

# An Empirical Study on Knowledge, Access and Utilization of Electronic Resources by University Students in Philippines

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## ABSTRACT

**Objective** – In view of the substantial investment in electronic resources, it is imperative that libraries ensure the maximum utilization of these materials. Three hundred and eighty-two university students from seven colleges of a private sectarian university in Iloilo City, Philippines were surveyed to determine the knowledge, access, and utilization of electronic resources in its University Library. This research looked into the relationship between the personal profile of the respondents and their level of knowledge about electronic resources and the correlation of respondents' knowledge as to the relationship with the extent of utilization of electronic resources in terms of purpose.

**Methods** – This is a descriptive-correlational study that utilized the one-shot survey design. Multi-stage sampling was used to determine the number of respondents of the study. A validated and pilot tested self-made questionnaire was used in collecting data for this study. Frequency count, Percentage, Chi square test, Cramer's V, and Gamma were the statistical tools employed in the study to analyze the data gathered.

**Results** – The result of the study revealed that respondents were moderately knowledgeable about electronic resources. Majority of the respondents have accessed specific online databases occasionally and in various places of access. Electronic resources were utilized by the majority of the respondents for the purpose of research. Further, respondents' access was dependent on their knowledge about electronic resources. Moreover, with regards to their knowledge and access to type of online databases, it shows that respondents' knowledge about electronic resources had a correlation as to the type of online databases accessed and the place of access. The respondents' knowledge also shows a relationship with the extent of utilization of electronic resources in terms of purpose.

**Conclusion** –The study concludes that knowledge about electronic resources is not sufficient to encourage utilization of resources. This study advances that familiarity through firsthand experience is important in order to adopt change, particularly, on innovations that integrates technology.

## INTRODUCTION

University library plays a crucial role by making its Electronic Resources (ERs) and facilities available for students' learning and research activities. The nature of library work and its environment has changed profoundly with the introduction of Ers. More sources, more options for sources, higher patron expectations, and more reliance on new technologies create an ever-changing environment (Buenrostro, 2009).

Library users' interests are also undergoing changes. Technology advancements have made university libraries' use of ERs a global phenomenon. These resources are altering both the nature of librarians' work

and the expectations of library users (Bentil, Liew & Chawner, 2022).

Library users are now more and more used to getting the benefits and user-friendly services thrown open by the computer applications. Advances in computer applications during the past few decades have brought radical changes in the way information is gathered, stored, organized, accessed, retrieved and consumed. The application of computers in information processing has brought several products and services to the scene and online databases and the internet are replacing the print media (Sharma, 2009). ERs have become an integral and substantial component of university library collections worldwide and these are regarded as essential for learning, teaching and research activities (Zhang, Ye & Liu, 2011).

A private sectarian University in Iloilo City, Philippines is committed to its thrust of providing quality services, updated and relevant collections and state-of-the-art facilities. Changes in technology have made a notable difference in the service that the library offer to their patrons. To keep up with the pace of the demands for a globally competitive and technologically advanced education, the library installed an internet work station and Wi-Fi connection. To supplement the print journals of the library, the university administration and library management formally subscribed to Proquest Research Library, Credo General Reference, CABILEisure& Tourism, EBSCO host and Infotrac.

In view of the substantial cost in subscribing to ERs, library makes them easily available to users so they could utilize the materials to make the subscription justifiable.

There are questions that have to be addressed in this context: Do the students know about the availability, accessibility, advantages, and use of ERs? If so, what is their level of knowledge about electronic resources? Have they accessed electronic resources? If so, from what online databases have they accessed electronic resources? Where did they access electronic resources? What is their extent of utilization of electronic resources in terms of purpose?

In order to find answers to these questions, this investigation on the knowledge, access, and utilization of electronic resources was conducted.

### **Theoretical and Conceptual Framework**

The application of electronic information resources has changed the functions of the libraries from manual to digital all over the world. With the emerging technologies, libraries seek to facilitate information retrieval in a systematic and effective way. This study was anchored on the Roger's Diffusion of Innovations theory and Davis' Technology Acceptance Model (TAM).

The Diffusion of Innovations Theory posits that innovation is communicated through certain channels over time among the members of a social system. Given such decision is not authoritative or collective, each member of the social system faces their own innovation-decision by the following mechanisms: knowledge in which a person becomes aware of an innovation and has some idea of how it functions and implementation in which a person puts an innovation into use (Rogers, 1995). With the online technology along with the databases in the social system of the academic endeavors through the library, each potential user would tend to develop their innovation-decision mechanisms in the process.

The Technology Acceptance Model (TAM) of Davis is an information Systems theory that models how users come to accept and use a technology. This model is based on the theory of reasoned action and the theory of planned behavior of Fishbein and Ajzen. According to TAM, usage of an information system is determined by users' intention to use the system, which in turn is determined by users' beliefs about the system. The introduction of a new technology to users shapes their decisions regarding its perceived

usefulness and the timing of its adoption; in which a person believes that using a particular system would enhance their job performance; and perceived ease of access, in which a person believes that using a particular system would be free from effort.

In the context of this study, it was assumed that students who have knowledge about the availability, accessibility, advantages, and use of electronic resources at a library setting will utilize it to the fullest. Students who are knowledgeable about electronic resources are more likely to access the materials. When students perceive electronic resources as beneficial for improving their research performance, they are inclined to use them without exerting additional effort in accessing them.

