ST JOHN'S UNIVERSITY OF TANZANIA

BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY

ASSESSMENT OF THE EFFECT OF DIGITAL LITERACY ON UNIVERSITY STUDENTS: A CASE STUDY OF ST JOHN'S UNIVERSITY OF TANZANIA.

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A RESEARCH REPORT IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE BACHELOR DEGREE OF SCIENCE IN INFORMATION TECHNOLOGY OF ST JOHN'S UNIVERSITY OF TANZANIA.

2024

CERTIFICATION

The undersigned certificate is that I have read and hereby recommend for acceptance by the Saint John's University of Tanzania, a research entitled "***assessment of the effect of digital literacy on university students: A case study of St John's University of Tanzania".*** In partial fulfilment of the requirements for the award of Bachelor of Science in Information Technology.

Supervisor name: …….

Signature: ……

Date: …. /……/2024.

DECLARATION

I, Lilian Didas Mushi declare that this dissertation is my work. It has not been and will not be presented for any other course of study. I confirm that appropriate credit has been given where reference has been made to the work of others.

Signature ……...

Date ……...

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Finally, I would like to dedicate this work to those who inspire me every day and remind me of the importance of perseverance and curiosity. Thank you all for being a significant part of this journey.

DEDICATION

This work is dedicated to my beloved family whose unwavering support and love have been my greatest motivations. To my friends, your encouragement has been a source of strength throughout this journey. This work is a reflection of your belief in me and your constant inspiration.

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ABBREVATIONS

FAHE - Faculty of Humanities and Education

FANAS - Faculty of Natural and Applied Science

FOCB - Faculty of Commerce and Business Studies

ICT - Information and Communication Technology

SJUT - St. John's University of Tanzania

SONU – school of nursing

SOPH – school of pharmacy

SSA - Sub-Saharan Africa

TAM - Technology Acceptance Model

ABSTRACT

This research investigates the impact of digital literacy on university students' academic performance, critical thinking, and career readiness in Dodoma, Tanzania, with suggested theories which are the Technology Acceptance Model (TAM) and the Digital Literacy Framework. The study aims to explore how students' perceptions of digital tools influence their academic engagement and effectiveness, identify specific challenges faced in digital environments, and provide recommendations for enhancing digital literacy education. Data were collected from 100 participants through interviews and questionnaires. Findings indicate that a majority of students believe high digital literacy positively affects academic success, though some argue it is not the only determinant. The research identifies key challenges such as navigating online learning platforms and accessing digital resources. Recommendations include implementing targeted digital literacy training and improving digital infrastructure at universities. Additionally, the study offers policy suggestions for integrating digital literacy into the national curriculum to bridge the digital divide and foster a digitally competent workforce in Tanzania.

CHAPTER ONE

INTRODUCTION

1.1 Chapter Overview

In this section, it describes the background of the research, statement of the research problem, the objectives of the research which include general and specific objectives, limitations of the study, research questions, research gap and significance of the problem. However, the level of digital literacy skills possessed and applied by university students in Dodoma Region has not been thoroughly investigated. This research aims to assess the effect of digital literacy on university students in Dodoma region, with a focus on understanding its implications on academic performance, career prospects and improving of critical thinking.

1.2 Background to the Study

The concept of digital literacy, first introduced by (Zurkowski, 1974), encompasses the ability to identify, locate, and evaluate information in a digital context. Digital literacy extends beyond basic reading, writing, and arithmetic to include the effective use of technology in personal, social, and professional domains. In today's rapidly evolving digital world, these skills are critical, particularly in educational settings. University students, for instance, require strong digital literacy to excel academically, enhance their critical thinking abilities, and prepare for future career opportunities. This study, focusing on the impact of digital literacy on university students in Dodoma, Tanzania, aims to understand how these skills affect academic performance and overall student development. The insights gained from this research can inform educational policies and practices, ensuring that digital literacy is effectively integrated into the curriculum, thereby benefiting the student population and the broader society.

Globally, numerous initiatives have been undertaken to promote digital literacy, recognizing its importance in education. For instance, the European Union's Digital Education Action Plan emphasize the need to enhance digital competencies across member states, while the United States has launched the Digital Literacy Task Force to integrate digital skills into education systems (Brata, W., Padang, R., Suriani, C., Prasetya, E., & Pratiwi, N., 2022). In Asia, countries such as South Korea and Singapore have embedded digital literacy into their national curricula, ensuring that students are equipped with the necessary skills to thrive in a digital environment (Deja, M., Rak, D., &

Bell, B, 2021). These global efforts highlight the critical role of digital in fostering academic success and preparing students for the demands of the digital age. Despite these initiatives, there remains a need to explore how these global trends are influencing digital literacy in specific contexts such as Tanzania.

Despite the global emphasis on digital literacy, significant challenges persist, particularly in developing regions like Sub-Saharan Africa. In many parts of Africa, digital literacy levels are low, with limited access to technology and digital resources. For instance, in East Africa, including Tanzania, the digital divide remains a significant barrier to educational advancement (Manubey, 2022). While Dodoma has seen improvements in digital infrastructure, the majority of university students still face challenges in accessing and effectively utilizing digital tools for learning. This gap in digital literacy affects students' ability to fully engage in academic activities, such as using online learning platforms, accessing digital libraries, and participating in virtual discussions (Damira, 2023, December). Furthermore, there is limited research on how students in Tanzania, particularly those in Dodoma, navigate these challenges. Even the few existing studies offer varied findings, highlighting the complexity of integrating digital literacy into higher education. This study seeks to address these gaps by exploring the specific challenges and opportunities related to digital literacy among university students in Dodoma.

Given the persistence of these challenges, this study aims to fill the gap by examining how digital literacy impacts university in Dodoma, Tanzania. The research will investigate the role of digital literacy in enhancing academic performance, critical thinking, and career readiness among these students. By focusing on specific context of Dodoma, this study will provide valuable insights that can inform policies and strategies to strengthen digital literacy education in Tanzania, ensuring that students are better prepared for the demand of the digital world.

1.3 Statement of the Research Problem

In Dodoma region, Tanzania, the increasing integration of technology into higher education and the rapid advancement of digital technology raises important questions regarding the impact of digital literacy on university students. Digital literacy has changed the way students access information and learning process. This includes the use of technology, access to more diverse resource and use of online learning platforms (ferri, F., Grifoni, P., & Guzzo, T., 2020).

In spite of the recognized importance of digital skills, there is a lack of understanding of how varying levels of digital literacy affect students' academic performance, career prospects and critical thinking. Previous research has tended to be more conceptual rather than providing practical guidance to educators and lecturers on how to teach digital literacy skills that support the development of critical thinking (Garcia, L. P,. & Martinez, A S., 2020).

By addressing the existing gaps, it will contribute awareness into the importance of digital literacy for education and employment in Dodoma region, informing strategies to qualify students with essential digital skills for academic and professional success and development of critical thinking. Therefore, this study provides a better understanding of the effect of digital literacy on academic performance, career readiness and development of critical thinking for university students on problem-solving in Dodoma region, Tanzania.

1.4 Research Objectives

The objectives of this study were divided into two parts, that is general objective and specific objectives.

1.4.1 General Objective

To assess the effect of digital literacy on university students in Dodoma, Tanzania.

1.4.2 Specific Objectives

i. To identify the positive correlation between the digital literacy and academic performance.
ii. To identify challenges faced by students with lower digital literacy.
iii. To investigate the impact of digital literacy on students' employability and career readiness
iv. To investigate how digital literacy, increase critical thinking to students on problems solving.

1.5 Research Questions

i. Is there a statistically significant correlation between digital literacy levels and academic performance?
ii. What are the impact of digital literacy on students' employability and career readiness?
iii. What challenges do students with lower digital literacy face in the educational context?

iv. How can digital literacy improve the critical thinking to university students?

1.6 Significance of the Study

This study has explored how digital literacy impact the university students in Dodoma. By understanding these dynamics is crucial for various stakeholders including the policy makers, institutions and researchers.

