



INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) SKILLS AND THE EMPLOYABILITY OF OFFICE TECHNOLOGY AND MANAGEMENT (OTM) GRADUATING STUDENTS IN PUBLIC POLYTECHNICS IN SOUTH SOUTH, NIGERIA

By

Mbetobong John AKPAN and Dr. U. E. Akpanobong

ABSTRACT

This study was carried out to examine the extent to which Information and Communication Technology (ICT) skills predict employability of Office Technology and Management graduating students in Public Polytechnics in South South, Nigeria. The study was guided by two research questions and two research hypotheses. A correlational research design was adopted for the study. The population of the study consisted of 2,254 Office Technology and Management graduating students. Taro Yamane's formula was used to obtain a sample size of 375 Office Management and Technology graduating students for the study. The sample was obtained using a lrtistage sampling technique. The researcher developed an instrument tagged "Information and Communication Technology Skills and Employability of Students Questionnaire (ICTSESQ)" for collecting data. The instrument was face validated by three experts in Faculty of Education and Faculty of Vocational Education, Library and Information Science respectively, all in University of Uyo, Uyo. Cronbach Alpha Statistics was used to obtain a reliability coefficient of 0.86 for the ICTSESQ. Regression Analysis statistics was used in answering the research questions and in testing the hypotheses at 0.05 level of significance. The findings of the study revealed that internet surfing and video conferencing skills significantly predict the employability of Office Technology and Management graduating students in public Polytechnics in South South, Nigeria. It was recommended that Office Technology and Management curricula should incorporate structured training on effective internet surfing skills, including information search, evaluation and ethical use of online resources. Students should be encouraged to engage in research-based and online collaborative tasks that enhance their ability to use the internet productively for office-related functions. Also, polytechnics should integrate video conferencing tools into teaching and learning processes to familiarize students with virtual communication platforms. Regular use of online meetings, presentations and virtual collaborations will help students develop confidence and professionalism required in modern workplaces.

Introduction

The employability of students is a growing concern in today's fast-changing and competitive job market. As more students graduate each year, the ability to secure relevant employment has become a key indicator of educational success. Employability goes beyond earning a degree, it includes the skills, competencies and attributes that make graduates desirable to employers. Many employers now emphasize soft skills such as communication, teamwork, problem-solving and adaptability over technical knowledge alone. However, many students complete their education without fully developing these essential skills (Kim and Park, 2023). This disconnect has raised questions about the relevance of academic programs in preparing students for the workforce. Rapid technological changes and global economic shifts are also redefining job requirements. As a result, there is increasing pressure on educational institutions to improve their teaching methods and curricula. Internship programs, job placement



services and industry collaborations are being used to bridge the gap. Still, the unemployment and underemployment of graduates remain persistent issues in many regions.

Lee (2020) posited that several factors influence the employability of students, including academic performance, work experience, personal motivation and access to career support services. The field of study also plays a major role, as some disciplines offer more direct employment opportunities than others. Students from disadvantaged backgrounds often face additional barriers such as limited resources and fewer networking opportunities. In response, many universities are developing career development centers and integrating employability training into their academic programs. Despite these efforts, a significant number of graduates still report difficulties in finding suitable employment. Employers frequently cite a lack of real-world experience and job-readiness among new graduates. This has led to calls for stronger partnerships between academic institutions and industries. Hence, there is need to ensure that students are equipped with both academic knowledge and practical skills to enhance future success. Osei (2022) opined that there are so many factors that can influence the employability of students but the most outstanding, is having Information and Communication Technology (ICT) Skills.

Information and Communication Technology (ICT) refers to the use of digital tools, systems, and networks to access, store, transmit, and manage information for communication and various technological purposes (Chen, 2023). It can be viewed as abilities required to effectively use digital tools and technologies for accessing, managing, creating and communicating information. ICT skills are essential in today's digital world, as it enable individuals to perform tasks efficiently in both academic and professional settings (Asuquo and Ukoima (2016). It support problem-solving, collaboration and decision-making in technology-driven environments. With the rise of remote work and online learning, ICT skills have become increasingly important across all sectors. These skills also involve video conferencing, trouble shooting and data processing skill. Developing ICT skills helps individuals adapt to new technologies and remain competitive in the workforce. As technology continues to evolve, continuous learning and digital literacy are vital components of strong ICT competence.

