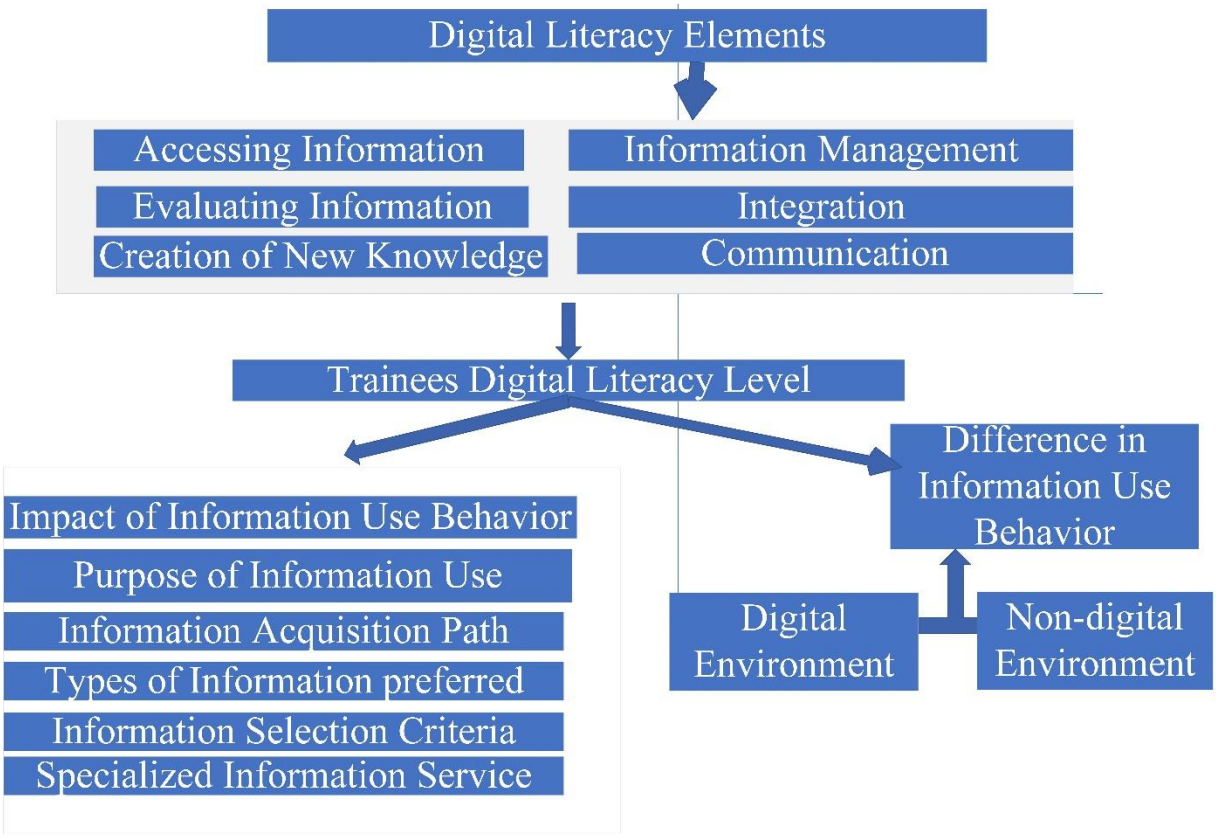


Figure 1: Conceptual Framework

Chapter 3

Research Design and Methodology

This chapter covers the following topics: research design, population, sample size and sampling strategies, data collection methods and instruments, validity and reliability, data processing methods, and ethical considerations.

3.1. Research Design

A research design is a comprehensive strategy, blueprint, or framework for a research project that needs to be carried out. A research design is a plan that we choose to follow along in our research trip in order to obtain answers to our research as validly, objectively, accurately, and inexpensively as feasible (Bryman, A. & Bell, E., 2011)

Research design, then, is a thorough blueprint outlining how the research plan is to be carried out. A popular design in social and educational research projects is survey research. It is particularly useful for doing research across a wide range of populations to examine attitudes, beliefs, or behaviors related to certain topics (Kothari, 2004).

When designing a survey, a researcher aims to collect a lot of data from sample population members. Since surveys are a useful tool for gathering the necessary data from a representative sample of the public, I used one in this study. Participants are only asked for information or observed by the researcher. I therefore requested that participants complete a series of questionnaires. Its nature is more realistic.

3.2. Population Size

Entoto Polytechnic College's trainees, whose chosen vocations serve as the college's zoning and differentiation, comprise the study's population. However, the investigator mostly concentrated on the regular trainees because it is challenging to research the trainees who registered in the extension section due to their age difference and the possibility that their work experience would skew the results. Additionally, the trainees

who received their training at the college alone are the target group that is taken into consideration as a whole due to time and resource constraints.

The average number of trainees enrolled in these particular college occupations made up the overall target populations taken into account for this study. For example, ICT, hotels, tourism, garment, and leather. There are 896 trainees overall from these occupations. Therefore, 896 trainees will make up the total population of this study.

3.3. Sample Size

It is typically unrealistic or impossible to gather data from every person or thing that we are interested in when conducting research. Rather, we extract as much information as possible about the population of interest from a sample (or subset) of that population. Numerous factors may impact the degree to which our sample accurately represents the population and, consequently, the validity and dependability of our findings. A few essential ideas to keep in mind when conducting a survey are power and effect sizes, as well as confidence levels and error margins. Crucially, we'll see that the sample size—or how big a sample we take—affects all of them (Daniel, 1999).

A total of 896 trainees have been chosen as the population for the research, and with a 95% confidence level, a 5% margin of error, and a 50% sample proportion, the sample size is calculated as 270. This is based on the population of trainees from these four occupations: aesthetics 387, ICT 175, Garment 174, and Hotel and Tourism 160. Aesthetics took 116 out of the entire sample to distribute among these occupations; ICT took 53, Garment took 52, and Hotel and Tourism took 49. A sample will be chosen to conduct research in each of these occupations. This would be calculated by using the following formula:

$n = N*X / (X + N - 1)$,

where,

$X = Z\alpha/22 *p*(1-p) / MOE2$,

and Zα/2 is the critical value of the Normal distribution at α/2 (e.g. for a confidence level of 95%, α is 0.05 and the critical value is 1.96), MOE is the margin of error, p is the sample proportion, and N is the population size.

$$\text{Sample size proportion (Y)} = \frac{\text{Number of Strata X Sample Size}}{\text{Total Population}}$$

$$\text{Sample Size proportion (Aesthetics)} = \frac{387 \times 270}{896} = 116$$

$$\text{Sample Size proportion (ICT)} = \frac{175 \times 270}{896} = 53$$

$$\text{Sample Size proportion (Garment)} = \frac{174 \times 270}{896} = 52$$

$$\text{Sample Size proportion (Hotel)} = \frac{160 \times 270}{896} = 49$$

3.4. Sampling Techniques

Systematic random sampling is one of probability sampling techniques used in this investigation. Techniques for systematic sampling involve selecting a sample from the population that is in K^{th} interval from list of potential participants of the survey. (Behattacherjee, 2012). This sampling is used because it gives equal chance for the population to be selected in a sample for conducting the research and considered to be free from any bias.