1.6.1 To researchers

The research results validate the application of the Technology Acceptance Model in understanding the impact of digital literacy on university students' academic performance, critical thinking, and career readiness. This study provides empirical evidence that can be used by future researchers as a useful tool to predict how digital literacy influence students' acceptance and effective use of digital technologies in their academic pursuits. Through the lens of TAM, this research explores the relationship between students' perceived ease of use, perceived usefulness, and their actual usage of digital tools, thereby contributing to the broader discourse on digital literacy and educational technology.

1.6.2 To policy-makers

The study's findings guide Tanzanian policymakers in addressing digital literacy challenges among university students, informing targeted policies and curriculum enhancements. These insights help bridge the digital divide and support the development of a digitally skilled workforce, contributing to Tanzania's socio-economic growth.

1.6.3 To institutions

The study offers practical recommendations for universities in Dodoma to enhance digital literacy among students by identifying key challenges, such as navigating online platforms, accessing digital resources, and participating in virtual discussions. It suggests implementing targeted digital literacy training programs to improve students' skills and academic performance. It calls for investments in digital infrastructure and resources to ensure all students have the tools needed for academic and professional success.

1.7 Chapter Summary

This chapter highlights the background of the study about the effect of digital literacy on university students, and explains the significance of addressing the gap in understanding and setting clear objectives and research problem to guide the study, by identifying the research problem and outlining its importance, and scope. This introduction provides a

comprehensive overview of the study's purpose and direction. Clearly defined objectives in this chapter help a researcher to ensure alignment with the intended purpose and expected outcomes and enable her to assess if goals are achieved.

CHAPTER TWO

LITERATURE REVIEW

2.1 Chapter Overview

This chapter explains the known theoretical review and empirically outlines the problem under study. Literature reviews are essential trial to any research work because they help a researcher to participate in understanding and validating the information. This chapter is divided into four segments, the first segment is a theoretical review, the second segment is an empirical review, and the third segment is a conceptual framework and lastly is a research gap.

2.2 Theoretical Literature Review

A theoretical literature review is a comprehensive examination of the existing theories related to a specific issue, concept or phenomenon. Its primary purpose is to evaluate and synthesize theoretical frameworks that have been developed in the field, identifying relationships between different theories and assessing their adequacy in explaining the research problem at hand (Babbie, 2020).

2.2.1 Technology Acceptance Model (TAM) theory

The theory known as the Technology Acceptance Model (TAM) is well established in the information systems and technology fields. TAM, which was first proposed by (Davis, 1989), asserts that two main factors perceived usefulness and ease of use determine a person's acceptance and use of technology. This model states that people are more likely to accept a technology if they find it easy to use and think it will improve their performance. TAM has been widely employed in a variety of domains, such as business, healthcare, and education, to explain and forecast user behavior toward new technologies.

Many academics have used TAM to investigate how technology is adopted and used in learning environments. To examine teachers' acceptance of technology in Singapore, for example, (Teo, 2011) employed TAM and discovered that teachers' intentions to use educational technologies were highly influenced by their perceptions of the tools' perceived utility and simplicity of use. In a similar vein, (Park, 2009) used TAM to investigate how well university students in South Korea accepted e-learning platforms, showing that higher acceptance and usage rates were correlated with students' favorable opinions of the technology's value. TAM can be used to investigate, in the context of

digital literacy, how Dodoma university students view the convenience and utility of digital tools, and how these views affect their usage of technology and academic performance.

TAM has certain drawbacks even though it's a strong framework for comprehending technology uptake. According to experts, the Technology Acceptance Model (TAM) oversimplifies the factors influencing technology acceptance by emphasizing perceived usefulness and ease of use above other important factors like social influence, enabling conditions, and individual inventiveness (Ervianti, E., Sampelolo, R., & Pratama, M. P., 2023). TAM's poor relevance in describing complex actions in a variety of cultural and contextual contexts, including developing nations, has also drawn criticism (Byungura, J. C., Hansson, H., Muparasi, M., & Ruhinda, B. , 2018). In order to overcome these shortcomings, this study broadens the TAM framework by adding elements pertinent to the Dodoma setting, namely students' past technological experience, access to digital resources, students' prior experience with technology, and the role of institutional support in fostering digital literacy.

TAM was used in this study to evaluate how Dodoma university students see and use digital technologies for their academic work. The study looked at the connections between students' real usage patterns and their perceptions of the utility and simplicity of use of digital technologies. Through the integration of Dodoma specific contextual elements, like digital infrastructure and resource accessibility, the study sought to offer a more thorough knowledge of the factors influencing digital literacy in these pupils. The results not only confirmed that TAM was applicable in this situation, but they also provided information about how educational establishments may improve students' perceptions of and accessibility to digital resources in order to increase digital literacy.

2.2.2 Digital Literacy Framework theory

The Digital Literacy Framework is another relevant theoretical approach that underpins this study. This framework, as outlined by scholars such as (Eshet-Alkalai, 2004) defines digital literacy as a multi-dimensional construct encompassing a wide range of cognitive and technical skills necessary for effective digital technology use. The framework includes various dimensions of digital literacy, such as photo-visual literacy, reproduction literacy, information literacy, branching literacy, and socio-emotional literacy. These dimensions collectively contribute to an individual's ability to navigate, evaluate, and create information in a digital environment (Feola, 2016).

The Digital Literacy Framework has been used by several scholars to analyze the digital skills and competencies required in different contexts. For example, (Ng, 2020) employed this framework to assess the digital literacy levels of undergraduate students in Australia, focusing on their ability to critically evaluate online information and engage in digital content creation. Similarly, (McKinstry, C., Iacono, T., Kenny A., Hannon, J., & Knight, K., 2020) applied the framework to explore how young people use digital tools for creative and social purposes, emphasizing the importance of socio-emotional literacy in online interactions. In the context of this study, the Digital Literacy Framework is pertinent for evaluating the different dimensions of digital literacy among university students in Dodoma and understanding how these skills influence their academic performance.

Despite its comprehensive approach, the Digital Literacy Framework has some limitations. One of the primary disapprovals is its complexity, as it encompasses multiple dimensions that may be difficult to measure quantitatively (Eshet-Alkalai, 2004). Additionally, the framework has been evaluated for not fully addressing the socio-economic and cultural factors that influence digital literacy, particularly in developing countries (Ha, S., & Kim, S., 2024). In previous studies, these weaknesses have led to challenges in operationalizing the framework and applying it across diverse contexts. To overcome these challenges, this study adapted the Digital Literacy Framework to focus on the most relevant dimensions for the Dodoma context, such as information literacy and socio-emotional literacy, while considering the local socio-economic and cultural factors that may impact students' digital literacy levels.

In this research, the Digital Literacy Framework was utilized to assess the various dimensions of digital literacy among university students in Dodoma. The study measured students' proficiency in critical areas such as information literacy, which involves evaluating and using digital information effectively, and socio-emotional literacy, which related to responsible and ethical behavior in digital environments. By applying this framework, the study aimed to provide a detailed analysis of the specific digital skills that were most relevant for students' academic success in Dodoma. The insights gained will help educational institutions develop targeted interventions to strengthen the digital literacy competencies of their students, ensuring they are well equipped to thrive in the digital age.

2.3 Empirical Literature Review

This section reviews empirical studies related to the impact of digital literacy on key aspects of university students' academic and professional experiences. The review is organized according to the primary variables of interest: academic performance, career readiness, and critical thinking. These variables are integral to understanding the broader effects of digital literacy on university students.

2.3.1 Digital Literacy and Academic Performance

Numerous studies have explored the relationship between digital literacy and academic performance among university students. (Smith, E. E., & Storrs, H, 2023) conducted a longitudinal study in the United States that examined the digital literacy skills of undergraduate students and their subsequent academic performance. Utilizing surveys and academic records, the study found a positive correlation between digital literacy and academic achievement, indicating that students with higher levels of digital literacy consistently performed better academically. The study's implications suggest that enhancing digital literacy among students could lead to improved academic outcomes. Consequently, the authors recommended that digital literacy training be integrated into university curricula to support students' academic success.

