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INFORMATION AND COMMUNICATION TECHNOLOGY SKILLS AMONG UNDERGRADUATE BUSINESS STUDENTS AT BOTSWANA OPEN UNIVERSITY: A QUANTITATIVE ANALYSIS

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Abstract
This paper presents a comprehensive study conducted at Botswana Open University (BOU), focusing on the ICT skills among learners in business students. The research explores the levels of computer proficiency, the presence of ICT skills, and the perceptions of business subject learners regarding the adoption and utilization of ICT skills for teaching and learning purposes. The study involved a sample size of 223 participants from BOU's five regions, with data collected through quantitative means, specifically survey questionnaires. Descriptive statistics were employed to analyze the data, revealing insights into the participants' abilities to navigate e-learning platforms, their awareness of business learning software and applications, and their familiarity with various MS Office tools. Results indicated that respondents had a moderate ability to use e-learning platforms and were acquainted with essential computer software and internet-related activities. However, the study also identified areas for improvement in utilizing ICT tools for learning business courses. Participants expressed the need for enhanced ICT skills, citing challenges such as poor internet connectivity, unreliable power supply, and slow internet speeds. The findings emphasize the importance of addressing these challenges to improve the overall ICT skills of business course learners at BOU, thereby enhancing their understanding of the subject matter. The paper concludes with recommendations for interventions to overcome the identified obstacles and promote effective integration of ICT tools in teaching and learning practices.

Introduction

Business Education encompasses instruction and training related to business, focusing on developing skills essential for effective functioning in the business realm, as both a producer and consumer of goods and services (Esene, 2012; Okoli, 2010; Bilyaminu, 2011). It constitutes a crucial component of general education, emphasizing the acquisition of skills applicable in office settings and playing a vital role in national development. To ensure optimal teaching and learning experiences in business education courses, the provision of Information and Communication Technology (ICT) tools is imperative (Okoro, 2013), considering that ICT is an indispensable tool in the digital age of the twenty-first century.

Business Education is a multifaceted instructional program comprising office education, designed for vocations in office careers, and general Business Education, which equips individuals

with the competencies and skills necessary for managing personal business affairs and navigating the business world (Ezenwafor, 2012). Those who undergo Business Education training are well-positioned to explore entrepreneurial opportunities, particularly in times of economic challenges and unemployment (Ibeneme & Ikegwuani, 2010).

Business Education, available at universities and colleges of education, focuses primarily on fostering practical and marketable skills and knowledge essential for effective functioning in the professional world (Onojetah, 2012). The scope of business education programs extends beyond learners, encompassing the training of proficient business educators at higher and secondary institutions, playing a crucial role in fostering economic growth (Oluwalola, 2021).

In the contemporary era, Anderson and Glen (2003) emphasized the role of Information and Communication Technology (ICT) in enhancing technological capabilities for accessing, gathering, manipulating, and presenting information. According to James Okoro (2013), ICT involves the processing, storage, and transfer of information, encompassing audio, visual, or numerical data. Igberaharha (2009) expanded the definition to include networks, expert systems, and artificial intelligence, collectively known as electronic commerce or electronic business. Various dimensions of ICT-assisted instruction, such as Radio-assisted instruction (RAI), television-assisted instruction (TAI), computer-assisted instruction (CAI), and internet-assisted instruction (IAI), have become integral components of education (UNESCO, 2014).

Summarizing this perspective, Oluwalola (2020) highlighted ICT as an educational tool that equips learners with digital skills, enabling them to contribute effectively to societal development. The impact of ICT on business studies has been significant in both developed and developing countries, enhancing the performance of teachers and students alike (Akpan, 2014).

In the Western world, the American Vocational Association (AVA, 1980) linked ICT with Business Education, emphasizing its role in providing citizens with knowledge, skills, and vocational aptitude necessary for managing personal businesses and functioning in the economic system. Ibeneme and Ikegwuani (2010) extended this perspective to include the potential for entrepreneurship development, especially in times of economic challenges.