Ranganathan's (1931) Five Laws of Library Science advocated that the library resources and services are for use and necessary measures should be taken to connect the user with the information sources and services available in the library. Users must have a working knowledge of the electronic resources available in a Private University library and fully utilize it to its maximum benefits.

## LITERATURE REVIEW

### Concepts of Electronic Resources

New technologies, databases, and more innovative systems for accessing information have made the library and information environment more complicated and challenging for librarians and users alike. The abundance of electronic resources available and the inherent difficulty in clearly being able to evaluate these resources also create problems to users.

Sharma (2009) identified e-resources to include electronic version of journals, manuscripts, maps, books, magazines, theses, newspapers, research reports as well as e-mail, data archives and bibliographic databases.

Haridasan (2009) defines ERs as resources in which information is stored electronically and which are accessible through electronic systems and networks. E-resources is a very broad term that includes a variety of different publishing models, including online database, e-journals, e-books, internet resource, print-on-demand (POD), e-mail publishing, wireless publishing, electronic link and web publishing, etc. In this context, the term means "any electronic product that delivers collection of data be it in text, numerical, graphical, or time based, as a commercially available resource". Considering a more complex system that the electronic resources entail, a working knowledge is important.

### Knowledge of Electronic Resources

Knowledge about electronic resources is very important to promote high patronage of users. According to the study of Madhusudhan (2010) on the Use of Electronic Resources among research scholars of Kurukshetra University, possessing skills is essential to effectively utilize e-resources. When research scholars were asked whether they know about the e-resources available in the Jawahar Lal Nehru Library, it was found that all of the respondents claimed that they know about the e-resources available. It was evident that the respondents had the knowledge of e-resources in the Infonet Digital Library Consortium accessible via the University wide area network.

The survey of Nisha (2013) on the Awareness and use of E-journals among IIT Delhi and Delhi University users also found that most of the users were aware of e-journals and they were not only using them for building and updating their knowledge but also for collecting relevant material for their study and research purposes as information can be acquired expeditiously through e-journals. This was confirmed by the result

of the study conducted by Thanuskodi (2011) among education faculty members in Chennai to determine the extent to which users are aware and make use of e-journals. The studies revealed that majority (92.30) percent of the male users were aware about the e-journals whereas only 83.33 percent of female respondents were aware about the availability of e-journals.

### **Access to ERs**

In the digital age, libraries and librarians have embraced the more challenging roles of providing easy and fast access to more complex information resources of the internet. Through the development of digital collections, the library provides remote access to its users. To be more precise, a digital library is created for a designated local or remote user community so that users can easily search, retrieve and use digital information that is relevant to their specific information needs (Chowdhury, 2012).

According to the study of Adegboire (2011) on University Faculty Use of Electronic Resources: A Review of the Recent Literature among the faculty at Fountain University, Osogbo, Nigeria, libraries have transformed into digital and virtual libraries where books, journals, and magazines have changed into e-books, e-journals, and e-magazines. This has increased the global dissemination of information. Electronic resources are now easily accessible even in remote areas. Electronic resources solve storage problems and control the flood of information. Likewise, Matthew & Sheeja (2005) presented that at the University of Washington, use of physical library has declined while use of electronic resources has increased. He found out that remote usage significantly exceeds in-library usage of electronic resources and remote access to full-text materials as well as citation and abstract databases was the most important service offered by the library. It was also confirmed in the study of Okiki (2012) among academic staff members of University of Lagos, Nigeria that the users access to electronic Information Resources were more from their office as compared to the library.

### **Utilization of Electronic Resources**

Zhang's (2011) study on the users of National Science and Technology Library (NSTL) found that electronic resources are used for the purpose of conducting scientific research, teaching, and for self-development. This is corroborated by the study of Madhusudhan (2010) among the research scholars of Kurukshetra University which revealed that 94 percent of the respondents used e-resources for research work (thesis/dissertation/project work), 54 percent for finding relevant information in their area of specialization, and 42 percent for keeping themselves up-to-date in their subject field and getting current information. The percentage of research scholars using such resources for teaching and publishing articles/books was 22 percent. It is interesting to observe that the respondents used the library's e-resources for their research work.

Furthermore, Adegboire's (2011) study concluded that databases and electronic journals are used by academics for both teaching and research, among many other uses. Academics have indicated satisfaction with their use of electronic resources and have committed their interest to the continuous use of e-resources because their use leads to better research and enhances scholarly communication. On the other hand, the study of Nisha (2013) among library users of IIT Delhi and Delhi University found that most of the users were aware of e-journals and they are not only using them for building and updating their knowledge, but also, for collecting relevant material for their study and research purposes as information can be acquired expeditiously through e-journals. The main aim of consulting these journals is for retrieving information regarding research, publishing research papers and manuscripts, assignments, presentations, seminars, and largely to update their own knowledge.

According to the Technology Acceptance Model of Davis (1989) usage of information system is determined by users' intention to use the system, which in turn is determined by users' beliefs about the system. When users are presented with a new technology, it influences their decision about how and when they will use it in their perceived usefulness; in which a person believes that using a particular system would enhance his/her job performance. It is also perceived that using a particular system would be easy. This is supported by the results of the studies by (Diaron, 2009; Letchumanan, 2011; and Sivapragasam & Raya, 2012).

The result of the study by Diaron (2009), showed that current awareness service presented to the clients are crucial considerations to ease of access of materials. She cited that accessibility is concerned with the availability of knowledge to potential users. The phenomenon of current awareness becoming information as an end in itself has further implications for the changing position of libraries and library collections within the university.