Ali (2020) stated that students ICT skill is seen in the ability to effectively use digital technologies to access, evaluate, create and communicate information. These skills include basic tasks such as using word processors, spreadsheets, and presentation software, as well as navigating the internet and digital communication tools. Students with strong ICT skills can conduct online research, collaborate through digital platforms and complete assignments using various software applications. In today's technology-driven learning environments, these skills are essential for academic success and lifelong learning. ICT skills also help students develop critical thinking, problem-solving and digital literacy. Since education increasingly integrates technology, students must continually adapt to new tools and platforms. Developing ICT skills prepares students not only for academic tasks but also for future careers in a digital world. Yeoh (2023) posited that different ICT skills enhance students' employability, but the most outstanding ones are internet surfing, video conferencing, data processing, document management and trouble shooting skills.

Internet surfing skill is an information and communication technology (ICT) skill that refers to the ability to effectively use the internet to search for, access, evaluate, and apply digital information for academic and professional purposes. It involves knowing how to use search engines, online databases, and digital platforms efficiently (Li, 2020). This skill enables users to identify credible sources and distinguish reliable information from misinformation. Internet surfing skill also includes the ability to navigate websites, use hyperlinks, and manage



multiple online resources simultaneously. It supports academic activities such as research, assignment completion, and data gathering. In the workplace, it enhances productivity by enabling quick access to relevant information and office tools. Amare (2021) asserted that the skill promotes independent learning and continuous professional development. It also improves problem-solving and decision-making by providing timely and accurate information. Ethical and responsible use of online resources is an essential component of internet surfing skill. Another ICT skill that determines employability of students is video conferencing.

Video conferencing is a communication technology that allows people in different locations to hold face-to-face meetings in real time using audio and video transmission over the internet (Silva, 2022). It enables users to see and hear each other through devices such as computers, tablets, or smartphones equipped with cameras and microphones. Video conferencing is widely used in education, business, healthcare and other sectors to facilitate remote communication and collaboration. In educational settings, it allows students and teachers to interact virtually, attend online classes, and participate in group discussions from different geographical areas. This technology reduces the need for physical travel, saving time and costs while maintaining effective communication. Popular platforms for video conferencing include Zoom, Microsoft Teams, Google Meet and Skype. It also supports features such as screen sharing, file sharing and recording for future reference (Obasi, 2021). Video conferencing promotes flexibility and accessibility, especially for distance learning and remote work. It helps students build digital communication skills, which are valuable in today's job market. Data processing is another ICT skill that would enhance individuals employability. Based on the background of the study and the recognized roles of Information and Communication Technology (ICT) skills, such as internet surfing and video conferencing the researcher is motivated to examine the extent which ICT skills predict the employability of Office Technology and Management graduating students in public Polytechnics in South-South Nigeria.

Statement of the Problem

The employability of Office Technology Management students is crucial for enhancing prospects of securing meaningful employment after graduation and achieving sustainable career development. Strong employability supports the development of competencies that make graduates attractive to employers and better prepared for workplace demands. However, the current labour market situation in the nation reveals persistent challenges affecting graduate employability. These challenges are evident in rising unemployment rates and the gap between graduates' skills and labour market requirements. Deficiencies in communication, résumé preparation, and interview performance further limit employment opportunities. In addition, insufficient digital competence reduces graduates' ability to function effectively in modern workplaces. Weak problem-solving abilities also hinder their capacity to adapt to organizational challenges. Limited access to career guidance and professional networking opportunities negatively affects career readiness. Consequently, these combined factors contribute to reduced self-confidence, poor work attitudes, and difficulty in achieving successful employment outcomes.

In an effort to address the problem of joblessness among Office Technology Management students, numerous researchers have conducted studies focusing on economic and school-related factors to identify its causes and propose possible solutions. Despite these efforts, the persistent nature of the problem suggests that previous studies have not produced sufficiently reliable or impactful results. This continuing challenge raises the question of whether joblessness among these students may be influenced by their low level of ICT skills. Considering the growing



importance of ICT skills in enhancing students' employability, the researcher is motivated to further examine this issue. Based on the background of the study, the present research is therefore undertaken to determine the extent to which ICT skills predict the employability of Office Technology and Management graduating students in public polytechnics in South-South Nigeria.