3.5. Methodology

Depending on the objectives of the study, the quantitative and qualitative methodologies make sense in various ways, like two distinct civilizations (Mahoney, 2006). These two methodological approaches are presented in the upcoming parts, together with an explanation of the rationale behind the strategy selected to evaluate the suggested research issue.

3.5.1. quantitative approach

Bryman and Bell (Bryman, A. & Bell, E., 2011) define the quantitative research approach as “a research strategy that emphasizes quantification in the collection and analysis of data” (p. 26). Testing hypotheses and taking an unbiased look at reality are the characteristics of this research methodology (Bryman, A. & Bell, E., 2011). When the goal of the study is to evaluate questions about quantity, frequency, connections, or relationships, quantitative approaches can be used. The answers can be provided with measuring devices that can be computed or processed using statistical methods. Therefore, one way to conceptualize quantitative analysis would be the inventive and inquiring use of technique for the purpose of investigating the connection between theoretical concepts and empirical data (Kothari, 2004).

Quantitative data analysis allows for the examination of probabilities and correlations between various variables, as well as the assessment of how well the collected data supports the hypothesis (Bryman, A. & Bell, E., 2011). It goes without saying that quantitative methods have also drawn criticism. The criticisms typically originate from an outlook that believes social science models are inappropriate for studying the social world (Kothari, 2004).

3.5.2. qualitative approach

According to Bryman and Bell (Bryman, A. & Bell, E., 2011), "a research strategy that usually emphasizes words rather than quantification in the collection and analysis" (p. 27) is the qualitative research approach. The emphasis on theory development and the dynamic perspective of reality that arises from the individual are further characteristics of this research approach (Bryman, A. & Bell, E., 2011). Indeed, Bryman and Bell note that "the majority of qualitative researchers indicate a preference for viewing the world through the eyes of research participants" (p. 421).

There is still debate regarding the precise definition of qualitative research (Bryman, A. & Bell, E., 2011), although there are still differences between qualitative and quantitative methods. As noted by Lowhorn (2007), qualitative approaches do not focus on phenomena that are subsequently applied to a population; rather, they seek to understand a particular

circumstance for a particular group (Lowhorn, 2007). Additionally, because there aren't many distinct linear processes in qualitative research, it generally has a more open-ended character (Bryman, A. & Bell, E., 2011). This is seen in how theories and opinions are viewed, where they are frequently considered as research findings and a means of explaining the occurrence that has been observed (Kothari, 2004). Nevertheless, despite this generalization, theories can be developed and tested using qualitative research. However, qualitative methods have also faced criticism, much like quantitative approaches have. Concerns about validity and reliability criteria are frequently brought up, since using quantitative approaches is thought to be easier (Bryman, A. & Bell, E., 2011).

3.5.3. chosen method

The purpose of this thesis is to explain how digital literacy affects people's intentions to use information. To gather information, previous studies on technology adoption and literacy have been built upon and used in a quantitative manner. The goal of using a quantitative research approach is to evaluate the correlations between variables by drawing on previous findings in the field. Furthermore, a quantitative analysis of the sample data will allow the results for the phenomena of interest to be generalized, since the population of interest consists of Entoto Polytechnic College's trainees.

3.6. Data Collection Tools and Techniques

The primary research instrument utilized to achieve the study's goals was a questionnaire. The purpose of the questionnaire was to investigate how students' digital environments affected their information use habits and how these habits differed in digital and non-digital environments. There were both closed-ended and open-ended questions on the survey.

Books, journals, papers, earlier research projects, government ICT policy documents, reports, and college's written materials that contribute to the digital literacy on the information use behavior, advancement of knowledge about the subject under study are all sources of data used in the secondary data collection procedure.

A questionnaire was employed in this study to collect data or information from the participants. To collect the required data from the field, the researcher created two sets of questionnaires. Two sets of questionnaires were utilized: one to collect data on how trainees' levels of digital literacy affected how they used information, and the other to compare how they used information in digital and non-digital environments. To collect the data all at once, the questionnaire was given to the respondents one time. The researcher went to see the participants and asked them to complete the questionnaire so that data could be collected in an organic environment. It enabled him to successfully finish the studies.

3.7. Data Collection Procedures

Initially, the investigator will get in touch with the department head to schedule their trainees for the first meeting, where he will orient participants, tell them about the study, and give a brief explanation of the research project's goals. The researcher gave the questionnaire to the individuals chosen by a systematic random sampling selection process. Then asked that they finish it in two days. At last, he gathered the questionnaire and expressed his gratitude to the participants for their gracious assistance and details.

3.8. Data Analysis and Interpretation Procedure

Both descriptive and statistical analysis and interpretation were done on the participant data using SPSS (vr20). Statistical tools such as frequency count and percentage were used to tabulate the answers provided by the trainees on the questionnaire. The study's conclusions were then derived by qualitatively interpreting the data in a descriptive manner.

3.9. Ethical Consideration

Each student and researcher have a moral and legal obligation to perform their research in a way that upholds excellent scientific standards. As a result, researchers should make an effort to present an accurate picture of the research topic. The ethical implications of research have also prompted the creation of publishing standards. The American Psychological Association (APA, 2009) states that the ethical standards are in place to

ensure accuracy, protect participant rights, and preserve rights pertaining to intellectual property.

Chapter 4

Results and Analysis

This chapter presents the research outcomes based on the methodological approach that was previously described. An introduction to the collected data is provided by a descriptive analysis. Twelve of the 270 participants had to be eliminated before any data analysis could be done because their responses were either incomplete or disengaged. The 258 respondents' data that had been collected was then subjected to analysis.

4.1. Descriptive analysis

The first four questions of the survey were designed to gather background and demographic information of the sample. The information obtained was then processed and analyzed with IMB SPSS v.20. The first background information question assessed the occupations or departments of the respondents. Out of the sample of 258 respondents, 113 (43.8%) were from Aesthetics, 53(20.5%) from the department of ICT, 47(18.2%) were from Hotel and Tourism and 45(17.4%) of the respondents were from department of Garment and textile. The occupation is illustrated in Table 1.

	Frequency	Percent
Aesthetics	113	43.8
Hotel and Tourism	47	18.2
Garment textile and leather	45	17.4
ICT	53	20.5
Total	258	100.0

Table 1: Participants Occupations

The gender of the respondents Out of the sample of 258 respondents, 143 (55.4%) were females and 115(44.6%) were males. The gender division is illustrated in Table 2.

