

Assessment of the availability and utilization of ICT's among Colleges and Universities offering BSHM and BSTM in Ilocos Sur: Basis for the development of property management system

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Abstract

Information and communication technology (ICT) is vital in every aspect of modern civilization. As the educational system becomes more reliant on technology, college students are required to develop their ICT skills. While we recognize that the use of educational technology in higher education teaching and learning activities is still in its infancy, ICT instructional use is vital to the success and development of both faculty and students. This research then focuses on the assessment of the availability and utilization of ICT among colleges and universities offering BSHM and BSTM in Ilocos Sur. The study made use of the descriptive method of research. Fifty-five faculty members were the evaluators. Frequency count, percentage, weighted mean, Independent sample T-test and analysis of variance were the statistical tools used. The result of the study concluded that majority of the respondents are 21- 30 years old, female, master's degree holders, and have 2-5 years length of service; Information and Communication Technology devices used are not adequate; Level of the utilization of ICTs is high; High cost of PMS application is the number one factor affecting the availability and utilization of PMS; and Sex is significantly different to the level of utilization.

Keywords: technology, property management system, tourism and hospitality

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1. Introduction

Over the past two decades, there has been considerable advancement in the use of information and communication technology (ICT) in education around the world. In order to suit their demands, people have always attempted to employ technology, and today, new technologies are created virtually daily. ICT advancements in education are highly valued by educators, the community, the government, and local authorities. Instead of effectively integrating ICT in schools, much of the discussion focuses on improving resources.

Information and Communication Technology (ICT) has reached its pinnacle in the twenty-first century since it now permeates virtually every area of our daily life. Nearly all business processes, techniques, and procedures have undergone considerable change in the past 20 years as a result of the usage of ICT in both industry and government. Education is a very social activity and dependable teachers who engage students personally are traditionally thought to deliver high-quality instruction. Information and Communication Technology should be used in learning environments that are more focused on the needs of the students. The rapid introduction of digital media and information technology has increased, developed, and expanded the importance of ICT in education. Educational institutions face the challenge to integrate Information and Communication Technology in the teaching and learning process. As stated in RA 10533 or the Basic Education Act of 2013: "It shall be the state's policy to promote and support computer literacy starting at the earliest grade level in the country's public school system. Likewise, the state shall encourage the use of Information Technology (IT) and its various components (Computers, telecommunications, etc.) in order to upgrade and modernize the educational system, enhance the quality of education, and achieve equity in the acquisition of skills among all students."

Information and communication technology (ICT) is vital in every aspect of modern civilization. ICTs have the ability to promote patient-centered healthcare at a lower cost, improve the quality of treatment and information sharing, educate health professionals and patients, stimulate a different type of engagement with patients and health providers, and cut travel time.

As the educational system becomes more reliant on technology, college students are required to develop their ICT skills. Furthermore, ICT allows for the adoption of new educational resources and the renewal of learning methods, allowing students to collaborate more actively while also acquiring technological knowledge. Despite the fact that there is no single, universal definition of ICT, the phrase is generally recognized to cover all gadgets, organizing components, programs, and frameworks that when integrated enable persons and companies to be associated in the computerized environment. While we recognize that the use of educational technology in higher education teaching and learning activities is still in its infancy, ICT instructional use is vital to the success and development of both faculty and students.

The use of ICT to improve or support learning and teaching has grown in importance in education. Many authors have maintained for decades that ICT as educational equipment facilitates the tailoring of teaching to each learner. Although it is often considered that ICT may empower teachers and students, promote change, and foster the development of "twentieth-century abilities," research to support these statements is still lacking. (<https://www.infodev.org/innovationandEntrepreneurship>)

In terms of the social, economic, political, and educational development of any nation, information and communication technology (ICT) is a pivot for the existence of a global world and enables the advancement of any country. However, ICT adoption necessitates an environment that promotes open competition and normalcy,

as well as increased access to the Internet and telecommunications infrastructure, ICT literacy, and financial resources.

In developing nations, particularly in Nigeria, the level of accessibility and utilization of ICT facilities is still quite low, particularly in terms of its effective use in teaching and learning within the four walls of the classroom and beyond. The use of ICT in teaching is an essential component of educational administration since its applications increase and facilitate instructors' pedagogical activities (Yusuf, 2005). The impact of ICTs on human activity cannot be overstated; they are critical in solving various problems that humans cannot readily handle, particularly in the field of education. Many institutions and organizations have created policies that encourage the use of modern technologies. In general, the arrival of ICT has transformed the world into a global village, influencing all aspects of education as well as rapid improvement in teaching and learning delivery.