Purpose of the Study

The main purpose of the study is to examine the extent to which ICT skills predict employability of Office Technology and Management graduating students in public Polytechnic in South South, Nigeria. Specifically, the study sought to determine:

1. The extent to which internet surfing skill predicts employability of Office Technology Management graduating students.
2. The extent to which video conferencing skill predicts employability of Office Technology Management graduating students.

Research Questions

The following research questions were raised to guide the study:

1. To what extent does internet surfing skill predicts employability of Office Technology and Management graduating students?
2. To what extent does video conferencing skill predicts employability of Office Technology and Management graduating students?

Research hypotheses

The following research hypotheses were formulated to guide the study

1. Internet surfing skill does not significantly predict employability of Office Technology and Management graduating students.
2. Video conferencing skill does not significantly predict employability of Office Technology and Management graduating students.

Research Method

A correlational research design was adopted in the study. This design was considered appropriate for the study because it is used to examine the relationship between two or more variables without manipulating them. Its primary function is to determine whether an association exists, the direction of the relationship (positive or negative), and the strength of that relationship. This type of research design is also valuable for identifying patterns and trends in data, allowing researchers to make predictions based on observed correlations. This study investigates into the extent to which ICT skills predict employability of Office Technology and Management graduating students (Dependent variable). The area of this study is South South, Nigeria. South South is one of the six geopolitical zones of Nigeria. It designates both a geographic and political region of the country's eastern coast. It comprises six States of Akwa Ibom, Bayelsa, Cross River, Delta, Edo, and Rivers.

The zone stretches along the Atlantic seaboard from the Bight of Benin coast in the west to the Bight of Bonny coast in the East. It is lying between the latitude of 5°25'N and 5°32'N North of the equator and longitudes 7°29' of East of Greenwich Meridian. It encloses much of the Niger Delta, which is instrumental in the environment and economic development of the region. Geographically, the zone is divided with the Central African mangroves in the coastal far south while the major inland ecoregions are from east to west of the Cross Sanaga Bioko coastal forests, Cross Niger transition forests, Niger Delta swamp forests, and Nigerian lowland forests. Although the South South represents only 5% of Nigerian territory, it contributes greatly to the Nigerian economy due to extensive oil and natural gas reserves. With two of the major oil refineries being located there, one in Eleme, a Local government area in Rivers State and the



other being in Warri, Delta state. The zone has a population of about twenty six million people, around twelve percent of the total population of the country. Port Harcourt and Benin City are the most populous cities in the South-South, and the fourth and fifth most populous cities, respectively, in all Nigeria. Port Harcourt and its suburbs, together called Greater Port Harcourt, form the largest metropolitan area in the zone, with about three million people. Other large South-South cities include in descending order by population include Warri, Calabar, Uyo, Ikot Ekpene, Ugep, Sapele, Buguma, Uromi, Ughelli, Ikom, and Asaba.

The major languages of the people in the area are Annang, Boki, Edo, Efik, Ekoi, English, Esan, Etsako, Ibibio, Igbo, Ika, Isoko, Itsekiri, Izon, Kalabari, Obolo, Ogba, Ogoni, Oro, Urhobo, Ukwuani, Yala, Yakö, among others. The major reason for choosing this area for the study is on the basis of workforce detachment of Office Technology Management students in the public Polytechnics in the study area, as the findings of the study will enhance taking appropriate steps to enhance Office Technology Management students employability.

The population of the study comprised all the Office Technology and Management graduating students in public Polytechnics in South South, Nigeria. According to data from statistics unit of National Board for Technical Education (NBTE), there are 2254 Office Technology and students in the 6 State Polytechnics in South South, Nigeria. Taro Yamens' formula was used in obtaining a sample size of 375 respondents for the study (as shown in Appendix IV). Multistage sampling technique was used in obtaining the sample size for the study. According to Uyanga and Etudor-Eyo (2015), a sample proportion of 10% of the population of respondents in any research study is effective enough to represent the population, and the higher the proportion, the more accurate the research findings. At the first stage, sampling will be based on the States in the South South, Nigeria. A proportion of 50% of the six States in South South, Nigeria, will be used for the study and this will give a total of three states. The adoption of 50% of the States at this stage is to ensure geographical and demographic representation while keeping the study manageable.