	Frequency	Percent
Male	143	55.4
Female	115	44.6
Total	258	100.0

Table 2: Distributions of genders

The age of the sample respondents ranged from 15 to 25 years old. Most of the participants were within the age bracket 19 – 22 were 143(55.4%) and 93(36%) of the respondents were within the age bracket of 15 to 18 and 22(8.5%) of the respondents were within the age bracket of 22 to 25. The age distribution illustrated in Table 3.

	Frequency	Percent	Valid Percent	Cumulative Percent
15-18	93	36.0	36.0	36.0
19-22	143	55.4	55.4	91.5
22-25	22	8.5	8.5	100.0
Total	258	100.0	100.0	

Table 3: Distributions of age

When asked about the respondents' highest level of enrolled in, the majority 165 (64%) reported they enrolled in as a level 3 trainees, 84(32.6%) of the respondents were a Level 4 trainees and 9(3.5%) enrolled as Level 5 trainees. The highest level of education trainees enrolled in is illustrated in Table 4.

	Frequency	Percent
Level 3	165	64.0
Level 4	84	32.6
Level 5	9	3.5
Total	258	100.0

Table 4: distributions of Level of trainees enrolled in

Respondents were also asked to categorized as a self-rating of their current level of digital skill. They were asking to categorized their digital skill as ‘Beginner’, ‘Intermediate’ and ‘Advanced’. 147(57.0%) of the respondents were categorized their level of digital skill as a Beginner, 101(39.1%) were rated as Intermediate and 2(0.8%) respondents were

categorized as they have Advanced digital skills. 8(3.1%) of the respondents could not rate their digital skills. The following graph illustrates the respondent's level of digital skill.



Figure 2: The digital skill level of the participants

The participants were asking how their confident in evaluating the credibility of information found online. Among the three alternatives given the majority 167(64.7%) of the respondents were answered they did not feel confident in evaluating the credibility of information found online, 91(35.5%) of the respondents answer as 'Somewhat' they did feel it. And none of the respondents were given an affirmative answer for this question. The participants level of confident on evaluating the credibility of information found online illustrated in Table 5.

	Frequency	Percent
Somewhat	91	35.3
No	167	64.7
Total	258	100.0

Table 5: participants level of confident

Regarding the utilization of online resources for learning or professional development, the respondents were asking "How often do you utilize online resources for learning or professional development?" 122(47.3%) of the respondents were answered they occasionally utilize online resources for learning, 84(32.6%) of the participants frequently use the online resources, 35(13.6%) of the respondents were Rarely utilized it and 17 (6.6%) of the respondents were Always utilized the online resource for learning or professional development. The result has showed below describes the result.

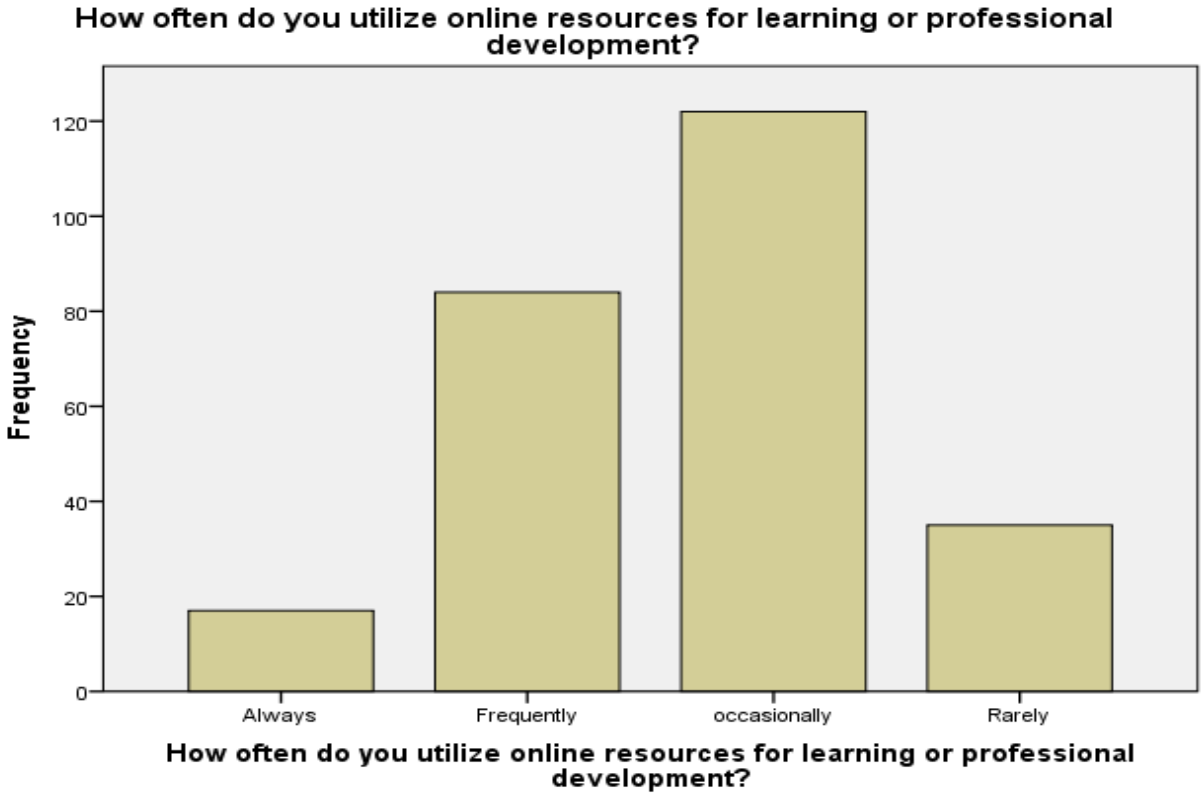


Figure 3: Utilization of online resources.

The participants were asking their comfort while they navigate in using digital libraries. 150(50.8%) of the respondents were Somewhat comfortable when they navigate and using digital libraries of archives, 95(36.8%) of the respondents were very comfortable and the rest 13(5%) of the participants were not comfortable at all on utilizing digital libraries and archives. The following graph will illustrate the result.