As a result, a number of interconnected elements have been concealed, impeding the proper integration of ICT into the mainstream of education. These may include a low percentage of teachers with ICT skills that correspond to the student population in the area of teaching and learning processes; inaccessibility to ICT infrastructure capable of transporting multimedia messaging; the absence of electric power grids in most parts of the country, even in cases where adequate telecommunication coverage exists; a lack of accessibility to computer equipment and other accessories; and a lack of motivation. Furthermore, insufficient funding of the educational sector from financial allocations may have contributed to the limiting of full execution of ICT policy in Nigeria which in turn affect secondary school education of ICT policy in Nigeria which in turn affect secondary school education.

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According to Opara (2018), the major element influencing the function of school libraries and librarians in connection to student accomplishment is the recent boom of information, particularly with respect to digital resources. According to Kameswari (2011), information and communication technology (ICT) is a communication instrument utilized in the educational knowledge transfer process, particularly at tertiary institutions. More than ever before, ICT has the ability to support and improve education across the curriculum, as well as increase chances for effective communication between instructors and students.

Objectives of the study - This study aimed to assess the availability and utilization of ICT among colleges and universities offering BSHM and BSTM in Ilocos Sur. Specifically, it sought to: (1) determine the socio-demographic profile of the Respondents; (2) identify the currently available ICTs used in the programs; (3) assess the level of utilization of these ICTs; (4) determine the factors that hinder the availability and utilization of PMS; and (5) test the significant difference among the responses when grouped according to profile.

2. Methods

Research Design - The researchers employed the descriptive research method. The researchers utilized an adopted questionnaire and conducted interview to faculty members.

Participants of the Study - A total of 55 faculty members who are teaching tourism and hospitality professional subjects from the colleges and universities offering Bachelor of Science in Hospitality Management and Bachelor of Science in Tourism Management programs; the University of Northern Philippines, Ilocos Sur Polytechnic State College – Santa Maria and Candon Campus, Saint Paul College of Ilocos Sur, Divine Word College of Vigan, Ilocos Sur Community College and Northern Ilocandia College of Science and Technology

served as the respondents of the study.

Instrument - In this study, the researcher utilized an adopted questionnaire and conducted informal interviews with the respondents. A questionnaire refers to a research instrument, in which a series of questions, is typed or printed along with the choice of answers, expected to be marked by the respondents, used for a survey or statistical study. An initial study was conducted to test the validity of the questionnaire. On the other hand, the interview is a data collection process in which the interviewer and respondent have a clear, in-depth discussion. It is done for a specific reason, such as a survey or analysis, and both parties are involved in the one-on-one conversation. Oral-verbal stimuli are introduced, and oral-verbal responses are provided in this process.

The survey instrument consisted of four sections. The first section consists of items intended for the profiling of the respondents – name (optional), age, sex, educational attainment, and length of academic service. The second, third, and fourth sections consist of items that utilize a 4-point Likert-type scale. The questionnaire used was an adaptation of the studies of Agim, et al. (2018) entitled “Level of Availability and Utilization of Information and Communication Technology Facilities by Students: A Case Study of Federal Polytechnic Nekede, Owerri, Imo State Nigeria, and Gelacio, et al. (2019) entitled “Utilization of Information and Communication Technology Resources” which were aptly modified to suit the purpose towards which this study was conducted. The questionnaire underwent a reliability test to ensure the dependability and consistency of the test. This test is indispensable before any survey questionnaire can be used.

Reliability Test Result - Cronbach's alpha (also known as coefficient alpha) is a measure of internal consistency, or how closely a group of items is associated. It is regarded as a scale reliability indicator. The reliability test was employed on a total of 30 respondents considered as faculty of Ilocos Sur Polytechnic State College. It is showed that the Cronbach's Alpha test of the questionnaire indicated an acceptable result. Level of Availability 0.84, Level of Utilization 0.93 and Factors Affecting the Availability and Utilization of PMS 0.85.

Data Collection Procedure - After the approval of the proposed research, the researchers administered the questionnaire to the target respondents. The researchers sent a request letter indicating the intent to conduct the survey. There are some respondents who positively responded to the questionnaire through an online google form. The researchers also visited the colleges and universities in Ilocos Sur to conduct the actual administration of the survey and interview within the given span of time.