At the second stage, the researcher randomly selected one public polytechnics from each of the three States of Akwa Ibom, Rivers and Delta for the study. The total number of Office Technology and Management (OTM) students in the three public Polytechnics will sum up to 1037 students (sampling Frame Shown in Appendix III). At the third stage 40% of the OTM students was selected across the public polytechnics in the three States and this summed up to 375 OTM students that was used for the study (Sampling Frame shown in Appendix III). The use of a 40% selection rate at this stage was intended to **maintain representativeness** while reducing the sample size to a manageable level.

The researcher develop instrument that was used in collecting data for the study was tagged "ICT Skills and Employability of Students Questionnaire (ICTSESQ)". The ICTSESQ have two sections, A and B (Shown in Appendix II). The A section of the instrument was used in measuring the sub-independent variables of ICT skills of internet surfing, video conferencing, data processing, document management and trouble shooting skills while the B section of the instrument was used in measuring the dependent variable of employability of Office Technology and Management graduating students. The A section of the instrument consisted of 25 items with five items used in measuring each of the independent sub-variables of ICT skills. Also, the B section of the instrument consisted 15 items that was used in measuring the dependent variable of employability of students, making it a total of 40 items for the ICTSESQ. The ICTSESQ was scored using a four point scale as described below; 4 = Strongly Agree, 3 = Agree, 2 = Disagree, 1 = Strongly Disagree. The instrument was face validated by three experts. The experts included one lecturer of Educational Evaluation and two lecturers of Business



Education in the Faculty of Education and Faculty of Vocational Education, Library and Information Sciences respectively, all in University of Uyo, Uyo. The experts were asked to examine the items in the instrument to see if they align with the requirements for ICT skills and employability of students. The experts were also be provided with the purpose of the study, research questions, and null hypotheses for review. Their feedback lead to necessary adjustments in the final version of the instrument.

An instrument is said to be reliable when it measures what it is designed to measure consistency. To determine the reliability coefficient of the instrument, the “ICT Skills and Employability of Students Questionnaire (ICTSESQ)” was administered to 30 Office Technology Management students in public Polytechnics in South South, Nigeria, who were not part of the sample. After which Cronbach Alpha statistics was used to obtain a reliability coefficient of 0.86 for the ICTSESQ (Shown in Appendix VI). According to Benson (2017), a reliability coefficient above 0.7 is deemed reliable, with higher values indicating greater reliability. The researcher obtained a letter of introduction from the Department of Business Education, Faculty of Vocational Education, Information and Library Sciences, University of Uyo, Uyo, for permission to carry out the study in the selected polytechnics in South South, Nigeria. After which the researcher visited the selected Polytechnics for the study and explained the purpose of the study to the head of personnel that the findings of the study would help in determining the extent to which ICT skills predicts employability of Office Technology and Management graduating students. After the explanation, the researcher with the help of a train research assistant administered the questionnaire to the OTM students. The instrument recorded a 97 % (Percent) returned rate and this gave a total of 364 questionnaire that were properly filled by respondents and retuned for analysis, out of the 375 questionnaire that were administered to the respondents. Regression Analysis was used in answering the research questions and in testing the hypotheses at 0.05 level of significance.

Results

Research Question One

To what extent does internet surfing skill predict employability of Office Technology and Management graduating students?

Summary of extent to which internet surfing skill predicts employability of OTM graduating students.

(n=364)

Variables	R	R ²	% of Prediction
Internet Surfing Skill	.53	.28	28.00
Employability of Graduating Students			

Source: Field data (2025)

Table 1 showed the extent to which internet surfing skill predicts employability of office technology management students in public polytechnics in South-South, Nigeria. The coefficient of correlation (R) of 0.53 showed that internet surfing skill predicts employability of Office Technology Management graduating students to a moderate extent. The coefficient of determination (R²) value of .28 indicates that internet surfing contributes up to 28 percent variation in employability of Office Technology and Management graduating students. This implies that the extent to which internet surfing skill predicts employability of OTM graduating students is moderate.



Research Question Two

To what extent does video conferencing skill predict employability of Office Technology and Management graduating students?