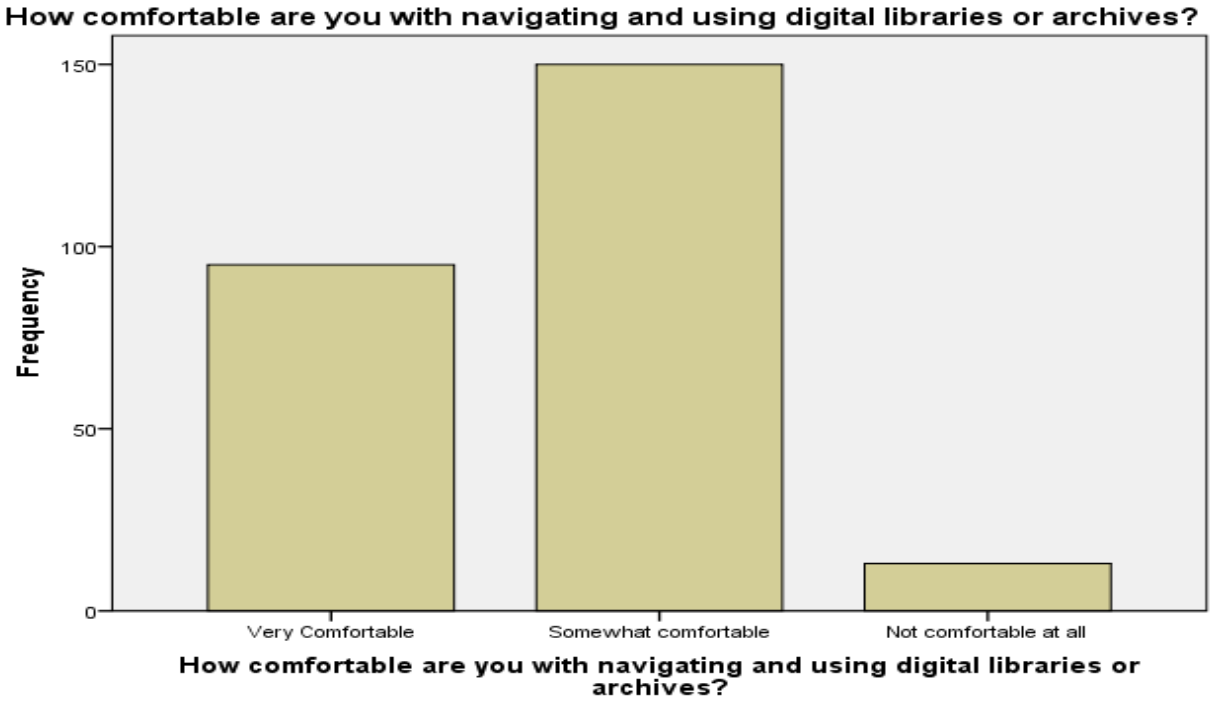


Figure 4: participants comfort on using navigating digital libraries

Regarding the barriers the respondents faced while they are applying their digital skill, the participants were asked "Do you face any barriers in applying digital information to your learning or work due to your level of digital literacy?". The majority of the respondents 218(84.5%) were answered they due to their level of digital literacy they face barriers in applying digital information to their learning or work. 31(12%) of the respondents could not be sure whether their digital literacy level has created a barrier in applying digital information. And 9(3.5%) of the respondents has stated their level of digital literacy doesn't affect or be a barrier in applying digital information. The effect of digital literacy will illustrate in Table 6.

	Frequency	Percent
Not Sure	31	12.0
No	9	3.5
Yes	218	84.5
Total	258	100.0

Table 6: The effect of participants digital literacy.

The participants of the study were asking which type of the information do they prefer to access digitally compared with the non-digital one. The result indicates that 121(46.9%) of the respondents prefer the interactive context type of information, 114(44.2%) prefers the video type of information, the text type of information was preferred by 17(6.6%) of the respondents and only 1(0.4%) preferred the text type of information. The graph will illustrate the choice of participants.

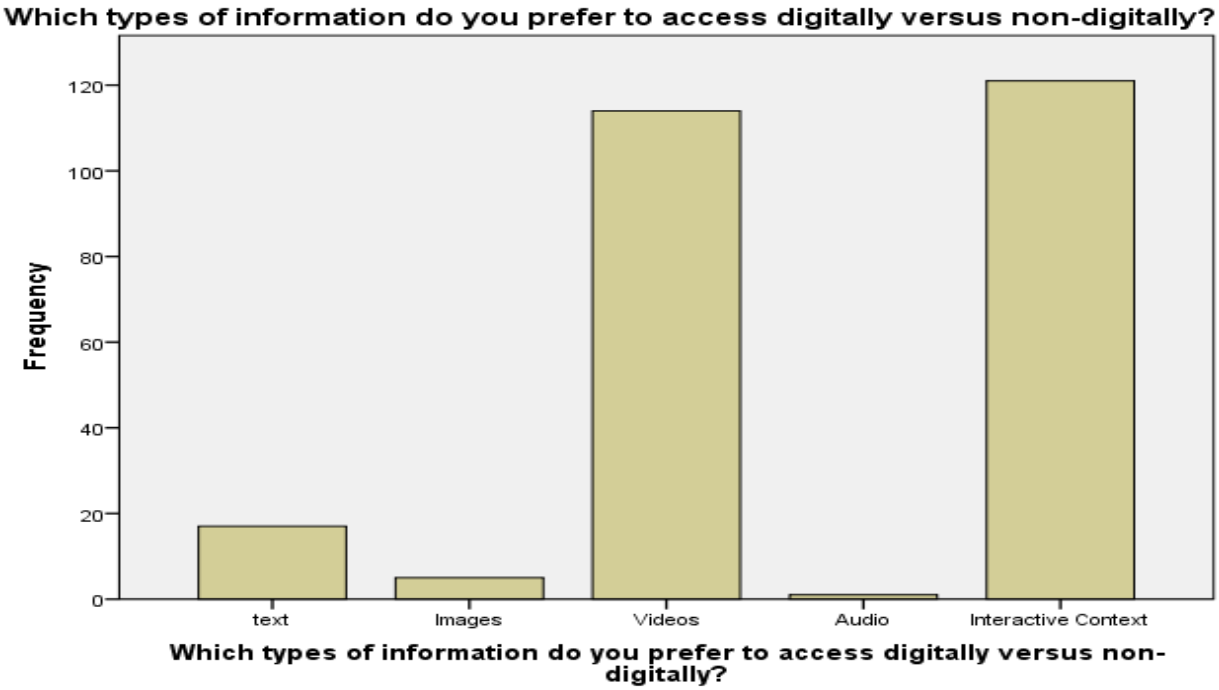


Figure 5: Participants choice of information

While using digital devices, the participants were asking how comfortable they are on using it. As it is illustrated in Table 7, 134(51.9%) of the respondents *Somewhat comfortable* with utilizing digital tools for accessing information, 70(27.1%) of the respondents were *very comfortable* on utilizing digital tools, 51(19.8%) of the respondents

were Neutral could not decide whether they were comfortable or not and 3(1.2%) of the respondents were not Somewhat uncomfortable with utilizing digital tools for accessing information.

	Frequency	Percent
Very comfortable	70	27.1
Somewhat comfortable	134	51.9
Neutral	51	19.8
Somewhat uncomfortable	3	1.2
Total	258	100.0

Table 7: Participants comfort on utilizing digital tools

Regarding the reliability of information, they got from the digital and non-digital sources, the participants were asked their belief and 103(39.9%) of the participants were not sure whether the information they got from the digital sources are reliable than the non-digital once. 90(34.9%) of the respondents believed the information from the digital sources are reliable than the non-digital once, and 65(25.2) of the respondents were given against by responding No to the question. The following graph has illustrated the result.