Similarly, (Holm, 2024) conducted a mixed-methods study in Sweden to explore the impact of digital literacy on students' grades. The study combined quantitative analysis of students' grades with qualitative interviews to assess the influence of digital literacy on academic performance. The findings revealed that students with higher digital literacy levels were more likely to achieve better grades, particularly in courses requiring extensive use of digital tools. The study highlighted the importance of digital literacy in academic success, especially in technology-intensive disciplines, and recommended that universities provide additional resources and support to develop students' digital literacy skills.

2.3.2 Digital Literacy and Career Readiness

Research has also focused on the role of digital literacy in preparing students for the workforce. In a study by (Smith, E. E., & Storrs, H, 2023), the relationship between digital literacy and employability was examined through surveys and follow-up interviews with recent graduates in the United States. The study found that employers highly value candidates with strong digital skills, and students with higher digital literacy were more likely to secure employment upon graduation. The study concluded that digital literacy is

crucial for enhancing students' employability in an increasingly digital job market, and recommended that universities incorporate digital literacy training into career services and student development programs.

Furthermore, (Ha, S., & Kim, S., 2024) conducted a longitudinal study in South Korea, following a cohort of students who participated in digital literacy training programs and comparing their employment outcomes with those of a control group. The study found that students who received digital literacy training were more likely to secure employment and reported higher job satisfaction than their peers with lower digital literacy. These findings underscore the importance of digital literacy in preparing students for the workforce. The authors recommended that higher education institutions prioritize digital literacy training to improve graduates' job prospects.

2.3.3 Digital Literacy and Critical Thinking

Digital literacy is also recognized for its role in developing students' critical thinking skills. (Wang, Chen, and Li Si, 2023) conducted a study in China that examined the influence of digital literacy on students' information evaluation skills. The researchers utilized a combination of digital literacy assessments and critical thinking tests to evaluate students' abilities to critically assess online information. The study found that students with higher digital literacy were more adept at critically evaluating online information sources, effectively distinguishing credible information from misinformation. This finding emphasizes the critical role of digital literacy in developing students' critical thinking skills in an era where misinformation is widespread. The authors recommended that educational institutions focus on enhancing digital literacy to strengthen students' critical thinking abilities.

In a related study, (Garcia, L. P,. & Martinez, A S., 2020) investigated the relationship between digital literacy and critical thinking in Spain, focusing on students' performance in online collaborative projects. The study found that students with higher levels of digital literacy demonstrated stronger critical thinking skills and were more effective in online collaborations. The findings suggest that digital literacy is crucial for fostering critical thinking and collaborative problem-solving. The study recommended that universities integrate digital literacy and critical thinking training into collaborative learning projects to enhance student outcomes.

2.4 Conceptual/ Theoretical Framework

A conceptual framework represents the research's synthesis of literature on how to explain a phenomenon. Conceptual framework is the researcher understands of how the particular variables in her study connect with each other (Patrick, 2022). In this study, the selected independent variables are considered useful from both theoretical and empirical perspectives, as they cover several dimensions of digital literacy that have been examined in different contexts. The conceptual framework outlines the relationships between digital literacy (independent variable) and the key dependent variables: academic performance, career readiness, and critical thinking. These variables are critical in assessing the overall effect of digital literacy on university students, specifically at St. John's University of Tanzania.

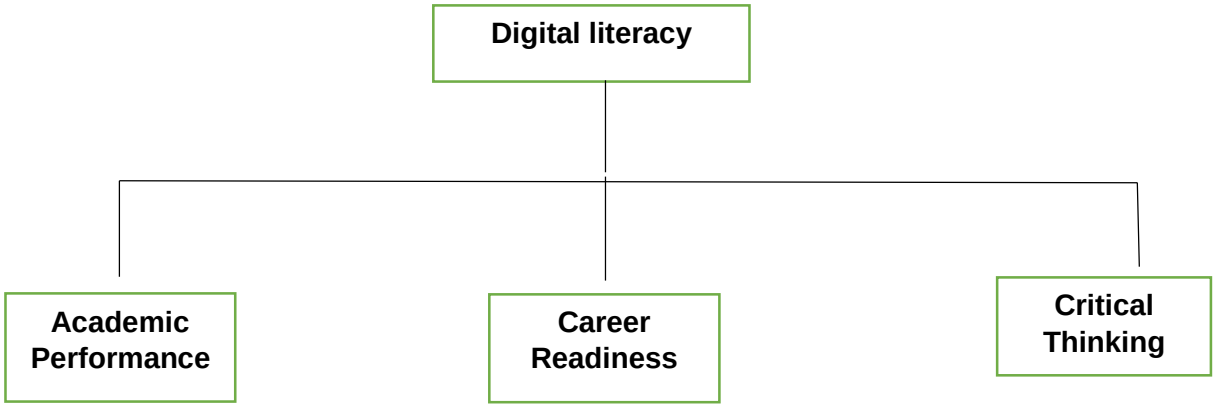

Figure 2.1: Conceptual Framework

2.5 Research Gap

This research highlights a significant gap in the understanding of digital literacy among university students, a demographic with distinct academic demands and career goals. Although numerous studies have examined digital literacy across different populations, such as children and older adults, there is a noticeable lack of focused research on how university students especially in Dodoma, Tanzania acquire and utilize digital skills in their academic and professional environments. This study seeks to fill this gap by investigating the relationship between digital literacy and academic performance, student engagement, and preparedness for the digital workforce. Furthermore, it aims to evaluate the effectiveness of existing educational practices and identify any shortcomings in curriculum design regarding digital literacy. By addressing these issues, the research aims to contribute to the development of targeted strategies to improve digital literacy

among university students, ensuring they are better equipped for success in an increasingly digital world.

2.6 Theoretical definitions of key terms

Digital Literacy is the ability of individuals to use digital tools, facilities, and resources to construct new knowledge in specific life situations (Allen, C., & Berggren, J, 2016). It includes technical skills to use digital devices, software and the internet.

Career Readiness is defined as the attainment of core competencies that prepare individuals for success in the workplace and ongoing career management, according to (Mulhern, C., & Steiner, E. D., 2022). These competencies include skills such as effective communication, critical thinking, teamwork, ethical behavior and attitudes required for employment.

Academic Performance refers to the extent to which a student, teacher or institution has achieved their short or long-term educational goals, (Holm, 2024). It is commonly measured through examinations, grades and overall achievement in course-related tasks.

Critical Thinking is the art of analyzing and evaluating thinking with a view to improving it. It involves understanding and critiquing the structures of thought implicit in all reasoning, including purposes, questions, information, inferences, assumptions, concepts, implications, and point of view (Clark, E. F., & Green, M. H., 2019). It is characterized by the effective communication and problem-solving abilities.

2.7 Chapter Summary

This chapter explores the role of digital literacy skills, such as critical thinking and communication, in enhancing university students' academic and professional outcomes. It uses the Technology Acceptance Model (TAM) to understand how students' perceptions of digital tools influence their use and success. While digital literacy is widely studied, there is limited research on university students in Dodoma, Tanzania. This study seeks to fill this gap by investigating their digital literacy levels and related challenges.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Chapter Overview

In this section, the general approach of the research process is explained. It describes the various steps that the researcher used when evaluating the effect of digital literacy on university students in Dodoma region, Tanzania. This chapter covers research design, study site, population and sampling, study procedures, data analysis methods, data collection methods which include questionnaires and interviews, research approaches, methods for ensuring validity and reliability, ethical considerations, operational definitions, limitations of the study as well as dissemination plan.

3.2 Research Design

According to Kothari, (2002) research design is the plan showing the approach and strategy of investigation aimed at obtaining relevant data which fulfils the research objectives and answer questions. This study was a mixed-methods research design which combine both qualitative and quantitative methods. It was expected that the data from sample would be relevant and accurate enough to provide findings capable of covering the research gap.