## **Aims**

This study was conducted to determine the knowledge, access, and utilization of electronic resources among the students of a Private University in Iloilo City, Philippines.

Specifically it aimed to determine: the respondents' level of knowledge about electronic resources; the respondents' access to electronic resources; the extent of utilization of the electronic resources among the respondents; if there is a significant relationship between the personal profile of the respondents and their level of knowledge about electronic resources; if there is a significant relationship between the personal profile of the respondents and their access to electronic resources; if there is a significant relationship between the personal profile of the respondents and their extent of utilization of the electronic resources; if there is a significant relationship between the respondents' level of knowledge and their access to electronic resources; if there is a significant relationship between the respondents' level of knowledge and their extent of utilization of electronic resources; and if there is a significant relationship between the respondents' access and their extent of utilization of the electronic resources.

## **METHODS**

### **Research Design and Sampling Procedure**

This is a descriptive-correlational study that utilized the one-shot survey design. The target population of this study consisted of 8,273 undergraduate students of the Private University in Iloilo City from six (6) different colleges namely: College of Arts and Sciences, College of Management and Accountancy, College of Education, College of Nursing, College of Pharmacy and Medical Technology, and Conservatory of Music. Based on the target population, the sample size of 382 was determined using the Slovin's sampling formula ( $n = N / (1 + Ne^2)$ ) taken from the book of Vizcarra & Lubina, (2012).

The sample size obtained was proportionately allocated to the different colleges using stratified random sampling by college and cluster sampling in drawing the sampling units. All the sections of every college were listed, each section representing a cluster. The sample clusters were drawn using simple random sampling which was done by drawing of lots. All the students available in every sample cluster (section) were considered respondents.

The study population and needed sample by department are shown in Figure 1.

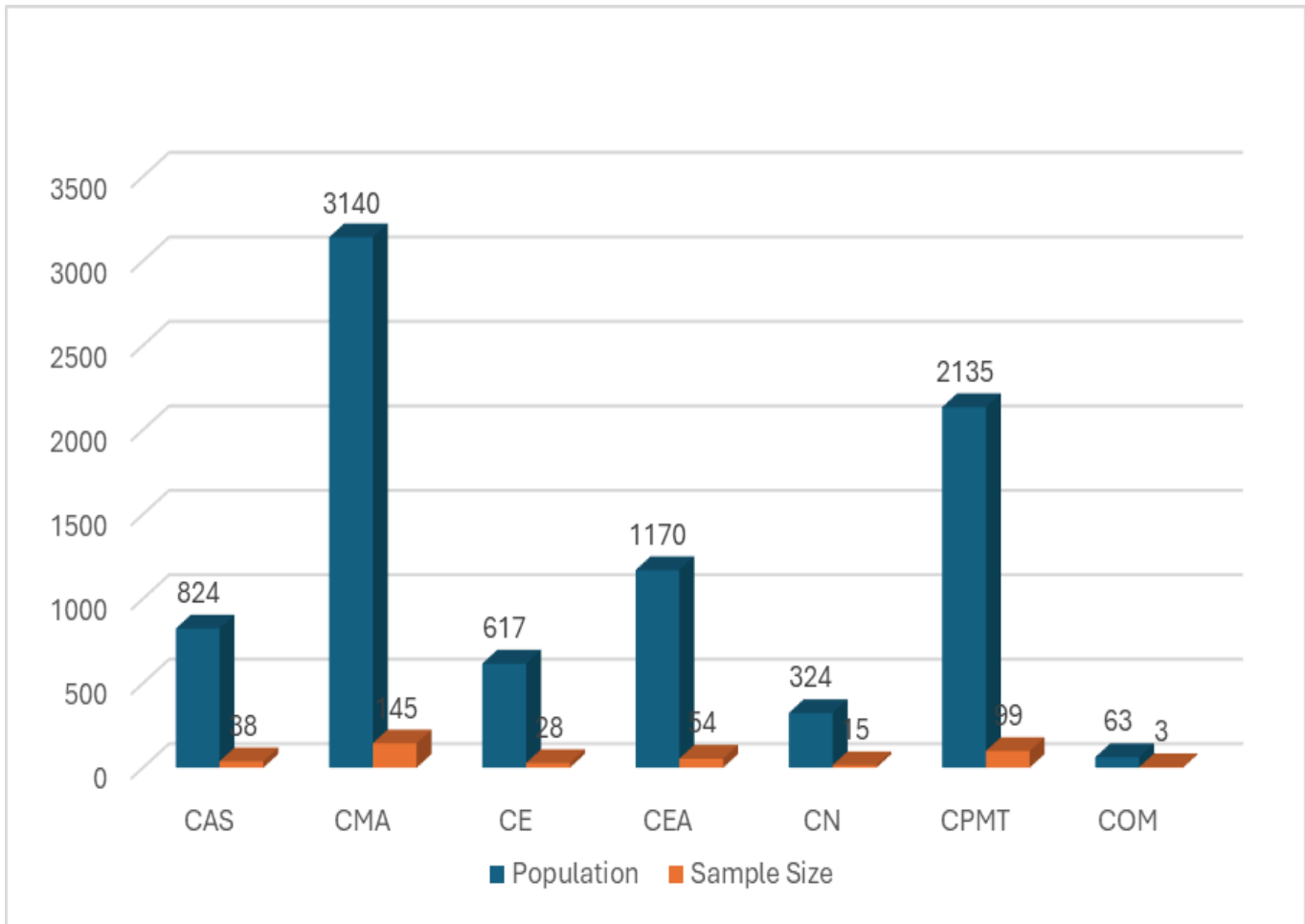


Fig. 1. Study Sample by Department

## INSTRUMENTATION

A self-made questionnaire was used in collecting data for this study. It consists of two parts. The first part dealt with the respondents' identification and personal profile such as their sex, department, and year level, while the second part dealt with the knowledge, access, and extent of utilization of the electronic resources among the respondents.