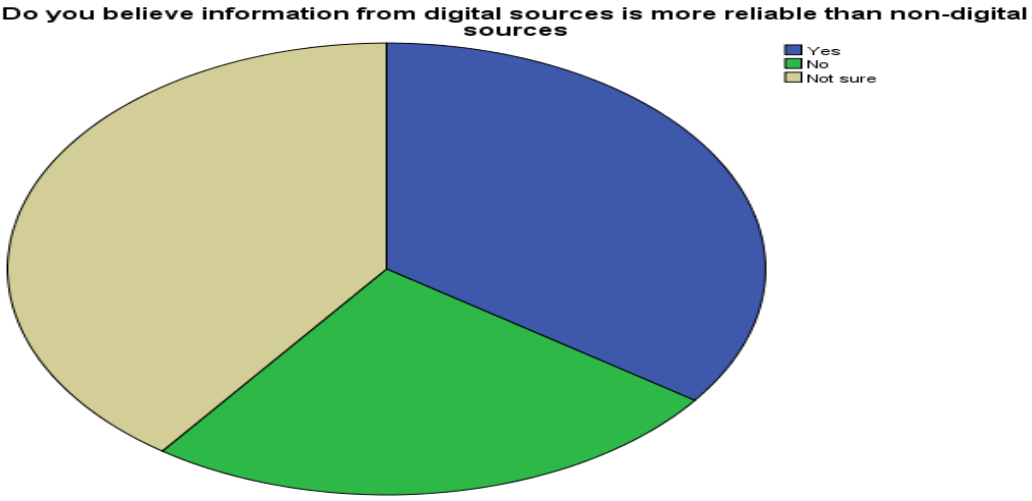


Figure 6: the reliability of information

Regarding the speed of accessing information from the digital and non-digital sources, the respondents were asking "How does the speed of accessing information differ between digital and non-digital environment from your experience. All of the participants from their experience digital environment were faster than the non-digital environment for accessing information.

Regarding the credibility of the information the respondents were asking 129(50%) the respondents were *Rarely* verifying the credibility of digital information, 89(34.5%) were *Never* verify the credibility of digital information compared with the non-digital information. And 40(15.5%) of the participants were *occasionally* verify the credibility digital information. The graph will illustrate the participants.

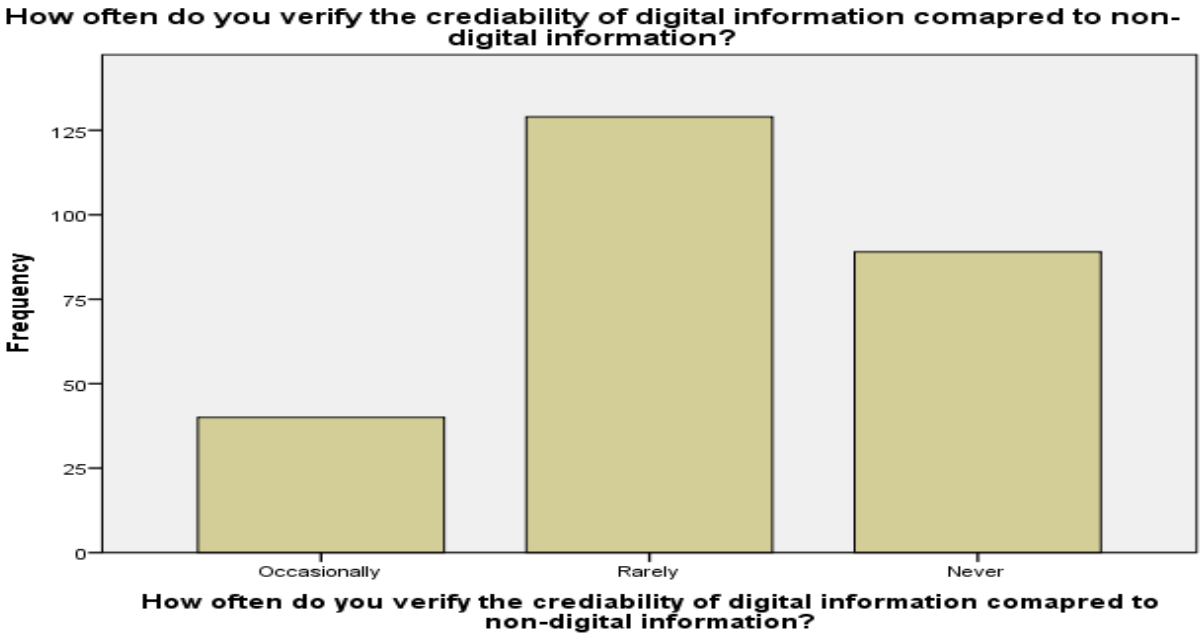


Figure 7: Credibility of information

The participants in the survey question were asked an open-ended question to cross check their thoughts in the filed of study. Regarding "*In what ways do you use digital technology to access and obtain information?*" half of the respondents did not give any response for this question, social media, tik-tok, YouTube, Facebook, google and view tutorial were the ways of the participants to use digital technology to obtain information.

The participants were asking about "What specific challenges do you encounter when searching for information online?" lack of basic computer skill, access to internet, getting the gadgets, the connection problem are the challenges they faced while searching for information online.

"*What online tools or platforms do you find most helpful for accessing information?"* was asked for the respondents, almost the majority of the participants use google search engine, YouTube, Facebook and Tik Tok, were also stated by the respondents as they were found helpful for accessing information online by the respondents.

Regarding the question "*what types of digital skills training or resources would you find valuable for improving information access and use?"* the participants wished to had a training on utilizing and improving their computer skill, accessing and training on use of internet and soft skill would be valuable for improving information access and use.

The participants were asking "*In what ways do you think your level of digital literacy impacts your effectiveness in digital information?"* based on the respondents' response knowing the platform for accessing information, searching and selecting the content, searching and understanding the content, getting the right information impacted their effectiveness in utilizing digital information due to their level of digital literacy.

The participants were also asked to differentiate the digital and non-digital ways of information use, "*In what ways do you use information differently in digital and non-digital environment*?" in order to get information in a visual way likes of image, tutorials, video, some application software regarding with their subject matter were more suitable and applicable in a digital technology. Sometimes they refer written materials, books and TTLMs were used to get information which could not get or uploaded in a digital platform.

"*How do you find and evaluate information in digital environment compared to non-digital environments?"* the respondents evaluate the digital and non-digital environments, ease of access, easy fast, give alternatives for different sources, online tutorial and e-learning were getting from the digital environment compared with the non-digital once false information will be the characteristics of or draw back of a digital environment.

The respondents were also asking "*what factors influence your choice between digital and non-digital information sources?*" getting the digital devices, connection problem, access to internet, operating computer skill, communication skill was listed as the factors to chose between the digital and non-digital information sources, which will influence their choice in between as well.

"*What challenges do you encounter when using digital information compared to non-digital information?"* were the question asked for the participants, computer skill, getting digital devices, access to internet, connection problem, poor internet connection and too much information has been stated as a challenges when they prefer to use digital information compared with the non- digital once.