Summary of extent to which video conferencing skill predicts employability of OTM graduating students (n=364)

Variables	R	R ²	% of Prediction
Video Conferencing Skill	.49	.24	24.00
Employability of graduating Students			

Source: Field data (2025)

Table 2 shows the extent to which video conferencing skill predicts employability of OTM graduating students in public polytechnics in South-South, Nigeria. The coefficient of correlation (R) of .49 showed that video conferencing predicts employability of OTM graduating students to a moderate extent. The coefficient of determination (R²) value of 0.24 indicates that video conferencing skill contributes up to 24 percent variation in employability of OTM graduating students. This implies that the extent to which video conferencing skill predicts employability of OTM graduating students is moderate.

Hypotheses Testing

Research Hypothesis One

H₀₁: Internet surfing does not significantly predict employability of Office Technology Management graduating students?

Regression analysis of internet surfing skill as a predictor for employability of OTM graduating students in public polytechnics in South-South, Nigeria

Model	Sum of Square	df	Mean Square	F	p-value	Decision
Regression	3658.70	1	3658.70	140.53	0.00	Significant
Residual	9424.74	362	26.04			
Total	13083.44	363				

Not Significant at .05 alpha level. R = 0.529, R² = 0.280

Source: Field data (2025)

Table 3 shows that the calculated R-value of 0.53 and F-value 140.53 is significant since the p-value of 0.00 is less than 0.05 at 1 and 362 degrees of freedom and at .05 level of significance. Therefore, the null hypothesis which stated that internet surfing skill does not significantly predict employability of OTM graduating students is rejected. Hence, internet surfing skill significantly predict employability of OTM graduating students in public polytechnics in South-South, Nigeria.

Research Hypothesis Two

Video conferencing does not significantly predict employability of Office Technology and Management graduating students.

Regression analysis of video conferencing as a predictor for employability of OTM graduating students in public polytechnics in South-South, Nigeria

Model	Sum of Square	df	Mean square	F	p-value	Decision
Regression	3106.38	1	3106.38	112.71	0.00	Significant
Residual	9977.06	362	27.56			
Total	13083.44	363				



Significant at .05 alpha level, $R = .487$, $R^2 = .237$

Source: Field data (2025)

Table 4 shows that the calculated R-value of .49 and F-value of 112.71 is significant since the p-value of 0.00 is less than .05 at 1 and 362 degrees of freedom and at .05 level of significance. Therefore, the null hypothesis which stated that video conferencing does not significantly predict employability of OTM graduating students is rejected. Hence, video conferencing skill significantly predict employability of OTM graduating students in public polytechnics in South-South, Nigeria.

Findings

The findings of the study revealed the following:

1. The extent to which internet surfing skill predicts employability of OTM graduating students is moderate.
2. The extent to which video conferencing skill predicts employability of OTM graduating students is moderate.

Discussion of Findings

Internet Surfing Skill and Employability of Office Technology and Management Graduating Students.

The findings in Table 4.1 revealed that the extent to which internet surfing skill predicts employability of OTM graduating students is moderate. The findings in Table 4.6 also revealed that internet surfing skill significantly predict employability of OTM graduating students in public polytechnics in South-South, Nigeria. This is possible because modern offices rely heavily on digital information access. Graduates who can efficiently search, evaluate, and retrieve online information complete tasks faster and with greater accuracy. These skills support core office functions such as document preparation, data management, scheduling, and communication. Effective internet use enables graduates to adopt new software, platforms, and cloud-based tools with minimal training. Employers value employees who can independently solve problems by locating credible online resources and best practices. Internet surfing competence also enhances professional communication through email etiquette, virtual collaboration and online research. It improves decision-making by allowing access to up-to-date policies, market trends and organizational information. Graduates with strong online navigation skills demonstrate adaptability in fast-changing, technology-driven work environments. Such competence reduces supervision needs and increases productivity, which positively influences employer preference.