The instrument was subjected to face validation. It was presented to the jury of experts in the field of librarianship, research, and statistics. Their comments, suggestions, and recommendations were taken into consideration in the revision of the research instrument.

To further ensure the validity and reliability of the instrument, it was pilot-tested using the test-retest method to thirty student assistants from different departments of a Private University in Iloilo City. The completed instruments were retrieved and encoded. Pearson r was used in the pilot-tested questionnaire for reliability testing. The data were processed and analyzed using the Statistical Package for Social Sciences (SPSS). The result showed a reliability coefficient of 0.856 indicating that the questionnaire was reliable.

## RESULTS

### Answers to the Research Questions

#### What is the level of knowledge about electronic resources?

Table 1 shows the distribution of undergraduate students according to their level of knowledge about electronic resources. The findings of the study revealed that more than half of the undergraduate students (57.1 percent) were moderately knowledgeable about electronic resources. Little over one-fourth (26.7 percent) had a high level of knowledge, while less than one-fifth of the respondents had low level of knowledge about the electronic resources' availability, accessibility, advantages, and use.

**Table1. Distribution of Respondents' Level of Knowledge about Electronic Resources**

Level of Knowledge	f	Percent
High Level of Knowledge (11 and above)	102	26.7
Moderate Level of Knowledge (6-10)	218	57.1
Low Level of Knowledge (0-5)	62	16.2
<b>Total</b>	<b>382</b>	<b>100.0</b>

#### Do the students have accessed to the library electronic resources?

Data on Table 2 provides the data on the distribution of respondents on their access to electronic resources. Out of the 382 respondents, more than half (or 65.4 percent) have not accessed the electronic resources from the online databases subscribed to by the library while, only about one-third have accessed.

**Table 2. Distribution of Respondents' Access to Electronic Resources**

Access	f	Percent
Have Accessed	132	34.6
Have not Accessed	250	65.4
<b>Total</b>	<b>382</b>	<b>100.0</b>

#### *Types of Online Databases Accessed*

Table 3 presents the data regarding the type of online databases accessed by the respondents, as well as their places of access.

The results reveal that among the five types of online databases, 88.64 percent had accessed Proquest Research Library. A little more than one-third of the respondents had accessed Infotrac (35.61 percent), Credo General Reference (34.09 percent), and EBSCO host (34.09 percent). About one-fourth of the respondents indicated that they had accessed CABI Leisure and Tourism.

Further, electronic resources can be accessed from any computer at any given time anywhere as long as there is internet connection. As to the place where the respondents accessed electronic resources, the data in Table 6 further reveal that 95.45 percent of the respondents had accessed electronic resources at the library due to the availability of computers and internet connection. This simply indicates that the library is still the most favorable place of access of electronic resources among the students. The high access in the library implies that the library remains to be the first stop of students when it comes to academic/educational

endeavors. More than three-fourths (77.27 percent) of the users had accessed electronic resources from the comforts of their homes. Nowadays, users expect to be able to access the electronic resources to which they are entitled not just in the library premises, but in the comforts of their home or any other location.

**Table 3. Distribution of Respondents by Type of Online Databases Accessed and Place of Access**

Type of Online Databases	f	Percent
1. Proquest Research Library	117	88.64
2. Infotrac	47	35.61
3. Credo General Reference	45	34.09
4. CABI Leisure & Tourism	32	24.25
5. EBSCO host	45	34.09
<b>Place of Access</b>		
1. Library	126	95.45
2. Home	102	77.27
3. Internet Cafe	83	62.88
4. University Internet Station	48	36.36
5. Dormitory	91	68.94
6. Classroom	44	33.33

**What is the respondents' extent of utilization of electronic resources in terms of purpose?**

Table 4 shows the various purposes why students access electronic resources. Exactly one half (50 percent) of the respondents utilized electronic resources for the purpose of research work. A little more than one-third (38.6 percent) made use of these resources for the purpose of writing projects. There were others (32.6 percent) who used it for the purpose of completing school assignments and (31.1 percent) for preparing notes for class report. Only 15.9 percent used it for advance study. The results of the study highlight the diverse ways in which students utilize electronic resources for academic purposes. Notably, research work emerges as the predominant use, with exactly one half of the respondents indicating its importance in their academic endeavors. This underscores the crucial role that electronic resources play in facilitating scholarly inquiry and information gathering. Additionally, the significant proportions of students utilizing these resources for writing projects, completing school assignments, and preparing class notes reflect the integral role of digital materials in supporting various aspects of academic coursework. However, the comparatively lower percentage of students utilizing electronic resources for advanced study suggests a potential area for further exploration and intervention to encourage broader engagement with more specialized academic content.