4.4. Correlations Analysis

The main goals of correlation are to ascertain the existence of a relationship as well as its strength and direction (Ho, 2006). In this approach, a single number between -1 and +1 represents the relationship between two variables. This figure, known as the Pearson's correlation coefficient (r), was calculated for each variable in the research. Gupta (1999) defined the correlation coefficient (r) as follows: r>0.5 indicates a high relationship, r=0.1-0.29 is low, and r=0.3-0.49 is medium (Gupta, 1999).

The strength of the linear link between two variables is determined by the Pearson correlation coefficient, sometimes known as the Pearson product-moment correlation coefficient or just the Pearson r. The range of the correlation coefficient is going to be -1.0 to +1.0. Coefficients near 0.0 indicate a tenuous connection. The presence of coefficients near 1.0 or -1.0 indicates a robust correlation. Strong correlations are those with a coefficient of determination larger than 0.7. Furthermore, correlations with a value of less than 0.3 are deemed poor. Moderate correlations are those with values between 0.3 and 0.7 (Ho, 2006).

The correlation of each variable illustrated in Table 8, which shows the positive relation which varies from the weak relationship of the attributes and some has a with the moderate relationship.

Correlations

		How would you describe your current level of digital skill?	Do you feel confident in evaluating the credibility of information found online?	How often do you utilize online resources for learning or professional development?	How comfortable are you with navigating and using digital libraries or archives?	Do you face any barriers in applying digital information to your learning or work due to your level of digital literacy?	Which types of information do you prefer to access digitally versus non-digitally?	How comfortable are you with utilizing digital tools for accessing information?	Do you believe information from digital sources is more reliable than non-digital sources	How often do you verify the credibility of digital information compared to non-digital information?
How would you describe your current level of	PC(r)	1					.153*		.078	
	Sig. (2-tailed)						.015		.219	
Do you feel confident	PC(r)		1	.172**	.145*			.039	.109	.170**

	Sig. (2-			.006	.020			.536	.081	.006
How often do you utilize online resources for	PC(r)		.172**	1	.433**	.031				
	Sig. (2-tailed)		.006			.622				
How comfortable are you with navigating and	PC(r)		.145*	.433**	1	.119			.160**	
	Sig. (2-tailed)		.020	.000		.057			.010	
Do you face any barriers in applying digital	PC(r)			.031	.119	1		.036		
	Sig. (2-tailed)			.622	.057			.564		
Which types of information do you prefer to	PC(r)	.153*					1			.098
	Sig. (2-	.015								.118

How comfortable are you with	PC(r)		.039			.036		1		.298**
	Sig. (2-tailed)		.536			.564				.000
Do you believe information from digital sources is	PC(r)	.078	.109		.160**				1	
	Sig. (2-tailed)	.219	.081		.010					
How often do you verify the credibility of digital	PC(r)		.170**				.098			1
	Sig. (2-tailed)		.006				.118			
**. Correlation is significant at the 0.01 level (2-tailed).										
*. Correlation is significant at the 0.05 level (2-tailed).										

Table 8: Correlation Analysis

Chapter 5

Conclusions and Recommendations

This chapter's goals are to summarize the research problem and draw conclusions about the study's goals. This chapter includes a recommendation that focuses on potential solutions for the stated problem. At the end of this chapter, there are also recommendations for future research projects along with limitations encountered during the study's execution.

5.1. Conclusions

The purpose of this study is to examine how trainees' digital literacy influences their information use behavior in vocational education settings. More specifically, in this study, the effect of the trainee's level of digital literacy on how they use information and how they behave differently while using information in a digital versus a non-digital environment will be assessed.

Now a days anyone can create the web content and browse it through the internet. The information we get from these sources has to be reliable, and users should evaluate the credibility of the content before they apply it. From the participants in the survey, the majority of the respondents could not evaluate the credibility of the information they got from the internet. This will have an effect on their use of information.

For technical skill and knowledge development, one could refer to different resources; online resources are the most available and useful for refereeing at any time in any place. When the participants were asking the frequency of their utilization of online resources for learning or professional development, there were trainees who have been using it rarely; only a few use it always when they want it. This question was cross-checked in an open-ended question about what online platform they have used to get information, and almost all of them have stated social media as the source of information for their learning and professional development; very few have stated they use the online resources to view tutorials.

Ease of use would make technology preferable and make a comfort for the user if they are capable of how they use it. From this point of view, the participants were asked how comfortable they are when they utilize digital tools. There are users who could not know their feelings towards utilizing the digital tools. And there were people who did not feel comfortable while they were using digital tools; this may be the result of their skill and know-how about the technology available around them, which may cause their discomfort about the digital tools or devices.

The participants were supposed to differentiate the information they got from the digital environment compared with the non-digital once in almost all of the questions. The participants preferred the information they got from the digital environment and thought it was reliable and fast to retrieve from the source. This generalization comes from the wrong assumption about the information they got from the digital world without checking the trustworthiness of the information they got from these digital environments. And the declining habits on reading printed materials and trainees' exposure to spending more time on their digital gadgets will lead them to grasp any information they got from the digital environment without filtering out the relevant information with the non-relevant once.

5.2. Recommendations

The study's results and findings led the researcher to develop a number of significant recommendations that can help trainees become more digitally literate and make better use of information.

- With the new Occupational Standard, personal computers have been given as one unit of competency for every level and occupation. In addition to developing their digital skills, the concept of information and use of it has to be part of the curriculum, which will help them to differentiate the relevant information from the non-relevant one.
- Since there is a lot of information available on the online sources, trainees might be subjected to information overload or retrieving too much information from the source, which will make them waste their time. Accuracy and timeliness of information are fundamental measures to get better knowledge out of it. This

knowledge and regarding the information features should be taught for trainees and checked to exercise it.

- Most of the trainees involved in the study have believed social media as their source of information and spent more time on these platforms. But there are digital platforms that will help trainees to develop their professional skills and knowledge; as a result, the trainers should let them know or introduce these platforms for the trainees to use as a reference.
- Though, we tilt to the digital environment, we should not ignore the importance the information we got from the non-digital environment. In order to improve trainees reading ability trainers better to let trainees refer training materials from the non-digital environments.

5.3. Limitations and future research directions

There are, of course, some restrictions on this thesis. Initially, only the trainees from departments of Entoto Polytechnic College provided the research's data. As such, neither regionally nor nationally can the results be generalized. Thus, additional departments or from other regional colleges could be the subject of future research. Additionally, because the goal of this thesis was to investigate the impact of trainees' digital literacy on information use behavior, the research had a quantitative focus. However, qualitative methods may also be used in future research to investigate more abstract data and underlying experiences that may influence people's intentions to use digital technology for learning. It is also possible to use a combination of qualitative and quantitative methodologies in order to gain more depth and perspective in the research.