Information and communication technology (ICT) has emerged as a crucial catalyst for innovation and efficiency improvement in various sectors globally, particularly in education. Governments and educational institutions worldwide acknowledge the transformative impact of ICT on teaching and learning processes, as emphasized in their educational policy documents (UNESCO, 2019). Youssef & Dahmani (2008) noted the influence of ICT on higher education, fostering personalized, flexible, and asynchronous learning, thereby shifting the focus from teacher-centered to student-centered approaches.

The integration of ICT implies extending computer use beyond specialized courses to become an integral part of mainstream schooling (Ruthven, Hennessy, & Brindley, 2004). However, challenges in ICT utilization persist, particularly in African countries, where factors like inadequate infrastructure, funding, and manpower shortages hinder its effective implementation in business studies (Okoli, 2010; Onojetah, 2012).

Despite these challenges, business education remains vital for acquiring attitudes, skills, and competencies essential for economic system efficiency (Azih & Igboke, 2017). However, disparities in ICT skills among teachers, as observed in Nigeria and Botswana, pose challenges to effective instruction (Onasanya, 2010; Abdulraham, 2018; Batane, 2013; Mojalane and Diraditsile, 2019).

Nwaiwu (2009) revealed poor performance of Business Education students in ICT courses, indicating a need for improvement. In Botswana, learners struggle with various ICT skills (Diraditsile & Samakabadi, 2018). Harnessing ICT effectively in the classroom, whether physical or virtual, can enhance teaching instructions and promote problem-solving skills among young people (Himat, 2020).

Recognizing the inadequacies in delivering business programs in alignment with technological advancements, there is a growing realization that achieving national technology objectives and ensuring graduates' success in the business world requires substantial investment and commitment to ICT (Brown, 2002). Computers and internet connectivity have proven to enhance teaching and learning through presentations, increased practice opportunities, access to source material via the internet, and improved communication and interaction among faculty, classmates, and students.

There is a widely held belief that Information and Communication Technology (ICT) has the potential to empower both teachers and learners, shifting the dynamics of education from being predominantly teacher-driven to more student-centered (refer to Nasreen, 2013; Paul, 2017). This transformation is expected to enhance learning outcomes by fostering creativity, problem-solving abilities, information reasoning, communication skills, and other higher-order thinking skills (Hamilton-Ekeke & Mbachu, 2015).

This perspective has influenced initiatives like the Botswana Education & Training Sector Strategic Plan (ETSSP 2015-2020), which advocates for the adoption and integration of ICT in the education system. Additionally, Vision 2036 aligns with this goal, emphasizing the integration of ICT to produce globally competitive human capital suited for the ICT era and beyond. Various policy documents, including NDP 11, NHRDS 2009, and Maitlamo 2012, further support the integration of ICT in education.

It is important to highlight the scarcity of research and published literature on the computer and ICT skills levels among Open School learners, particularly in business subjects. Nwaiwu's study in 2009 revealed poor performance in ICT courses among Business Education students, suggesting a lack of competence in ICT skills among graduates. Mogwe and Balotlegi's 2020 investigation on the "Barriers of information communication technology (ICT) adoption in Botswana's primary education" found a deficiency in ICT skills among learners. Consequently, this study aims to address this gap by exploring how these learners navigate learning in open and distance modes, assuming they possess some ICT skills.

The primary objective of the research was to examine the computer and ICT proficiency of learners studying business subjects at BOU's Open School, with a focus on their applicability to teaching and learning. The study explored two key variables: the levels of computer skills and ICT

skills among business subjects' learners in the Open School, as well as the utilization of these skills. Two research questions were formulated:

1. What is the proficiency level of computer skills among business subject learners at BOU's Open School?
2. How do these learners perceive the value of ICT skills in the context of teaching and learning?

Research Methodology

In this study, a descriptive survey design was employed to evaluate computer and ICT skills at Botswana Open University and their implications for business studies. This design facilitated the generalization of findings to a larger group.

The study population consisted of Botswana Open University learners specializing in business subjects from Gaborone, Palapye, Francistown, Kang, and Maun regions. A specific sample size of 223 participants was selected from regional center registers, focusing on students available for the pilot study. A total of 300 students, 60 from each region, were recruited for the pilot through notifications sent via the Botswana Open University (SMS) system. The survey was administered to the 223 students who participated, based on the registers maintained by the respective regions.