**Table 4. Distribution of Respondents' Extent of Utilization of Electronic Resources in terms of Purpose**

Purpose of Using Electronic Resources	Never		Seldom		Sometimes		Often		Always		Total	
	f	%	f	%	f	%	f	%	F	%	f	%



1. Research work	1	0.8	8	6.1	20	15.2	37	28.0	66	50.0	132	100
2. Projects	4	3.0	12	9.1	29	22.0	36	27.3	51	38.6	132	100
3. Completion of Assignments	4	3.0	18	13.6	26	19.7	41	31.1	43	32.6	132	100
4. Preparing notes for class report	7	5.3	13	9.8	34	25.8	37	28.0	41	31.1	132	100
5. Search for relevant information	7	5.3	14	10.6	33	25.0	41	31.1	37	28.0	132	100
6. Update Knowledge	10	7.6	21	15.9	39	29.5	37	28.0	25	18.9	132	100
7. Self-development	9	6.8	24	18.2	48	36.4	33	25.0	18	13.6	132	100
8. Advance Study	13	9.8	32	24.2	37	28.0	29	22.0	21	15.9	132	100

### Results on Test of the Hypotheses

#### 1. Relationship between respondents’ personal profile and their level of knowledge about electronic resources

The data in Table 5 show the relationship between the respondents’ personal profile according to sex, department, and year level, and their level of knowledge about electronic resources. The figures revealed that respondents’ sex is not significantly related to their level of knowledge about ERs (0.275,  $p=0.872$ ), while department (0.206,  $p=0.000$ ) and year level (0.246,  $p=0.000$ ) were significantly related to their level knowledge about ERs.

**Table 5. Distribution of Respondents’ Personal Profile and Level of Knowledge about Electronic Resources**

Personal Profile	Level of Knowledge								
	High Level		Average level		Low level		Total		
	f	%	f	%	f	%	f	%	
Sex									
Male	30	28.6	58	55.2	17	16.2	105	100	
Female	72	26.0	160	57.8	45	16.2	277	100	
<b>Chi-square = 0.275</b>								<b>p = 0.872</b>	
Department									
CAS	6	14.6	28	68.3	7	17.1	41	100	
CE	7	25.0	13	46.4	8	28.6	28	100	
CEA	9	16.7	32	59.3	13	24.1	54	100	
CMA	38	26.2	76	52.4	31	21.4	145	100	
CN	4	26.7	11	73.3	0	0	15	100	
CPMLS	38	38.4	58	58.6	3	3.0	99	100	
<b>Cramer’s V = 0.206</b>								<b>p= 0.000*</b>	

Year Level	31	39.2	44	55.7	4	5.1	79	100
First Year	42	22.5	83	54.2	28	18.3	153	100
Second Year	18	18.0	63	63.0	19	19.0	100	100
Third Year	11	22.0	28	56.0	11	22.0	50	100
Fourth-Fifth Year								
<b>Gamma = 0.246</b>		<b>p = 0.000 *</b>						

## 2. Relationship between Respondents’ Personal Profile and their Access to Electronic Resources

Table 6 shows the data on the relationship between the respondents’ personal profile according to sex, department, and year level, and their access to electronic resources. The figures reveal that sex is not significantly related to the respondents’ access to electronic resources. Although, there were slightly more female students (36.5 percent) than male students (29.5 percent) who had accessed electronic resources, the obtained Chi square value for the test of relationship however, did not yield a significant result (1.621, p=0.203). However, the department they were enrolled in and the year level are significantly related to their access to electronic resources (53.621, p=0.000) and (16.325, p=0.001).

**Table 6. Distribution of Respondents’ Personal Profile and their Access to Electronic Resources**

Personal Profile	Access to Electronic Resources					
	Have Accessed		Have not Accessed		Total	
	f	%	f	%	f	%
<b>Sex</b>						
Male	31	29.5	74	70.5	105	100
Female	101	36.5	176	63.5	277	100
<b>Chi-square = 1.621</b>		<b>p = 0.203</b>				
<b>Department</b>						
CAS	10	24.4	31	75.6	41	100
CE	20	71.4	8	28.6	28	100
CEA	13	24.1	41	75.9	54	100
CMA	32	22.1	113	77.9	145	100
CN	13	86.7	2	13.3	15	100
CPMT	44	44.4	55	55.6	99	100
<b>Chi-square = 53.621</b>		<b>p = 0.000 *</b>				

Year Level						
First Year	39	49.4	40	50.6	79	100
Second Year	55	35.9	98	64.1	153	100
Third Year	30	30.0	70	70.0	100	100
Fourth-Fifth Year	8	16.0	42	84.0	50	100
<b>Chi-square = 16.325                      p = 0.001*</b>						

\*Significant at  $\alpha = 0.05$ .

### 3. Relationship between Respondents' Personal Profile and their Extent of Utilization of Electronic Resources in terms of Purpose

The data in Table 7 shows the relationship between the respondents' personal profile according to sex, department, and year level, and their extent of utilization of electronic resources in terms of varied purposes. The results revealed that sex (4.831,  $p=0.089$ ), department (0.237,  $p=0.137$ ), and year level (0.133,  $p=0.220$ ) were not significantly related to their utilization of electronic resources in terms of varied purposes.