Furthermore, the research is more focused on the digital literacy and recommendation intends how it would affect the information use behavior depending on the trainee's digital literacy level. But, in future research, information literacy would have the potential for further study. And assessing the digital skills and trainers' digital literacy level would also be a possible area for further research.

References

(ETS), E. T. (2002). *Digital Transformation A Framework for ICT Literacy A Report of the International ICT Literacy Panel .*

American Library Association, (. (2013). Digital Litereacy Task Force. Digital literacy libraries, and public policy: Report of the Office for Information Technolgy.

APA, A. A. (2009). *Publication manual of the American Psycological Association(6th ed.).* Washington, DC: American Psycological Association.

Arnitz, M. G. (2016). The risk of automation for jobs in OECL Countries: A comparative analysis Social, Employment and Migration Working . *EECD Publishing* .

Atif, Y. &. (2018). Guest Editorial: Digital Citizenship: Innovations in Education, Practice, and Pedagogy. . *Educational Technology & Society* .

Bawden, D. (2001). Information and digital literacies: A review of concepts . *Journal of Documentation* .

Beard, R. (1998). *National Literacy Strategy Review of research and other related Evidence* . Cambridge Assessment .

Behattacherjee, A. (2012). *Social Science Research: Principles, Methods, And Practices, Second Edition.* Creative Commons Attributions 3.0 .

Bejakovic, P. &. (2020). The importance of digital literacy in the labour market . *Emerald Insight*.

Belshaw, D. (2012). What is 'digital literacy?' A pragmatic investigation.

Bennett, S., & Maton, K. (2010). Beyond the 'digital natives' debate: Towards a more nuanced understanding of students' technology experiences. *Journal of Computer Assisted Learning*.

Bergson-Shilcock, A. (2020). The New Landscape of Digital Literacy: How workers digital Skills Affect Economic Mobility and Business Competitiveness, and What Policymakers Can Do about It. . *ERIC National Skills Coalition* .

Bergson-Shilocock, A. (2020). The New Landscape of Digital Literacy: How Workers' Uneven Digital Skills Affect Economic Mobility and Business Competitiveness, and What Policymakers Can Do about It. *ERIC, National Skills Coalition* .

Bettinger, E. &. (2017). Virtual Classrooms: How Online College Courses Affect Student Success. *American Economic Review*.

Bryman, A. & Bell, E. (2011). Business research methods(3rd ed.). In A. &. Bryman, *Buiness research methods (3rd ed.)* (p. 517). Oxford: Oxford University Press.

Bulfin, S., & McGraw, K. (2015). Digital literacy in theory, policy and practice: old concerns, new opportunities. *ResearchGate*.

Calvani, A. A. (2012). Are young generations in secondary school digitally competent? A study on Italian teenagers. . *Computers & Education*.

Chapelle, C. (2003). English language learning and technology. *John Benjamins*.

Cope, B., & Kalantzis, M. . (2000). Multiliteracies: Literacy learning and the design of social futures. . *The Taylor and Francis Group* .

Cordell, R. (2013). Information Literacy and Digital Literacy. . *Communications in Information Literacy* .

Cummins, P. Y. (2019). Problem-solving skills of the U.S. workforce and preparedness for job automation . *Adult learning*, 111-120.

Cummins, P. Y. (2019). Problem-solving skills of the U.S. workforce and preparedness for job automation .

Daniel, W. (1999). *Biostatistics: A Foundation for Analysis in the Health Sciences. 7th edition.* NewY York: John Wiley & Sons.

Digby, C. &. (2014). Technolgy literacy assessments and adult literacy programs: pathwarys to technology competence for adult educators and learners. *Journal of Literacy and Technology* .

DigEulit. (2006). Concepts and tools for digital literacy development. . *Innovations in Teaching & Learning in Informaiton & Computer sciences* .

Djawad, Y. S. (2018). Innovation In Learning Through Digital Literacy at Vocational School of Health . *International Conference on Indonesian Technical Vocational Education and Association .* Indonesia : APTEKINDO.

Djawad, Y. Suhaeb, S., & Jaya, H. . (2018). Innovation In Learning Through Digial Literacy at Vocational School of Health. *Conference on Indonesian Technical Vocational Education and Association .* Indonesian : APTEKINDO.

Eshet-Alkalai, Y. (2004). Digital literacy: Aconceptual framework for survival skills in the digital era . *Educational Media and Hypermedia*.

Fastrez. (2009). Evaluating media literacy as competences: what can we agree on?

Geofferey Marczyk, D. D. (2005). Essentials of Research Design and Methodology . *John Wiley & Sons, Inc*.

Gilster, P. (1997). *Digital Literacy .* New York : Willey Computer Publisher .

Gizealew Alazie and Sisay Ebabye. (2019). Current Stat of the art digital literacy in Ethioia: Article Review . *International Research Journal of Multidisciplinary Studies* .

Glaus, M. (2014). Text complexity and young adult literature. . *Journal of Adolescent & Adult Literacy* .

Glister, P. (1997). *Digital literacy.* New York: Wiley Computer Pub.

Government of Ethiopia . (2013). General Education Quality Improvment Programme II. *Minstry of Educaion*.

Government of Ethiopia . (2016). National Information and Communication Technology(ICT) Policy and Strategy. *Minstry of Communication and Information Technology*.

Gross, M., & Latham, D. (2012). What's skill got to do with it? Information literacy skills and self-views of ability amnong first-year college students. *Journal of the American Society for Informaiton Science and Technolgy*.

Gupta, V. (1999). *SPSS for Beginners.* New Dhaile: VJ Books Inc.

Hague, C. &. (2010). Digital Literacy across the curriculum: A future lab handbook. . *Becta Publication* .

Hannon, G. H. (2007). *Young People Are Spending Their Time in a Space which Adults Find Difficult to Supervise or Understand.*

Harper, D. (2001 - 2024 , January 8). *Etymonline- Online Etymology Dictionary* . Retrieved from etymonline.com : www.etymonline.com

Hart, C.M.D., Berger, D., Jacob, B., S., & Hill, M. (2019). Online Learning, Offline Outcomes: Online Course Taking and High School Student Performance. *AERA Open*.

Hinrichsen, J. &. (2014). The five resources of critical digital literacy: a framework for curriculum integration . *Research in Learning Technology* .

Ho, R. (2006). Handbook of Univariate and Multivariate Data Analysis and Interpretation with SPSS. *Chapman & Hall* .

Hobbs, R. (2010). Digital and media literacy: A Plan of action. *Aspen Institutre* .

Horning, A. (2012). *Reading, Writing, and digitalizing. .* Prague: Cambridge Scholars Publishing .

Jose, K. (2016). Digital literacy matters: Increasing workforce productivity through blended English language programs . *Higher Learning Research Communication* .

Kaminiski, K. S. (2003). Technology literate students? Results from a survey. . *Educause Quarterly*.