Data for the study were collected using a questionnaire, and the instrument underwent content validity checks by two experts in the research office. Additionally, a trial test of the tool was conducted on 50 students at Ikageng Junior School in Gaborone, a government school offering business subjects.

The self-administered survey questionnaire was distributed and collected by the researcher during learners' tutorial sessions, utilizing the drop and pick method. Given the predominantly descriptive nature of the study, involving descriptive statistics, data analysis was performed using SPSS version 23. Respondents were required to choose from five description ranges: 1 = very good; 2 = good; 3 = acceptable; 4 = poor; and 5 = very poor.

Results

Table 1: Descriptive statistics on Level of computer skills of business subject learners

Item Statement	Mean	Standard Deviation	N
Ability to navigation on e-learning platforms in my school (e-Library, portals, website)	2.36	0.986	220
Business education software and application (Excel, spreadsheet, PowerPoint) awareness	2.32	1.020	220
Overall scale	2.51	0.939	220

Table 1 illustrates the responses pertaining to the computer skills of learners, specifically addressing their proficiency levels. Respondents were tasked with answering two related questions. The findings indicate that the participants rated their proficiency in navigating e-

learning platforms within their school (E-Library, portals, website) with a mean score of 2.36, as evidenced by 220 respondents. Additionally, they reported a mean score of 2.32 for their awareness of business education software and applications, with 220 respondents falling into the "good" category (item scores between 1.51 and 2.50). The corresponding standard deviations for these ratings were 0.986 and 1.020, respectively. The overall mean value for computer skills among business subject learners was determined to be 2.51, with a standard deviation of 0.939, placing it in the "not sure" category.

Table 2: Descriptive statistics on Students' perceptions of ICT skills

Statements	Mean	Standard Deviation	N
I understand the basic functions of the computer hardware.	3.51	1,004	210
I use ICT tools to learn my Business Subject(s)	2.82	1,148	213
I enjoy learning by reading from the computer screen	3.42	1,265	212
Poor internet connectivity, power computer conditions as well as slow internet as some of the reasons for poor ICT skills in teaching and learning ICT.	3.05	1,346	211
I have an online friend I have never met physically.	3.13	1,390	210
I am comfortable in browsing the internet (WWW) to collect learning materials in my business subject.	3.49	1,246	213
I am able to use a phone app to search business subject materials for my study.	3.46	1,247	211
I think that it is important for me to improve my use of ICT tools for learning my business subject	4.06	0,963	214
I think that using ICT tools and resources can enhance my learning of business subjects	3.81	1,029	209
I want Botswana Open University to start teaching us online and stop printing study booklets	3.68	1,350	213
Overall scale	3.86	0.696	214

The findings reported in Table 2 indicate that responses falling within the "agree" category (item scores ranging from 3.50 to 4.49 for the statements) amounted to four, while those categorized as "not sure" (item scores between 2.51 and 3.49) totaled six. Among these, the response "I think that it is important for me to improve my use of ICT tools for learning my business subject" obtained the highest mean of 4.06 from 214 responses in the "Agree" category. Following closely, the response "I think that using ICT tools and resources can enhance my learning of business subjects" had a mean of 3.81. "I want Botswana Open University to start teaching us online and stop printing study booklets" garnered a mean of 3.68, while "I understand the basic functions of the computer hardware" had the lowest mean of 3.51 from 210 responses.

The response "I am able to use a phone app to search business subject materials for my study" had a mean of 3.46, and "I am comfortable in browsing the internet (WWW) to collect learning materials in my business subject" had a mean of 3.49. On the other hand, the statement "Poor internet connectivity, power computer conditions, as well as slow internet are some of the reasons for poor ICT skills in teaching and learning ICTs" received the lowest mean of 3.05 as an

indicator of reactions to participants' ICT skills. The overall mean value for the ICT skills scale was determined to be 3.86, with a standard deviation of 0.696, placing it within the “agree” category.