**Table 7. Distribution of Respondents' Personal Profile and their Extent of Utilization of Electronic Resources in terms of Purpose**

Personal Profile	Extent of Utilization in terms of Purposes							
	Great Extent		Moderate Extent		Low Extent		Total	
	f	%	f	%	f	%	F	%
<b>Sex</b>								
Male	10	32.3	8	25.8	13	41.9	31	100
Female	36	35.6	42	41.6	23	22.8	101	100
<b>Chi square = 4.831                      p = 0.089</b>								
<b>Department</b>								
CAS	5	50.0	3	30.0	2	20.0	10	100
CE	3	15.0	10	50.0	7	35.0	20	100
CEA	6	46.2	1	7.7	6	46.2	13	100
CMA	8	25.0	14	43.8	10	31.2	32	100
CN	7	53.8	5	38.5	1	7.7	13	100
CPMLS	17	38.6	17	38.6	10	22.7	44	100
<b>Cramer's V = 0.237                      p = 0.137</b>								

<b>Year Level</b>								
First Year	13	33.3	16	41.0	10	25.6	39	100
Second Year	14	25.5	21	38.2	20	36.4	55	100
Third Year	18	60.0	8	26.7	4	13.3	30	100
Fourth – Fifth Year	1	12.5	5	62.5	2	25.0	8	100
		<b>Gamma = 0.133</b>			<b>p = 0.220</b>			

#### 4. Relationship between Respondents’ Level of Knowledge and Access to Electronic Resources

The data in Table 8 show the relationship between respondents’ level of knowledge and access to electronic resources. The results reveal that respondents’ knowledge about electronic resources is significantly related to their access to electronic resources. Majority of the respondents who had high level of knowledge (60.8 percent) about electronic resources were also those who had accessed electronic resources. On the other hand, majority of the respondents (91.9 percent) who had not accessed electronic resources were those who had low level of knowledge about electronic resources. The obtained Chi-square value of 52.434,  $p = 0.000$  for the test of relationship between level of knowledge and access indicates that there is a significant relationship between respondents’ level of knowledge and access to electronic resources. This implies that the respondents ‘ access to electronic resources is dependent on their level of knowledge about electronic resources. Those students with high level of knowledge about electronic resources are more likely to accessed electronic resources than those students with only average and low level of knowledge about electronic resources. The more they were knowledgeable about electronic resources the greater the possibility that they will access electronic resources.

**Table 8. Distribution of Respondents’ Level of Knowledge and Access to Electronic Resources**

Access to Electronic Resources	Level of Knowledge						
	High Level of Knowledge		Average Level of Knowledge		Low Level of Knowledge		
	f	%	f	%	f	%	
Have Accessed	62	60.8	65	29.8	5	8.1	
Have Not Accessed	40	39.2	153	70.2	57	91.9	
<b>Total</b>	<b>102</b>	<b>100</b>	<b>218</b>	<b>100</b>	<b>62</b>	<b>100</b>	
		<b>Chi-square = 52.434</b>			<b>p = 0.000 *</b>		

\* Significant at  $\alpha = 0.05$

#### 5. Relationship between Respondents’ Level of Knowledge and Extent of Utilization of Electronic Resources in terms of Purpose

The data in Table 9 show the relationship between respondents’ level of knowledge about electronic resources and extent of utilization of electronic resources in terms of purpose. More than one third (40.3 percent) of the respondents who had high level of knowledge about electronic resources are those who had great extent of utilization of electronic resources in terms of varied purposes. Those who had low level of knowledge (60.0 percent) are those who had low extent of utilization of electronic resources in terms of

varied purposes. The obtained Gamma value of 0.163,  $p=0.238$  is not significant at 5 percent level. This indicates that respondents' knowledge has no relevance on their utilization of electronic resources in terms of varied purposes.

**Table 9. Distribution of Respondents' Level of Knowledge and Extent of Utilization of Electronic Resources in terms of Varied Purposes**

Extent of Utilization	Level of Knowledge					
	High Level of Knowledge		Average Level of Knowledge		Low Level of Knowledge	
	f	%	f	%	f	%
Great Extent	25	40.3	20	30.8	1	20.0
Moderate Extent	21	33.9	28	43.1	1	20.0
Low Extent	16	25.8	17	26.2	3	60.0
<b>Total</b>	<b>62</b>	<b>100</b>	<b>65</b>	<b>100</b>	<b>5</b>	<b>100</b>
<b>Gamma = 0.163                      p = 0.238</b>						

## DISCUSSION

### Level of Knowledge about Electronic Resources

Findings revealed that more than half of the undergraduate students were moderately knowledgeable about electronic resources. Little over one-fourth had a high level of knowledge, while less than one-fifth of the respondents had low level of knowledge about the electronic resources' availability, accessibility, advantages, and use.

The result of this study is in contrast with the result of the study of Kumar & Kumar (2008) which documented that both faculty members and students were aware of electronic resources. It is, however somehow comparable with the findings of the study of Okiki (2012) among Academic Staff Members of University of Lagos, Nigeria which showed that the level of awareness of the existence of electronic information resources in the library was relatively moderate.

The study of Madhusudhan (2010) revealed that all the research scholars of Kurushetra University knew about the availability of electronic resources. The same was found by Sivapragasam and Raya (2012) among research scholars in India. Respondents' knowledge or the lack of it can be attributed to several factors: 1) the librarians' knowledge and skills to promote the said resources 2) the interest of students to use the library resources and 3) the technological capability of the library to facilitate the use of electronic resources.