A mixed-methods research design was appointed for quantitative assessment of the effect of digital literacy and their correlation with academic performance, critical thinking and career readiness, also for qualitative exploration of students' experiences, challenges and perceptions regarding digital literacy.

3.2.1 Justification for using mixed-methods research design

Mixed methods research provides a comprehensive approach by integrating qualitative and quantitative data, offering a deeper understanding of research questions than either method alone. This approach allows for enhancing the validity and credibility of findings by cross verifying results from both data types. It also contextualizes quantitative results with qualitative insights, offering richer explanations for statistical outcomes. Mixed methods research is flexible, adaptable to various study designs, and addresses the limitations of individual methods by combining their strengths.

3.3 Study Site

The study was conducted at St John's University of Tanzania (SJUT), selection was made due to time and cost factors and accessibility to the information required to

complete the study. Therefore, the university provided a diverse student population and useful environment for studying digital literacy impacts.

3.4 Population, Sampling Procedures and Sample Size

3.4.1 Study Population and Sample

According to (Frederick J. Gravetter, Lori-Ann B. Forzano, 2018), sample refers to a subset of individuals, items, or observations selected from a larger population to represent that population. The study population consisted of undergraduate students enrolled at St. John's University of Tanzania (SJUT), this university provides different faculties and courses, making it representative of the broader student body in the Dodoma region. The population included students from various academic disciplines, year groups and demographic backgrounds, ensuring a comprehensive understanding of digital literacy's impact across different segments of the student community.

3.4.2 Sampling Procedure

Sampling is the process of selecting a subset of individuals from a larger population to participate in a research study (Babbie, 2020). The researcher used a stratified random sampling technique to obtain data from participants. Stratified random sampling is a method of sampling that involves the division of a population into smaller subgroups known as strata. Strata are formed based on member's shared attributes or characteristics, therefore from this study, this method of sampling ensured that different groups within the student population such as those from various faculties, age difference and year levels were fairly represented in sample.

3.4.3 Sample Size

According to (Creswell, J. W., & Sinley, R. C., 2017), sample size refers to the number of individual observations or participants included in a sample for a study. In this study, a total of 100 respondents were selected at St. John's University of Tanzania (SJUT) to examine the effect of digital literacy on their academic performance, critical thinking, career readiness and overall learning experience. These respondents were selected to represent a diverse cross-section of the student body, ensuring a mix of different academic disciplines and year groups. This size allowed for manageable data collection and analysis.

$$n = \frac{Z^2 \times p \times (1 - p)}{e^2}$$

Where:

n is the sample size

Z is the Z-value, for 95% confidence level which is 1.96

p is the estimated proportion of the population, use 0.8

e is the margin of error, use 7.8% which is equal to 0.078

$$n = \frac{(1.96)^2 \times 0.8 \times (1 - 0.8)}{(0.078)^2}$$

$$n = \frac{0.614656}{(0.078)^2}$$

$$n = 101.028 \approx 100$$

The sample size will be 100 respondents.

For this study, a sample size of 100 students were selected based on practical considerations, including resource constraints and the need to ensure manageability within the scope of the research. This size was hold to be sufficient to achieve the study's objectives, balancing the need for precision with available resources.

3.5 Study protocols/ procedures

In this study, a researcher distributed questionnaires and conduct semi-structured interviews to gather both quantitative and qualitative data, also a researcher obtained ethical clearance from the institutional review board at St. John's University of Tanzania to ensure compliance with ethical standards. All participants were fully informed about the study's purpose and procedures, and informed consent was obtained from each participant to ensure voluntary and informed participation.

3.6 Data Collection Methods

Data collection in research involves systematically gathering and measuring information on relevant variables in an organized way, this process is essential for researchers to effectively answer research questions, test hypotheses, and assess outcomes (Babbie, 2020).

Data collection for this study was involved only primary sources. Primary data refers to original and firsthand information that researchers collect specifically for their research purposes. It is gathered through methods like surveys, interviews, observation,

experiments, questionnaires or focus groups. This type of data is considered original because it has not been previously published or used by others, and it is intended to directly address the research questions or goals of the study (Babbie, 2020).

Based on this research study the primary data was gathered through questionnaires and interview to students from St John's University of Tanzania, the questionnaires included only close ended questions and interview included open ended questions.

3.6.1 Questionnaire

According to Garcia & Martinez (2020), a questionnaire is defined as a structured set of questions used for gathering information from respondents on various subjects. A researcher used questionnaire as one of primary data collection methods. Therefore, these research questions were specifically designed to provide answers to researcher's questions and expand awareness of the issue. The questions focused on investigating the effect of digital literacy on university students.

Justification for using questionnaire

Using a questionnaire in research provided several benefits that enhance data quality and analysis. It ensured consistency and reliability by standardizing the data collection process, allowing for uniform responses from all participants. Questionnaires also support quantitative analysis, enabling the collection and statistical evaluation of numerical data, which were useful for assessing large groups. The convenience of online distribution increased accessibility and response rates, and the flexibility in question design, questionnaires are time-efficient and facilitate easy data management and analysis, making them ideal for studies requiring large datasets.

3.6.2 Interviews

According to (Jamshed, 2023), an interview is defined as a method that enables researchers to gather comprehensive and in-depth data directly from participants. This method can collect data supplementary information about the respondent's characteristics and environment which is often of great value in interpreting result (Kothari, 2004). This method was chosen because it gave respondents enough time to understand and respond freely to the questions. Also it helped a researcher to collect data that needs from a variety of respondents in a short amount of time.

Justification for using interview

Interview offered a profound insight into digital literacy by enabling a deep exploration of participants' experiences and perceptions through open-ended questions, which revealed nuanced understandings of their digital skills, challenges, and essential competencies. This method provided essential contextual information about students' backgrounds and access to technology, highlighting variations in digital literacy levels and the need for tailored programs. The flexibility of interview allowed for exploring based on participants' responses, leading to richer data, while building rapport fostered honest and open communication.

3.7 Methods for ensuring data validity and reliability

3.7.1 Validity

According to (Heale, R., & Twycross, A., 2015), Validity is the extent to which a measurement tool measures what it is supposed to measure. In this study, a researcher designed study to accurately measure what was it intended to measure. This included selecting appropriate and representative samples, using valid and reliable instruments, and applying proper data collection methods, and employing strong statistical techniques to analyze the data and reviewing the research to maintain its validity.

3.7.2 Reliability

Reliability is about the repeatability of findings and the extent to which an instrument consistently measures an attribute across different contexts and times (Heale, R., & Twycross, A., 2015). It indicates the extent to which the same results can be obtained under consistent conditions over multiple trials. Ensuring reliability in this study involved implementing strategies that give consistent and repeatable results. This was achieved through careful planning and execution of the study. Furthermore, conducting repeated trials or using multiple observers helped to identify and mitigate inconsistencies, thereby increasing the reliability of the research findings.

3.8 Data Analysis Methods

Data analysis involves the systematic examination and interpretation of collected data to uncover patterns, trends and themes, thereby providing a comprehensive understanding of the research phenomenon (Creswell, J. W., & Sinley, R. C., 2017). The data were analyzed using quantitative interpretation of descriptive statistics through Microsoft Excel, and qualitative data was done through content theme obtained through the additional

point or recommendations of the respondents. The responses received from the questionnaires and interview were organized, tabulated and analyzed using frequencies and percentages. Data were presented in descriptive form supported by tables, frequency distributions and percentages.

3.9 Ethical Considerations

Ethical considerations for conducting this research acted in accordance with obtaining informed consent form from participants that ensured they were fully aware of the research purpose, procedures and potential risks and benefits before agreeing to participate. They were informed of their right to withdraw from the study at any time without any negative consequences.