Kim, M., & Choi, D. (2018). Development of Youth Digital Citzenship Scale and Implication for Education Setting. *Educational Technolgy & Society*.

Kothari, C. (2004). Research Methodology Methods and Techniques . In C.R.Kothari, *Research Methodology: Methods and Techniques (2nd ed.)* (p. 418). New Dehali: New Age International (P) Limited, Publisher.

Lankshear, C. & Knoble, M. (2006). Digital literacy and digital literacies: Policy, Pedagogy and research considrations for education. *digital competence 1*, 12-24.

Lowhorn, G. (2007). Qualitative and quantitative research: How t choose the best design. . *In Academic Business World International Conference.* Nashville: Tennesse.

Luic, L. &. (2019, November). Netiquette and cyberbullying in the context of digital public relations of schools . *ICERI 2019 Conference .* Seville, Spain .

Mahoney, J. &. (2006). A tale of two cultures: Contrasting quantitative and qualitative research. . *Political analysis,* .

Mammo, Y. (2017). Analysis of Ethiopia's National ICT Policy and Strategy: Insights into Policy Issues and Policy Goals . *Ethiopian Journal of Education and Science* .

Martin, A. (2005). DigEuLit- a European Framework for digital literacy: a progress report . *Journal of E-literacy*, 130 - 136.

Meurant, R. (2010). The iPad and EFL digital literacy. *Communications in Computer and Information Science* .

Miles, M. &. (1994). *Qualitative data analysis: An experienced source book.* Sage: Teachers College Press .

Mulugeta, M. (2021). *Assessing Contextual And Prospective Situations Of E-Learning Integration In Ethiopian Higher Education Institutions: the Case of of Addis Ababa Universty .* Addis Ababa: Addis Ababa University.

Muro, M. L. (2017). Digitization and the American Workforce .

Nations, U. (2024, April 13). *https://publicadministration.un.org*. Retrieved from https://publicadministration.un.org/egovkb/en-us/Data/Country-Information/id/58-Ethiopia: https://publicadministration.un.org/egovkb/en-us/Data/Country-Information/id/58-Ethiopia

Ng, W. (2012). Empowering Scientific Literacy Through Digital Literacy and Multiliteracies . *Nova Science*.

Norris, K. L. (2012). Promising Practices.

Rivoltella, P. (2008). Digital literacy: Tools and methodologies for inforamtion society, . *IGI Publishing* .

Scolari, C. A. (2019). Beyond the myth of the "digital native": Adolescents, collaborative cultures and transmedia skills . *ResearchGate; Scandinavian University Press*.

Skov, A. (2016, 3 28). *https://digital-competence.eu/.* Retrieved from https://digital-competence.eu/: https://digital-competence.eu/digitalekompetencer/front/what-is-digital-competence/

Soler-Costa R. (2021). Netiquette: Ethic, Education, and Behavior on Internet- A Systematic Literatrue Review. *International Journal of Environmental Research and Public Health*.

Tyner, K. (1998). Literacy in a digital world: Teaching and learing in the age of information . *NJ: Lawrence Erlbaum*.

UNESCO. (2003). *Conference report of the information literacy meeting of experts .* Prague: UNESCO.

Van Deusen, A. &. (2009). Using the Internet: Skill related problems in users' online behavior, Interacting with Computers .

Wilson, J. B. (2015). Beyond the 'digital natives' debate: Towards a more nuanced understanding of students' technology experiences. *Journal of Computer Assisted Learning*.

Wynne, M.E. & Cooper, W.L. (2007). Power up: The campaign for digital inclusion.

Yigezu, M. (2021). Digitalization in teaching and education in Ethiopia: Digitalization, the future of work and the teaching profession project . *Interanational labour organization* .

Appendix 1: Survey Questionnaire

Dear respondents:

This questionnaire is a survey instrument of a thesis written on **"The Impact of Trainees Digital Literacy on Information use behavior for Vocational Education"** in partial fulfilment of the requirement for the degree of master in TVET Leadership and Management at Federal TVT Institute. I am inviting you to participate in this research study by completing the following questionnaire. It will require approximately 45 minutes for completing. There is no compensation for responding nor is there any known risk. All information will remain confidential and will be used for academic purpose. Moreover, your participation in this would be voluntary. If you have any question regarding the questionnaire, you can contact the researcher through the following address: +251- 911 77 35 87. The researcher would like to thank you for taking your invaluable time in order to fill this questionnaire. Kindly tick (☑)

Part I: General Information

What's your occupation (department): _____

Gender: Male ☐ Female ☐

What is your age group? Please select your age group from the list

☐ 15 – 18 ☐ 19 -22 ☐ 23 – 26 ☐ 26+

What is your highest level of education?

☐ Level 2 ☐ Level 3 ☐ Level 4 ☐ Level 5

Part 2: Investigate the degree of digital literacy

How would you describe your current level of digital literacy?

☐ Beginner ☐ Intermediate ☐ Advanced

In what ways do you use digital technology to access and obtain information?

_____
_____
_____

What specific challenges do you encounter when searching for information online?

_____
_____
_____

Do you feel confident in evaluating the credibility of information found online?

☐ Somewhat ☐ No ☐ Yes

How often do you utilize online resources for learning or professional development?

☐ Always ☐ Frequently ☐ Occasionally ☐ Rarely

What online tools or platforms do you find most helpful for accessing information?

_____
_____
_____

How comfortable are you with navigating and using digital libraries or archives?

☐ Very Comfortable ☐ somewhat comfortable ☐ Not comfortable at all

What types of digital skills training or resources would you find valuable for improving your information access and use?

_____
_____
_____

In what ways do you think your level of digital literacy impacts your effectiveness in digital information?

_____
_____
_____

Do you face any barriers in applying digital information to your learning or work due to your level of digital literacy?

☐ Not Sure ☐ No ☐ Yes

Part 3: Information use in digital and non-digital environments

In what ways do you use information differently in digital and non-digital environments?

_____
_____
_____

How do you find and evaluate information in digital environments compared to non-digital environments?

_____
_____
_____

Which types of information do you prefer to access digitally versus non-digitally?

☐ Text ☐ Images ☐ Videos ☐ Audio ☐ Interactive content

How comfortable are you with utilizing digital tools for accessing information?

☐ Very comfortable ☐ Somewhat comfortable ☐ Neutral

☐ Somewhat uncomfortable ☐ Very uncomfortable

What factors influence your choice between digital and non-digital information sources?

_____
_____
_____

Do you believe information from digital sources is more reliable than non-digital sources?

☐ Yes ☐ No ☐ Not sure

How does the speed of accessing information differ between digital and non-digital environments in your experience?

☐ Digital is faster ☐ non-digital is faster ☐ Both are equally fast

How often do you verify the credibility of digital information compared to non-digital information?

☐ Always ☐ Most of the time ☐ Occasionally

☐ Rarely ☐ Never

What challenges do you encounter when using digital information compared to non-digital information?

_____
_____
_____

I Thank You!