Video Conferencing and Employability of Office Technology and Management Graduating Students

The findings in Table 4.2 showed that the extent to which video conferencing skill predicts employability of OTM graduating students is moderate. The findings from the corresponding hypothesis showed that video conferencing skill significantly predict employability of OTM graduating students in public polytechnics in South-South, Nigeria. This is achievable because modern organizations increasingly operate in virtual and hybrid work environments. Graduates who can confidently use video conferencing tools support effective meetings, interviews and organizational communication. This skill enhances professional interaction with clients, supervisors, and team members across different locations. Competence in video conferencing reflects strong digital literacy, which is a key requirement in contemporary office settings. Employers value graduates who can manage virtual meetings, schedule sessions, share screens, and handle basic technical issues. Video conferencing skills also improve



collaboration, teamwork and productivity in remote work situations. It helps organizations reduce travel costs while maintaining efficient communication. Graduates with these skills demonstrate adaptability to technological changes in office operations. Effective use of video conferencing platforms also supports training, presentations, and administrative coordination. The finding of the study is in agreement with that of Uche (2024) who found that video conferencing significantly predict job readiness of Information Management and Technology students in tertiary institutions in Anambra Central Senatorial District based on students' technical proficiency, adaptability, professional etiquette and privacy awareness.

Conclusion

The study found that internet surfing and video conferencing skills all significantly predict the employability of Office Technology and Management graduating students in public polytechnics in South South, Nigeria. These findings indicate that proficiency in core ICT skills enhances graduates' readiness and competitiveness in the labour market. Moreover, the study demonstrates that ICT competence is a critical determinant of employability among Office Technology and Management graduates in the region.

Recommendations

Based on the findings, it was recommended that:

- i) Greater emphasis should be placed on training students in data processing software and applications relevant to office operations. Lecturers should assign practical tasks that involve data entry, analysis, and reporting to strengthen students' accuracy and efficiency in handling organizational data.
- ii) Instructional activities should focus on digital document creation, storage, retrieval, and security to improve students' document management competence. Institutions should provide access to modern document management systems to enable students gain practical experience in organizing and maintaining office records.
- iii) Office Technology and Management Students should incorporate problem-solving and basic technical trouble shooting training to help students handle common ICT challenges independently. Practical exercises that simulate real office technical issues should be used to enhance students' confidence and adaptability in technology-driven work environments.

References

- Ali, S. (2020). *Enhancing job readiness through ICT literacy*. Karachi: Academic Press.
- Amankwah, P. (2023). *ICT knowledge and student career success*. Accra: Eagle Press.
- Amare, T. (2021). *Digital competence and employment pathways*. Addis Ababa: Knowledge Hub Publishers.



- Asuquo, E. E. and Ukoima, E. F. (2016) Adequacy of office technology facility for skill development of business education students in University, South-South, Nigeria. *Journal of Research and Development in Education*, 6 (1): 112 – 121.
- Benson, Y. K. (2017). *When a research instrument is said to be valid and reliable*. Texas: Kency Inc.
- Chen, M. (2023). The influence of digital literacy on employment opportunities in China.” *Asia Pacific Journal of Education*, 44(1): 22–36.
- Kim, Y. S., and Park, J. H. (2023). The impact of ICT skills on the job performance of Korean college graduates. *Asia Pacific Journal of Education and Development*, 22(1): 45–62.
- Lee, H. (2020). The effect of ICT knowledge on job search efficiency among South Korean graduates.” *Asian Journal of Education and Training*, 6(4): 276–289.
- Li, X. (2020). ICT knowledge and employment outcomes in Chinese higher education.” *Chinese Education and Society*, 53(3): 241–257.
- Obasi, C. (2021). ICT literacy and graduate employment in Nigerian universities. *Nigerian Journal of Educational Technology*, 12(1): 39–52.
- Osei, A. (2022). Digital skills and job readiness of Ghanaian university students. *International Journal of Vocational Education and Training*, 30(1): 45–60.
- Silva, M. (2022). ICT skills and employability in Brazilian universities.” *Brazilian Journal of Education*, 27(4): 365–380.
- Uche, T. L. (2024). Video conferencing skills on job readiness of Information Management and Technology students in tertiary institutions in Anambra Central Senatorial District. *Masters Dissertation*, Nnamdi Azikiwe University, Awka, Anambra State.
- Yeoh, W. W. (2023). To understand how digital literacy affects employability among graduates in the Malaysian job market. *Wire Insights: Journal of Innovation Insights*, 1(4): 55–66.
- Uyanga, R. E. and Etudor-Eyo, E. (2015). *Research Methodology in Education and Social Sciences*. Dorand Publishers, Uyo, 306p.