To ensure the anonymity and confidentiality of participants, no personally identifiable information was collected during the study. Participants' responses were coded and all data were stored securely to prevent unauthorized access. The results were reported in aggregate form, ensuring that individual responses could not be traced back to any specific participant.

Prior to commencing the study, ethical approval was sought and obtained from St. John's University of Tanzania. The study was conducted in compliance with the ethical standards outlined by the university. The study was designed to minimize any potential harm to participants. The questions were formulated to avoid causing discomfort or distress, and participants were not subjected to any form of physical or psychological risk.

3.10 Dissemination Plan

Dissemination plan aimed to reach key stakeholders including the academic community, policymakers, university administration, and education technology providers. The research findings will be shared through various channels such as the submission of the full report to the university, presentation at conferences, distribution of policy briefs, and online platforms.

3.11 Limitation of the Study

The study was conducted with a sample limited to students at St. John's University of Tanzania, which may not be representative of all university students in Tanzania. Therefore, the findings may not be fully generalizable to other universities in the country or beyond. But also the data collected relied heavily on self-reported surveys, which can be subject to biases such as social desirability bias, where respondents may overstate

their digital literacy skills or underreport challenges. This could affect the accuracy of the findings.

The study did not account for the variability in students' access to digital tools and the internet, which could influence their digital literacy levels. Differences in access to technology might skew the results, especially in a context where there is a digital divide. Furthermore, Digital literacy is a broad and multi-dimensional concept, encompassing various skills and competencies. This study focused on specific aspects of digital literacy related to academic performance, critical thinking, and career readiness, potentially overlooking other important dimensions such as cybersecurity awareness.

3.12 Chapter Summary

In this chapter, the study focused on exploring how digital literacy impacts university students at St. John's University of Tanzania (SJUT) using a mixed-methods research design. This approach combined quantitative data collection through structured questionnaires with qualitative insights gathered from semi-structured interviews. The strengths of this design include its ability to provide comprehensive insights from multiple perspectives and verify findings across different data types, though it requires significant time and resources. The study selected 100 participants whereby 90 participated in questionnaire and 10 participated in interview using a stratified random sampling technique to ensure representation across faculties and year levels. Data collection methods were employed to ensure validity and reliability through careful design and ethical considerations. Analysis involved descriptive statistics and content theme to uncover patterns and correlations between digital literacy, academic performance, critical thinking, and career readiness. The study acknowledged limitations including potential sampling biases and regional specificity, aiming to disseminate findings through academic conferences and journals to inform educational practices and policies.

CHAPTER FOUR

RESULTS FINDINGS AND DISCUSSION

4.1 Overview

This chapter describes the analysis and discussion of findings from the data collected from study guided by the researcher's objectives and questions mentioned in chapter one. This chapter therefore provides a picture of the findings related to effect of digital literacy on university student at St John's University of Tanzania.

4.2 Introduction to results and discussion

The analysis of the results covers various aspects of the study including demographic characteristics, type of digital devices that are owned and used for academic purpose, rate of digital literacy skills, relationship between digital literacy and academic performance, importance of digital literacy in future career and how use of digital tools enhance critical thinking and problem-solving skills. The discussion interprets these findings in the context of existing literature and studies, providing insights into the effect of digital literacy on university students. Total respondents were 100, whereby 90 respondents for questionnaire and 10 respondents for interview.

4.3 Demographic Characteristics

This section examines the demographics profile of the 90 respondents for questionnaire, including age, gender, and year of study. Understanding these characteristics provides a foundation for interpreting the subsequent findings on digital literacy and university students.

4.3.1 Gender Distribution of Respondents

Table 4.1: Gender of Respondents

Gender	Frequency	Percentage (%)
Male	55	61
Female	35	39
Total	90	100

Source; research finding, 2024

The study revealed that male students constituted 61% of the sample, while female students made up 39%. This gender disparity is significant as it may influence the overall findings regarding digital literacy competencies among university students. The results

indicated that male students generally exhibited higher levels of digital literacy compared to female. This finding aligned with existing literature that suggests a persistent gender gap in technology use and proficiency, particularly in African contexts. Male students were found to be more engaged with various digital tools and platforms, which contributed positively to their academic performance. Conversely, female students reported lower confidence levels in using digital technologies, which could hinder their academic success.

The study found that while both genders have increasing access to technology, societal norms and educational practices significantly influence digital literacy. Female students face extra challenges, like socio-cultural expectations and less exposure to technology outside of school, leading to disparities in digital literacy between genders.

(Mtebe, J., & Raisamo, R., 2021) argue that digital literacy involves essential skills for thriving in a digital world, with gender significantly influencing technology experiences, where males often receive more access and encouragement from an early age, leading to disparities in education and career outcomes. (Adebayo, A., Ojo, & Olaniyan, O., 2022) stress the importance of improving digital literacy among female students to close the gender gap in education and employment in Africa, calling for targeted interventions to address the specific challenges women face in accessing and using technology

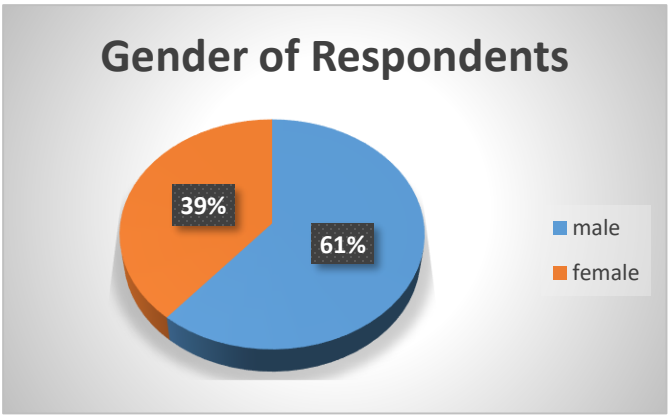

Figure 4.1: Gender of Respondents

Source; research finding, 2024

4.3.2 Age Distribution of Respondents

Table 4.2: Age of Respondents

Age (years)	Frequency	Percentage (%)
18-21	28	31.1
22-25	50	55.6
26-29	10	11.1
30 and above	2	2.2
Total	**90**	**100**

Source: Research Findings, 2024

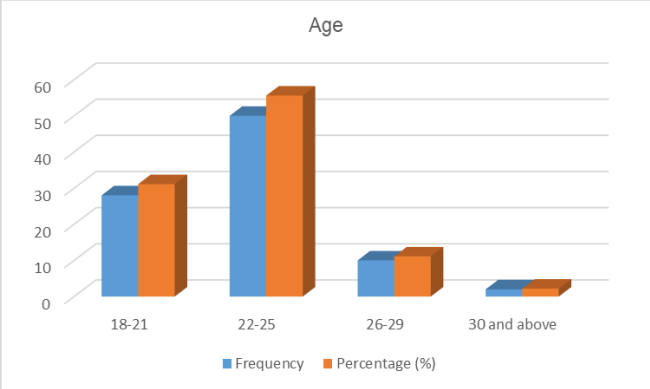

Figure 4.2: Age of Respondents

Source; research finding, 2024

Most respondents were aged 22-25 years, comprising 55.6% of the sample, indicating that the study mainly reflects the views of students in the later stages of their undergraduate studies, who likely have advanced digital literacy skills. About 31.1% were aged 18-21 years, typically in their first or second year of study, and likely developing their digital skills. The 26-29 years' group made up 11.1% and includes students who might need more specialized digital tools. The smallest group, at 2.2%, were aged 30 and above, possibly representing mature students with unique digital literacy needs. This

distribution highlights that the study primarily captures the perspectives of a younger respondents were aged 18-25, more tech-savvy demographic.

A study by (Hargis, J., & Cummings, C., 2019) revealed significant differences in digital literacy skills correlated with age, highlighting that younger students exhibit higher proficiency in utilizing digital tools for academic purposes compared to their older counterparts. The implications of these findings suggest that universities should consider age-related factors when designing digital literacy programs to ensure inclusivity and effectiveness.