Data Analysis - In analyzing the data gathered through the survey instrument, the needed data were tallied, encoded, and interpreted using different statistical tests such as frequency distribution, percentage, weighted mean, Independent sample T-test, and Analysis of Variance. All data were treated using a statistical software known as SPSS 26 to further interpret the results of the study.

Ethical Consideration - Before the distribution of questionnaires, the researchers informed the respondents about the nature of the study and discussed the purpose and objectives of the study. The consent of the respondents was then humbly sought. The researchers assured them of the utmost confidentiality of their identities. Hereafter, respecting the ideas and opinions of the respondents and recoding their advice on the research topic can ensure a prolific study. The researchers also discussed and incorporated intellectual property rights and were able to tap ethical resources to avoid ethical dilemmas.

3. Results and discussions

Table 1 presents the profile of the respondents. Most of the respondents belong to the age bracket 21-30 years old followed by 31-40 years old and the least have an age bracket of 41-50 years old. It can be deduced that these respondents belong to a younger generation. Female respondents (30 or 54.55%) dominated the male respondents (25 or 45.45%). In terms of educational attainment, 31 or 56.36% are college graduates and the rest are masters and doctoral graduates respectively (21 or 38.18%) and (3 or 5.45%). Results mean that most of the respondents do not meet the minimum qualification of a Tertiary education teacher. In addition, there is a need

for the colleges and universities in Ilocos Sur to craft faculty development plan for the continuous professional growth of faculty members. On the length of service, the majority have 2-5 years followed by 1 year and below and the least have 11-15 years. This could imply that they are still new to the service. Moreover, faculty members are currently enrolled to graduate school programs to further meet the minimum requirements for regularization

Table 1

Socio Demographic Profile of the Respondents

Variables		f	%
Age	21- 30 years old	27	49.09
	31-40 years old	20	36.36
	41-50 years old	8	14.55
Total		55	100.00
Sex	Male	25	45.45
	Female	30	54.55
Total		55	100.00
Educational Attainment	Doctorate Graduate	3	5.45
	Masters Graduate	21	38.18
	College Graduate	31	56.36
Total		55	100.00
Length of Service	1 year and below	11	20.00
	2-5 years	30	54.55
	6-10 years	9	16.36
	11-15 years	1	1.82
	16 years and above	4	7.27
Total		55	100.00

Table 2

Level of Availability of ICTs Used in the Programs

ICT Equipment and Tools	Mean	Interpretation
1. Computer Laboratories	2.69	Adequate
2. Internet Facilities	2.56	Adequate
3. E-mail Services	2.49	Adequate
4. Satellite Services	1.58	Not Adequate
5. LCD Projector	2.33	Not Adequate
6. Interactive Board	1.83	Not Adequate
7. Printer	2.57	Adequate
8. Scanner	2.36	Not Adequate
9. Projector Screen	2.53	Adequate
10. Television	2.25	Not Adequate
11. Maintenance Workshop	1.96	Not Adequate
12. Video Conferencing	2.43	Not Adequate
13. E- Learning Applications	2.33	Not Adequate
14. Property Management System Applications	1.98	Not Adequate
Overall	2.30	Not Adequate

Legend: 2.50 - 3 .00 – Adequate; 1.50 – 2.49 - Not Adequate; 1.00 – 1.49 – Not Available

Table 2 shows the level of Availability of ICTs Used in the Programs. The following are said to be adequate computer laboratories, internet facilities, e-mail services, printers, and projector screens. On the other hand, the following are not adequate: Satellite services, LCD projectors, Interactive boards, scanners, television, maintenance workshop, video conferencing, e-learning applications, and property management systems. As a whole, these SUCs do not yet have adequate ICT devices being utilized in their BSHM and BSTM programs. It conforms to the study of Agim that ICT equipment and tools are limited to both basic and tertiary education especially to public institutions.

The inadequacy of equipment or needed instructional materials in any program can lead to poor performance of students. Furthermore, the availability of ICT would not suffice the idea of Eze and Aja (2014) that the introduction of ICT in the classroom setting significantly impacts the achievement of educational

objectives, aims, and goals, as well as improving teaching and learning. If there is one technological advancement that has the potential to increase educational quality, extend learning possibilities, and make education more accessible, it is the development of ICT.