### Access to Electronic Resources

With regard to respondents' access to electronic resources, out of 382, only a little over one third had accessed electronic resources from the online databases subscribed by the library. As to access to varied type of online databases, among the five available online databases, Proquest Research Library was the most accessed while the other four online databases namely: Infotrac, Credo General Reference, EBSCO host and CABI Leisure and Tourism were least accessed by the students. As to the place of access, almost 90 percent of the respondents had accessed electronic resources at the library due to the availability of computers and internet connection.

In the study of Ali (2005) among the users of the Indian Institute of Technology (IIT) Library in Delhi,

India, the respondents could not make use of e-resources effectively due to lack of proper IT knowledge. It was further noted in the study that the inability to access was due to slow access speed and difficulties in getting relevant information. However, a different result was revealed in the study of Adegboro (2011), wherein the faculty members at Fountain University, Osogbo, Nigeria claimed that they were able to access and use electronic resources widely and rapidly.

### **Extent of Utilization of Electronic Resources**

Only a little over one third of the respondents had a great extent of utilization of electronic resources, while about a quarter had moderate extent of utilization of electronic resources in terms of varied purposes.

The students utilized electronic resources in support of their information needs and electronic information sources will continue to be necessary component of the academic community. The purpose of using electronic resources differs from one user to another according to Zhang (2011).

The result of this study corroborate the findings of Zhang (2011) among the users of National Science and Technology Library (NSTL) who used electronic resources for the purpose of conducting scientific research, teaching, and for self-development. This also affirms the findings of Madhusudhan (2010) which showed that 94 percent of the research scholars of Kurukshetra University percent used e-resources for research work (thesis/dissertation/project work), 54 percent for finding relevant information in their area of specialization, and 42 percent for keeping themselves up-to-date in their subject field and getting current information.

### **Correlation of Demographic Profile to Level of Knowledge, Access and Extent of Utilization of Electronic Resources**

The study revealed that respondents' sex was not significantly related to their level of knowledge about electronic resources, while the department they enrolled in and year level were significantly related to their level of knowledge about electronic resources. Irrespective of sex, the level of knowledge about electronic resources was average among the respondents. The department the students were enrolled in and their year levels were significantly related to their access to electronic resources, but irrespective of sex, majority of respondents have not accessed electronic resources. Sex, however, has a significant relationship as to access in terms of type of online resources used, while the department (e.g. College of Education, College of Nursing, etc) where the respondents were affiliated and year level showed no correlation. The study further revealed that sex, department, and year level were not significantly related to respondents' place of access to electronic resources. Furthermore, the study revealed that sex, department, and year level were not significantly related to respondents' extent of utilization of electronic resources in terms of purpose.

### **Correlation of Level of Knowledge, Access and Extent of Utilization of Electronic Resources**

A significant relationship exist between respondents' level of knowledge about electronic resources and access to electronic resources, between level of knowledge and access to type of online databases. Similarly, a significant relationship between respondents' place of access and extent of utilization of electronic resources in terms of purpose was confirmed.

However, no significant relationship was found between respondents' level of knowledge and extent of utilization of electronic resources in terms of purpose and between access to type of online databases and extent of utilization of electronic resources in terms of purpose.

## CONCLUSION

Advances in computer applications during the past few decades have brought radical changes in the way information is gathered, stored, organized, accessed, retrieved and consumed. The old and popular image of the library as a place where books are stored is now being changed to a channel where one can make direct access or remote access to electronic resources.

Today, the availability of e-resources in a university library is very common. Libraries can be used to the fullest by way of bringing the contents clearly and specifically to the users. Knowledge about electronic resources is very important for the high patronage of the users. In this study university students were moderately knowledgeable about electronic resources. Most of them are not well-versed in manipulating the online databases subscribed by the library. The fact that majority of the university students did not access the library electronic resources is a clear indication of poor acceptance of the use of technology that leads to poor utilization. Since the majority of the university students had accessed specific online databases occasionally only and in various places of access, it can be deduced that the utilization depends on the need of the user and the use of different venues for access proved that that the library is still the only venue found useful and convenient by the university students.

Furthermore, that electronic resources were utilized by the majority of the university students for the purpose of research is an indication that electronic resources are considered a necessity in research works. While university students' level of knowledge about electronic resources is not dependent on sex, the departmental affiliation and year level were factors which determined their knowledge about electronic resources, at a certain degree; the university students' profile has significant bearing on their knowledge about electronic resources.

The university students' access to electronic resources was dependent on their level of knowledge about electronic resources. The more knowledgeable they were, the greater the possibility that they would access the materials, but the university students' extent of utilization of electronic resources in terms of varied purposes is not dependent on their level of knowledge about electronic resources. Access, thus, do not redound to continuous usage. Moreover, university students' extent of utilization of electronic resources in terms of purpose is not dependent on their access to different types of online databases. Their access to type of online databases did not affect their utilization of electronic resources in terms of purpose. The place of access to electronic resources correlates with their extent of utilization of electronic resources in terms of purpose.

## RECOMMENDATIONS

Based on the findings and conclusions drawn from the study, the following recommendations are presented:

Knowledge about electronic resources is very important to increase the utilization in the library. The library must go beyond cognitive-level training and build on library instructions that enhance the skills of students. Hands-on exercises on the use of databases must be integrated in the library instruction and orientation.

Instructional services for users in the use of library databases with an emphasis on institution's specific system must be made available online. Instructional design for basic to advanced level should be implemented to cater for the diverse needs. Moreover, readers guidance and instruction must focus on specific tools and mechanics and techniques in using the features of electronic resources. A more dynamic move for visibility of the online resources is the key to maximize utilization.