4.3.3 Year of study of respondent

Table 4.3: Year of Study

Year of study	Frequency	Percentage (%)
First year	18	20.0
Second year	34	37.8
Third year	36	40.0
Fourth year	2	2.2
Total	**90**	**100**

Source: Research Findings, 2024

The data indicates that 40.0% of respondents are in their third year, suggesting that the majority have significant experience with digital tools. Second year students, comprising 37.8%, are still honing their digital skills, while first year students 20.0% are in the early stages of developing these skills. The fourth year students, at 2.2%, represent a small but crucial segment nearing graduation. This distribution shows a predominance of students with varying levels of digital literacy, with a focus on those more experienced. The study primarily captured the perspectives of students at different stages of their academic journey, highlighting the need for tailored digital literacy support across all years of study.

4.4 Digital literacy with other variables

4.4.1 Type of digital devices owned and used for academic purposes

Table 4.4: Type of digital devices

Digital device	Frequency	Percentage (%)

smartphone	82	91.1
Laptop/computer	35	38.9
Tablet	4	4.4

Source; research Findings, (2024)

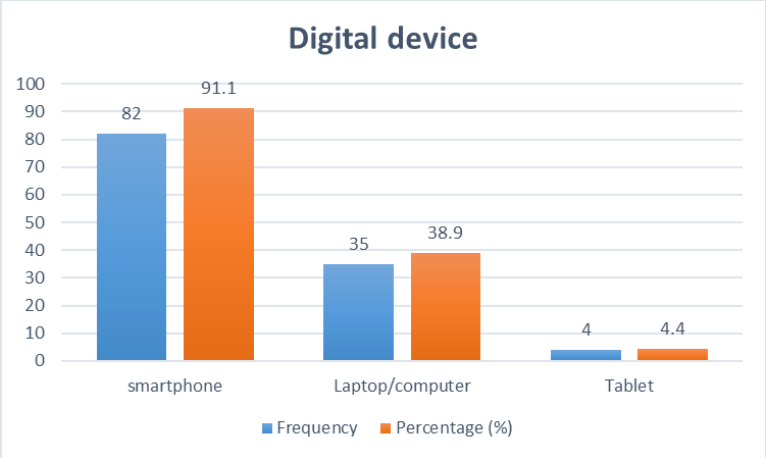

Figure 4.3: Type of digital device

Source; research finding, 2024

The data collected reveals that among the surveyed students, a significant majority utilize smartphones as their primary digital device, with 82% reporting ownership. In contrast, 35% own laptops or computers, while only 4.4% use tablets. The distribution indicates that smartphones were the most prevalent device among students, followed by laptops/computers, and suggests that while smartphones are widely accessible and favored for their portability and multi-functionality, laptops remain crucial for tasks requiring more extensive processing capabilities such as writing papers or conducting research.

According to a study by (Hague & Payton 2010), digital literacy encompasses a range of skills necessary to navigate and utilize digital technologies effectively. They argue that proficiency in using various devices enhances students' ability to engage with information critically and creatively. The predominance of smartphones among St. John's University students may reflect both accessibility and convenience; however, it raises questions about whether reliance on mobile devices limits deeper engagement with academic content typically facilitated by laptops or tablets.

4.4.2 Usage of digital tools for academic work

Table 4.5: Usage of digital tools

Usage of digital tools	Frequency	Percentage (%)
Always	67	74.4
Often	13	14.4
Sometimes	10	11.1
Rarely	0	0
Total	**90**	**100**

Source; Research Findings, (2024)

The findings indicate a significant reliance on digital tools among students, with a notable 74.4% reporting that they “always” use these tools for their academic activities. Additionally, 14.4% indicated that they “often” utilize digital resources, while 11.1% reported using them “sometimes.” Notably, there were no respondents who indicated that they “rarely” or “never” used digital tools.

This data suggested a strong integration of digital literacy into the academic practices of students at St. John’s University. The overwhelming majority utilizing digital tools consistently reflects an environment where technology is not only accessible but also essential for academic success. This reliance may be attributed to various factors including the availability of online resources, the necessity for research and collaboration in modern education, and the overall shift towards digital methodologies in learning.

In their exploration of how students leverage technology for academic purposes, (Ng, 2020) emphasized that effective use of digital tools can enhance learning outcomes by facilitating access to information and enabling collaborative learning experiences. The results from this study corroborated this assertion as a majority of students reported consistent use of these resources.

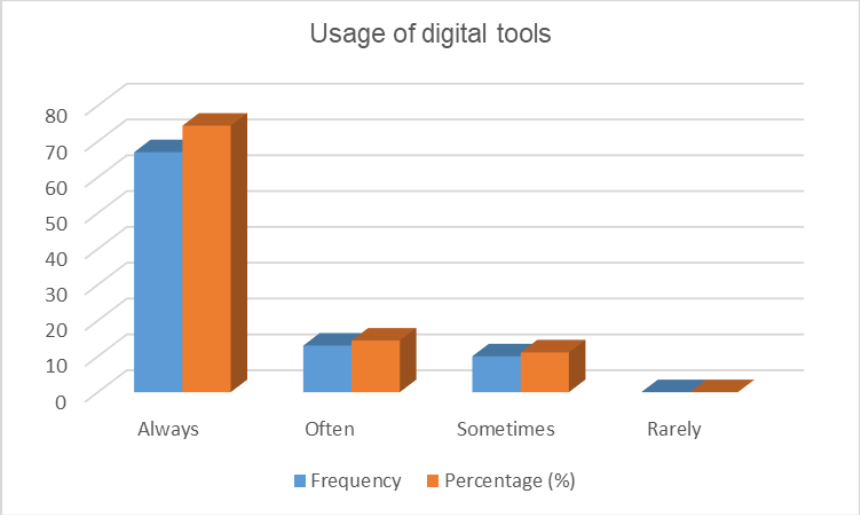

Figure 4.4: Usage of digital tools

Source; research finding, 2024

4.4.3 Confident of using digital platforms

Table 4.6: Degree of confidence

Degree of Confidence	Frequency	Percentage (%)
Very confident	24	26.7
Confident	58	64.4
Somewhat confident	6	6.7
Not confident	2	2.2
Total	**90**	**100**

Source; Research Finding, (2024)

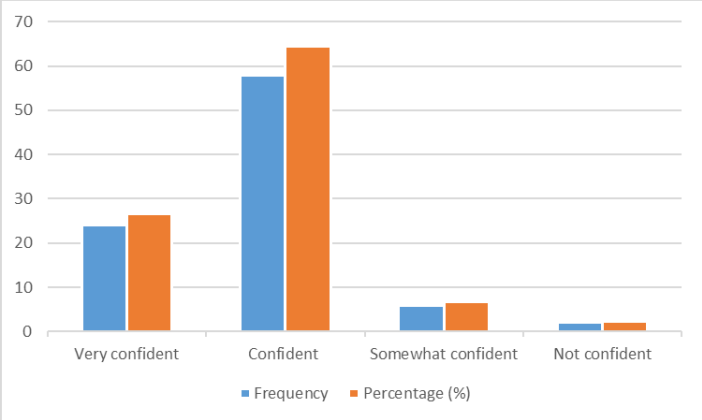

Figure 4.5: Degree of confidence

The data collected indicates that out of 90 respondents, a majority expressed varying degrees of confidence in using digital platforms. Specifically, 26.7% reported being “very confident,” while a substantial 64.4% identified as “confident.” A smaller segment, comprising 6.7%, categorized themselves as “somewhat confident,” and only 2.2% admitted to being “not confident” at all in their digital capabilities. This distribution suggests that the overwhelming majority (91.1%) of students feel at least somewhat confident in their digital literacy skills, which is crucial for academic success in an increasingly technology-driven educational environment.

According to (Hasebrook, J., & Burchard, S.E., 2018), confidence in using digital platforms is closely linked to one’s level of digital literacy; individuals who possess strong skills are more likely to approach technology with assurance and competence. This correlation is evident in the results from St. John’s University, where high levels of confidence were reported alongside presumably adequate levels of digital literacy.