Table 3

Level of Utilization

Variables	Mean	Interpretation
1. Computers are used for laboratory classes.	2.87	High Extent
2. Internet is used in preparing lessons and for student activities.	3.33	High Extent
3. Projectors and televisions are utilized during teaching.	2.74	High Extent
4. Interactive board is used for delivering lessons.	2.29	Low Extent
5. Printers are networked for use in the department.	2.89	High Extent
6. Faculty and students communicate through E-mail.	3.16	High Extent
7. Subject materials are provided online for students.	3.58	Very High Extent
8. Public Address System is used during teaching.	2.41	Low Extent
9. Faculty and students can access the E-Library of the College.	2.19	Low Extent
10. Property Management System is utilized for specialized subjects such as Front Office, Rooms Division, and Housekeeping	2.04	Low Extent
	Overall 2.76	High Extent

Legend: 3.50 – 4.00 – Very High Extent; 2.50 – 3.49 – High Extent; 1.50 – 2.49 – Low Extent; 1.00 – 1.49 – Very Low Extent

Table 3 manifests the Level of Utilization of the different ICTs. Item 7 “Subject materials are provided online for students” is given a “Very High” extent of utilization. On the other hand items, 1, 2, 3, 5 and 6 are given a “High” rating of utilization and the rest of items 4, 8, 9, and 10 have “low” utilization. Results show that the level of utilization of the different ICTs is low because of the inadequacy of these materials. If it is insufficient, then eventually there is low utilization. Thus, the low utilization of ICT affects the idea of Kameswari (2011) that information and communication technology (ICT) is a communication instrument utilized in the educational knowledge transfer process, particularly at tertiary institutions. More than ever before, ICT has the ability to support and improve education across the curriculum, as well as increase chances for effective communication between instructors and students.

Table 4

Factors affecting the Availability and Utilization of PMS

Variables	Mean	Interpretation
1. Lack of funding.	3.47	Agree
2. High cost of PMS application.	3.53	Strongly Agree
3. Lack of faculty and student PMS background.	3.00	Agree
4. Deficiency in support services in PMS development.	3.22	Agree
5. Poor physical infrastructure of the learning environment.	3.09	Agree
	Overall 3.26	Agree

Legend: 3.50 – 4.00 – Strongly Agree; 2.50 – 3.49 – Agree; 1.50 – 2.49 – Disagree; 1.00 – 1.49 – Strongly Disagree

Table 4 illustrates the different factors that hinder the availability and utilization of PMS. As seen in the table, the expensive price of the PMS application is the number one reason affecting the availability and utilization of PMS with a mean rating of 3.53. The second reason is the lack of funding, and the least is the lack of faculty and students’ backgrounds in PMS. Findings indicate that providing a quality education /service entails a high cost. It agrees to the study of Ezeuwa (2017) that utilization of ICT facilities is low. Furthermore, there will be no effective management of education and quality education when ICT facilities are not effectively utilized. It agrees to the study of Adomi (2010) that in a quickly changing world like ours, basic education is necessary for an individual to obtain and utilize information. According to the Economic Commission for Africa, the ability to access and use information is no longer a luxury but a requirement for growth. Unfortunately, many developing nations, particularly in Africa, such as Nigeria, are still behind in terms of ICT application and utilization.

Table 5*Significant Difference among the Responses when Grouped According to Profile*

Variables	Age	Sex	Educational Attainment	Length of Service
A. Availability of Information & Communication Technology	-0.37	0.23	-0.21	-0.35
B. Level of Utilization	-0.33	0.01	-0.17	-0.43
C. Factors that Hinder the Availability & Utilization of PMS	0.23	-0.34	0.16	0.21
Overall	-0.16	-0.03	-0.07	-0.19

Table 5 presents the significant difference among the responses when grouped according to profile. It was observed that there was a significant difference between sex and the level of utilization since the obtained p-values was less than 0.05. This means that the responses vary significantly and based from the test conducted, it was found out that female respondents have higher assessment on the tested variables.

4. Conclusions and Recommendations

Based on the findings, the following are concluded: (1) majority of the respondents are 21- 30 years old, female, master's degree holders, and have 2-5 years length of service; (2) information and Communication Technology devices used are not adequate (3) level of the utilization of ICTs is high (4) high cost of PMS application is the number one factor affecting the availability and utilization of PMS; and (5) sex is significantly different to the level of utilization. The researchers recommend the following based on the findings and conclusions: (1) the administration may consider procuring more ICT materials for quality education; (2) partnership with industries may consider to augment the need of PMS; (3) property Management System should be developed for easier and better instruction of hospitality and tourism laboratory subjects; and (4) further correlational study may be considered.

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