Use of old tools in a new way is an avenue to enhance the knowledge of library users. Use of time-tested traditional library sources such as research assistance and consultancy, reader's advisory services,

information management, information education in physical and virtual platforms can break the barriers of time and space for library users to acquire knowledge on how to use online resources and can make online research experience more meaningful.

Further studies should examine other possible factors that may contribute for the maximum utilization of electronic resources.

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## APPENDIX

### Research Instrument

#### “KNOWLEDGE, ACCESS, AND UTILIZATION OF ELECTRONIC RESOURCES AMONG THE STUDENTS OF A PRIVATE UNIVERSITY IN ILOILO CITY”

##### Questionnaire

**General Direction:** Kindly put a check mark (✓) in the box provided for the item that corresponds to your answer.

##### Part I. Personal Profile

Name of Respondent (Optional) \_\_\_\_\_

Sex: Male

Female

Department:  CAS  
 CE  
 CEA  
 CMA  
 CN  
 CPMLS  
 CM

Year Level:  1<sup>st</sup> Year  
 2<sup>nd</sup> Year  
 3<sup>rd</sup> Year  
 4<sup>th</sup> Year  
 5<sup>th</sup> Year

##### Part II. Level of Knowledge, Access and Extent of Utilization of Electronic Resources

#### A. KNOWLEDGE ABOUT ELECTRONIC RESOURCES

**Direction:** Kindly check “Yes” if you have knowledge to the statement given and “No” if you have no idea on the statement given. Please give one answer per statement.

Items About Electronic Resources	YES	NO
The Library subscribes to the following online databases:		
A.1. Proquest Research Library	•	•
A.2. Credo General Reference	•	•
A.3. CABI Leisure & Tourism	•	•
A.4. EBSCO host	•	•
A.5. Infotrac	•	•
A.6. Electronic resources are library materials that are made available electronically which usually consist of e-books, e-Journals, articles, newspapers, theses, dissertations, databases, etc.	•	•
A.7. Access to electronic resources requires the users to login using their assigned username and password.	•	•
A.8. Electronic resources can be accessed from any computer with internet connection inside and outside the library.	•	•
A.9. Electronic resources are multi-access. A networked facility can provide simultaneous access at multiple points, 24 hours a day/ 7 days a week.	•	•
A.10. It is important to access electronic resources using the search tools and links provided by the library to ensure the correct authentication system.	•	•
A.11. Electronic resources consist of mixed media such as texts, images, video, audio and animation which could not be replaced by print resources.	•	•
A.12. The contents of electronic resources can be shared through e-mail.	•	•
A.13. The contents of electronic resources can be printed.	•	•
A.14. Electronic resources in the form of articles / issues appear online before their printed version are available.	•	•
A.15. Electronic resources can be searched easily through the usual bibliographic data.	•	•

**B. ACCESS TO ELECTRONIC RESOURCES**

B.1.1. Have you accessed to the library electronic resources?	YES	NO
<p>If you answered <b>No</b>, no need to proceed to the next questions.</p> <p>If you answered <b>Yes</b>, please continue to answer questions B.1.2 to C.1.8.</p> <p>B.1.2. How often have you accessed the electronic resources to the following online databases subscribed by the library?</p>	<p><b>5- 3x a week or more</b></p> <p><b>4- once to 2x a week</b></p> <p><b>3- once to 3x a month</b></p> <p><b>2- once to 3x a semester</b></p> <p><b>1- Never</b></p>	

<b>Online Databases</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
B.1.3. Proquest Research Library	•	•	•	•	•
B.1.4. Credo General Reference	•	•	•	•	•
B.1.5. CABI Leisure & Tourism	•	•	•	•	•
B.1.6. EBSCO host	•	•	•	•	•
B.1.7. Infotrac	•	•	•	•	•
<p><b>B.2. How often have you accessed the electronic resources from the online databases mentioned above to the following places?</b></p> <p style="text-align: right;"> <b>5- 3x a week or more</b>  <b>4- once to 2x a week</b>  <b>3- once to 3x a month</b>  <b>2- once to 3x a semester</b>  <b>1- Never</b> </p>					
<b>Place of Accessing Electronic Resources.</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
B.2.1. Library	•	•	•	•	•
B. 2.2. Home	•	•	•	•	•
B.2.3. University Internet Station	•	•	•	•	•
B.2.4. Dormitory	•	•	•	•	•
B.2.5. Internet café (Outside the School)	•	•	•	•	•
B.2.6. Classroom	•	•	•	•	•

**C. UTILIZATION OF ELECTRONIC RESOURCES**

<p><b>C.1. How often did you utilize the electronic resources for the purpose of the following?</b></p>	<b>5- Always</b> <b>4- Often</b> <b>3- Sometimes</b> <b>2- Seldom</b> <b>1- Never</b>					
	<b>Purpose of Utilizing Electronic Resources</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
	<b>C. 1.1. Research work</b>	•	•	•	•	•
	<b>C.1.2.. Preparing notes for class report</b>	•	•	•	•	•
	<b>C.1.3. Self-development</b>	•	•	•	•	•

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C.1.4. Projects	•	•	•	•	•
C.1.5. Completion of Assignments	•	•	•	•	•
C.1.6. Update Knowledge	•	•	•	•	•
C.1.7. Advance Study	•	•	•	•	•
C.1.8. Search for relevant information	•	•	•	•	•

*Thank you for taking time to answer.*