4.4.4 Digital literacy skills help to improve academic performance

Table 4.7: Relationship between digital literacy skills and academic performance

Response	Frequency	Percentage (%)
Strongly agree	43	47.8
Agree	47	52.2
Disagree	0	0
Strongly disagree	0	0
Total	**90**	**100**

Source, Research Findings, (2024)

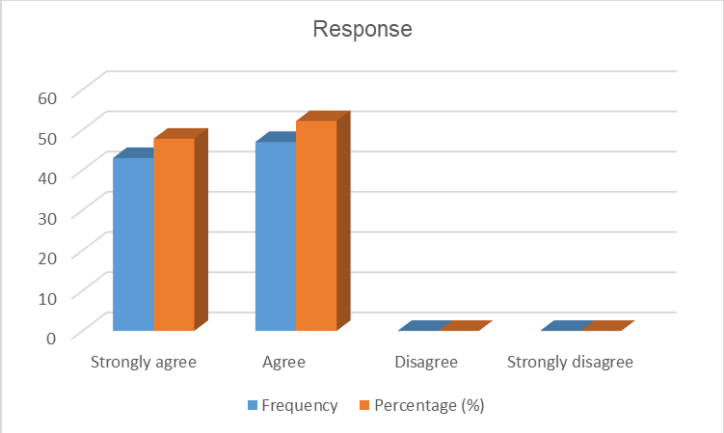

Figure 4.6: Relationship between digital literacy skills and academic performance

Source; research finding, 2024

The results indicated that 47.8% of participants strongly agree that digital literacy skills enhance their academic performance, while an additional 52.2% agree with this assertion. Notably, there were no respondents who disagreed or strongly disagreed with the statement, leading to a total agreement rate of 100%. This overwhelming support suggests that digital literacy is perceived as a crucial component in facilitating academic success among students. The findings highlight the importance of equipping students with digital literacy skills, which encompass the ability to effectively find, evaluate, and use information from various digital sources. Given that all respondents acknowledged the positive correlation between digital literacy and academic performance, it can be inferred that enhancing these skills may lead to improved educational outcomes.

The study by (Hollands, F. & Treadway, A., 2022), revealed that higher levels of digital literacy correlate positively with academic success, as measured by GPA and course completion rates. And it identified key components of digital literacy that contribute to effective learning strategies, including information evaluation skills, online collaboration capabilities, and technological proficiency.

4.4.5 Importance of digital literacy for future career

Table 4.8: Importance of digital literacy

Importance of digital literacy	Frequency	Percentage (%)
Very important	36	40.0
Important	34	37.8
Slightly important	15	16.7

Not important	5	5.6
Total	**90**	**100**

Source; research findings, (2024)

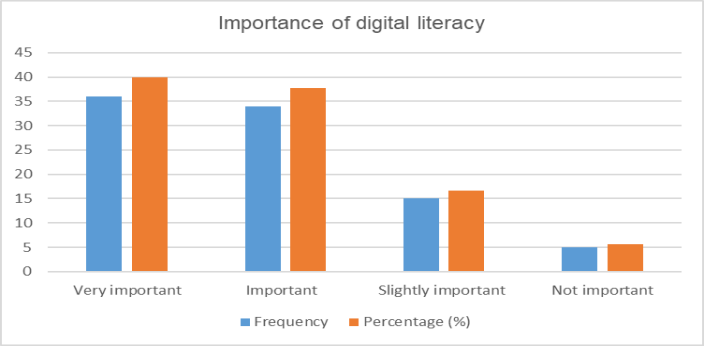

Figure 4.7: Importance of digital literacy

Source; research finding, 2024

The findings revealed that a significant majority of respondents recognize the importance of digital literacy in their professional lives. Specifically, 40% of participants indicated that digital literacy is "very important," while 37.8% rated it as "important." Only 16.7% considered it "slightly important," and a mere 5.6% deemed it "not important." These results suggest that digital literacy is perceived as a crucial skill among university students, which aligns with contemporary workforce demands.

The overwhelming consensus among students underscores the necessity for educational institutions to integrate digital literacy into their curricula actively. As technology continues to evolve and permeate various industries, the ability to navigate digital platforms effectively becomes increasingly vital for career readiness

In discussing the importance of digital literacy for future careers, (Buckingham, 2017) emphasizes that employers are increasingly seeking candidates who can demonstrate proficiency in using technology to solve problems and communicate effectively. The ability to leverage digital tools can enhance productivity and innovation within organizations, making digitally literate individuals more attractive hires.

4.4.6 Credibility of online information sources

Table 4.9: Level of credibility

Level of credibility	Frequency	Percentage (%)
Very effectively	24	26.7

Effectively	46	51.1
Somewhat effectively	20	22.2
Not effectively	0	0
Total	**90**	**100**

Source, Research Finding, (2024)

The data collected indicates that a majority of students possess a favorable view regarding the effectiveness of online information sources, with 51.1% rating them as “effectively” credible and 26.7% categorizing them as “very effectively” credible. Only 22.2% of respondents felt that these sources were “somewhat effectively” credible, while no participants indicated that they found online information sources to be “not effective” at all.

This distribution suggests a strong inclination among students towards recognizing the credibility of digital resources, which is crucial in an era where misinformation can proliferate rapidly through various online platforms. The findings imply that digital literacy plays a pivotal role in shaping students’ perceptions and evaluations of online information, enabling them to discern reliable sources from unreliable ones.

According to Eshet-Alkalai (2004), digital literacy includes not only technical skills but also critical thinking abilities that allow users to assess the credibility and reliability of online content. This multifaceted skill set is essential for university students who are often required to engage with diverse digital resources for their academic work.

4.4.7 Usage of digital tools to enhance critical thinking and problem-solving skills

Table 4.10: Usage of digital tools for problem-solving

Response	**Frequency**	**Percentage (%)**
Always	53	58.9
Often	28	31.1
Sometimes	9	10.0
Rarely	0	0
Total	**90**	**100**

Source; Research Findings, (2024)

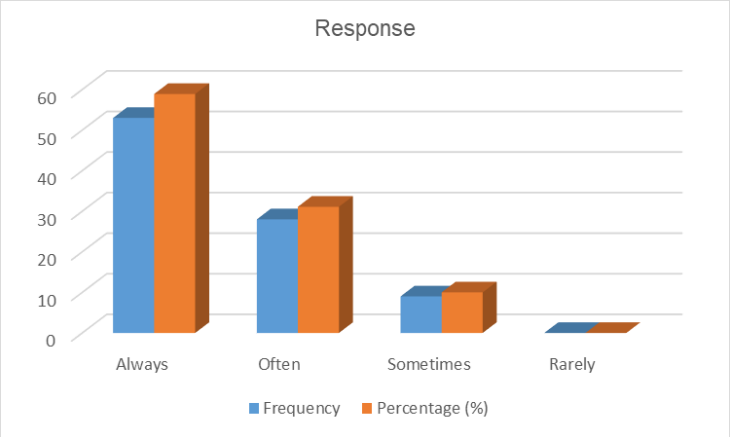

Figure 4.8: Usage of digital tools for problem-solving

Source; research finding, 2024

The data presented indicates a significant trend in the usage of digital tools to enhance critical thinking and problem-solving skills among respondents. Out of a total of 90 participants, the majority 58.9% reported that they “Always” use digital tools for this purpose, while 31.1% indicated they do so “Often.” Only a small fraction 10% stated they use these tools “Sometimes,” and notably, none of the respondents reported using them “Rarely.”

This distribution suggests that digital tools are perceived as integral to fostering critical thinking and problem-solving abilities in educational or professional contexts. The high percentage of respondents who frequently or always utilize these tools implies a strong belief in their effectiveness. This finding aligns with contemporary educational theories that advocate for the integration of technology into learning environments to promote higher order thinking skills.