Discussion of the findings

Table 1 illustrates that participants assessed their proficiency in navigating e-learning platforms within their school (E-Library, portals, website) with a mean score of 2.36, as reported by 220 respondents. Similarly, their awareness of business education software and applications received a mean score of 2.32 from 220 respondents. This culminated in an overall mean value of 2.51 for the computer skills of business subject learners, with a standard deviation of 0.939, categorizing it as "not sure" and indicating an average rating of not very good. This aligns with Nwaiwu's (2009) study in Nigeria, which found poor performance in ICT courses among Business Education students.

The study also explored learners' perceptions of their ICT skills, revealing in Table 3 that the response "I think that it is important for me to improve my use of ICT tools for learning my business subject" had the highest mean of 4.06 in the "Agree" category. Following closely was the response "I think that using ICT tools and resources can enhance my learning of business subjects" with a mean of 3.81. Conversely, the response "I understand the basic functions of the computer hardware" had the lowest mean of 3.51. The overall mean value for the ICT skills scale was 3.86, with a standard deviation of 0.696, classifying it as "agree."

These results suggest that learners are utilizing ICT, but the majority express a desire to improve their skills, consistent with Mojalane and Diraditsile's (2019) findings. The study highlights concerns about teachers' ICT skills, potentially affecting the students' proficiency. Abdulraham (2018) and Mojalane and Diraditsile (2019) emphasized the need for adequately trained teachers in ICT for effective learning.

Table 2 reinforces the idea that learners comprehend the basic functions of computer hardware and are comfortable browsing the internet, indicating their access to computers. This aligns with Siddiquah and Salim's (2017) study, which found that students possess skills in Microsoft Word, Microsoft PowerPoint, internet usage, social networking, and other areas.

Additionally, the study identifies poor internet connectivity and electric power conditions as reasons for inadequate ICT skills in teaching and learning. This echoes Oluwalola's (2020) observation of inadequate infrastructure in institutions and incompetent lecturers in ICT-related courses. The potential consequence is a gap between theoretical knowledge and practical application of ICT skills.

Totolo (2014) acknowledged the positive influence of Information Technology in schools but pointed out challenges such as computer anxiety, digital literacy, and difficulty in using computers in educational settings. Overall, these findings emphasize the importance of addressing these challenges to foster effective integration of ICT in education.

Conclusion and Recommendation

The integration of Information and Communication Technology (ICT) in business education holds the potential for significant transformative changes essential for enhancing the teaching and learning of business subjects. Despite substantial governmental efforts, the full implementation of ICT at BOU is yet to be realized. This investigation revealed that a majority of learners already possess computer and internet access, along with some basic ICT skills, indicating a positive trend. It is crucial to recognize that incorporating ICT into business education not only facilitates continuous learning but also cultivates 21st-century skills, enhances student engagement and motivation, and expedites the learning process.

The study also found, in alignment with other scholars, that a significant number of teachers lack confidence in delivering business lessons through various ICT platforms. Additionally, there is a shortage of adequately trained teachers/lecturers who feel fully competent in utilizing ICT in their teaching. Consequently, the study recommends comprehensive training programs for teachers, tutors, and lecturers on integrating computer and ICT tools into pedagogy. BOU's management is urged to ensure the availability of ICT facilities for learner use.

Furthermore, the paper suggests that Open Schooling should incorporate ICT into its learning programs to equip learners with essential skills for future employment opportunities. The management of BOU should establish ICT training centers in all regional campuses for Open Schooling or integrate ICT into the curriculum to empower learners to enhance their computer literacy. The recommendation emphasizes the need for differentiation between occasional technology use to support traditional teaching methods and a more comprehensive integration of ICT to elevate teaching and learning standards.

Open Schooling tutors are encouraged to prepare for communication and teaching through various media, while subject specialists should translate traditional teaching resources into online pedagogy. In the current educational landscape, learners require access to software for diverse media, online teaching and learning, distributed learning, Web 2.0 technologies, open educational resources (OERs), learner management systems, and conferencing through various modes to meet evolving expectations.

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