According to (Facione, 2011) emphasized that critical thinking involves the ability to analyze information objectively and make reasoned judgments. In conjunction with digital literacy, individuals can leverage technology not only to access vast amounts of information but also to evaluate its credibility and relevance critically.

Problem-solving skills are similarly enhanced through the use of digital tools. According to (Jonassen, 2000), technology can provide simulations and modeling environments that allow learners to experiment with different scenarios and solutions in a safe space. This experiential learning approach fosters deeper understanding and application of problem-solving strategies.

4.5 Result findings from interview

Ten students from various disciplines were selected for semi-structured interviews. Each student was asked four questions related to digital literacy, allowing for a range of responses that reflect their personal experiences and perceptions.

The interview revealed a complex relationship between digital literacy and academic performance at St. John University of Tanzania, where most students saw digital skills as enhancing academic success, but also recognized the importance of study habits and specific course requirements. Digital literacy was seen as crucial for employability, with students noting that technological skills are highly valued in the job market, indicating a need for stronger integration of these skills in university curricula. The challenges faced by students with lower digital literacy suggest a need for targeted support to prevent them from falling behind. Additionally, digital literacy is highlighted as key to developing critical thinking skills, allowing students to engage more effectively with information and learning processes.

4.5.1 Correlation Between Digital Literacy Levels and Academic Performance

Diverse opinions regarding the connection between digital literacy and academic achievement were highlighted in the interview responses. The majority of students six out of ten think there is a strong positive association, saying that using digital tools and online resources wisely improves learning and raises grades. On the other hand, two out of ten respondents, who made up a smaller percentage, stated that personal study habits and effort have a greater impact on academic success than digital literacy. Furthermore, according to two out of ten students, the relevance of digital literacy varies depending on the subject, particularly for tech-related courses that call for sophisticated digital abilities.

4.5.2 Impacts of Digital Literacy on Employability and Career Readiness

Eight out of ten agreed that digital literacy is essential for employability and career readiness, as strong digital skills give candidates a competitive advantage in the job market. Some students two out of ten highlighted that lacking digital skills makes them feel less prepared for technology-related jobs or internships, emphasizing the need to not only have these skills but also to effectively demonstrate them in job applications.

4.5.3 Challenges Faced by Students with Lower Digital Literacy

Most students' significant obstacles experienced by people with lesser levels of digital literacy were mentioned in seven out of ten cases. They stated that these students frequently struggle with tasks that call for online submissions or research, as well as

missing out on important educational resources like e-books and online lectures. A couple of students additionally, three out of ten respondents said that during group initiatives that significantly rely on online cooperation, a lack of digital literacy might cause feelings of isolation.

4.5.4 Improving Critical Thinking Through Digital Literacy

Most students eight out of ten agreed that digital literacy plays a key role in enhancing critical thinking among university students. They pointed out that digital literacy enables students to analyze information more critically, differentiate between credible sources and misinformation, and engage with diverse content. A few students two out of ten mentioned that using various digital tools and engaging with interactive platforms help students approach problems from different perspectives, thereby enhancing their critical thinking and analytical skills.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATION

5.1 Conclusion

The study shows the importance of digital literacy in academic success and career readiness for students at St. John's University. Students with strong digital skills are more likely to perform well in an educational environment. The use of smartphones may restrict learning depth compared to more capable devices like laptops.

According to this study, male students responded more than female students. This gap emphasizes the necessity of focused measures to support inclusive digital learning environments. Achieving this requires ensuring gender parity and empowering every student to fully utilize digital capabilities for their career and academic development.

Both academic performance and readiness for the digital economy depend on digital literacy. Both workforce expectations and problem-solving abilities are enhanced. Universities should place a high priority on digital literacy in their curricula to guarantee that all students, regardless of gender or socioeconomic status, acquire these competencies.

5.2 Recommendations

Based on the findings of this study, the following recommendations are proposed:

i. Improve digital literacy: educational institutions, such as St. John's university in Tanzania should create comprehensive digital literacy programs that are specifically designed to meet the needs of students at various stages of their academic progression. These programs should prioritize developing confidence and proficiency in utilizing diverse digital tools and platforms, with a particular emphasis on empowering female students who may encounter socio-cultural obstacles in their technology usage.

ii. Promote equal access to technology: universities should guarantee that all students have equal access to a variety of digital devices, especially laptops and computers, which are crucial for more in-depth academic involvement. Offering amenities like computer labs or lending programs could assist students who heavily depend on smartphones in overcoming the digital divide.

iii. Integrate digital literacy into curricula: digital literacy should be incorporated into all subjects as an essential part of the curriculum. This integration should prioritize

the development of critical thinking, problem-solving, and digital tool proficiency to equip students with the skills necessary for academic achievement and future career success.

iv. Offer targeted assistance to students who have lower digital literacy skills: universities should identify students who require additional support and resources to enhance their digital literacy. This could involve customized training sessions, peer mentoring, and online resources to improve their digital proficiency.

v. Universities should work together with industry partners to develop digital literacy programs that meet the needs of the job market, equipping students with the skills required for the digital workforce. This partnership could include guest lectures, workshops, and internships that offer students practical digital skills and hands-on experiences.

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APPENDICES

QUESTIONNAIRE AND INTERVIEW

Dear respondents

My name is **LILIAN DIDAS MUSHI** a third-year student at St John's university of Tanzania currently pursuing bachelor of science in information technology. I am conducting a study titled "the assessment of the effects of digital literacy on university students in Dodoma region. A case study of St. John's university of Tanzania

I am kindly asking you to take part in this study, because the success of this study depends on your cooperation. The findings of this study will be treated anonymously and were used solely for academic purpose only.

Questionnaire

Part A: Demographic and general information's

- Circle the most correct answer from the given list of answers.

1. **What is your gender?**
    a. Male
    b. Female
2. **What is your age group?**
    a. 18-21 years
    b. 22-25 years
    c. 26-29 years
    d. 30 years and above
3. **What is your year of study?**
    a. First year
    b. Second year
    c. Third year
    d. Fourth year
4. **Which faculty are you enrolled in?**
    a. School of Nursing (SONU)
    b. Faculty of Commerce and Business Studies (FOCB)
    c. Faculty of Humanities and Education (FAHE)
    d. Faculty of Natural and Applied Science (FANAS)
    e. School of Pharmacy (SOPH)
    f. Information and Communication Technology (ICT)

5. **What type of digital devices do you own and use for academic purposes? (Select all that apply)**
    a. Smartphone
    b. Laptop/Computer
    c. Tablet

Part B: Questionnaire main

6. **How often do you use digital tools such as computers, tablets, smartphones for your academic work?**
    a. Always
    b. Often
    c. Sometimes
    d. Rarely
7. **How would you rate your overall digital literacy skills?**
    a. Excellent
    b. Good
    c. Fair
    d. Poor
8. **How confident are you in using digital platforms example online libraries, learning management systems for research?**
    a. Very confident
    b. Confident
    c. Somewhat confident
    d. Not confident
9. **Do you think digital literacy skills help improve your academic performance?**
    a. Strongly agree
    b. Agree
    c. Disagree
    d. Strongly disagree
10. **How often do you use digital tools for group projects and collaboration with classmates?**
    a. Always
    b. Often

c. Sometimes
d. Rarely

11. How important do you think digital literacy is for your future career?

a. Very important
b. Important
c. Slightly important
d. Not important

12. How effectively can you evaluate the credibility of online information sources?

a. Very effectively
b. Effectively
c. Somewhat effectively
d. Not effectively

13. How often do you use digital tools to enhance your critical thinking and problem-solving skills?

a. Always
b. Often
c. Sometimes
d. Rarely

Interview

a. Can you describe how you believe digital literacy influences academic performance?
b. In your opinion, how does digital literacy affect students' employability and readiness for their careers?
c. What kinds of challenges do students with lower levels of digital literacy encounter in their educational experiences? How do these challenges affect their learning and performance?
d. How do you think enhancing digital literacy can contribute to better critical thinking skills among university students?

Thanks you for your time and cooperation