

Student's assessment of Balme Library's use of information technology in providing quick and efficient library services

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An academic library operates primarily in a university, college, or polytechnic to provide content, materials, and resources, both print and electronic, to assist with teaching, research, and recreation of the university community. Users of academic libraries possess different levels of skills and expertise and have varying expectations of information technologies used in their academic discourse. This study sought to identify the level of accessibility and availability of information technologies to users in the Balme Library as well as their skills and abilities in the use of IT. It also sought to determine if a relationship exists between the accessibility of information technology tools and facilities available in the library and learning and research outcomes of users. The positivist approach to enquiry was employed in this study. Questionnaires were used in collecting data from undergraduate and postgraduate users of the Balme library of the University of Ghana. Findings from the study revealed a significant positive relationship between the accessibility and availability of IT resources and learning and research outcomes.

Keywords: Library services, technology, information resources, information technology, learning outcomes, library public user services, library technical user services

1 Introduction

An academic library is the heart of its parent institution with its vision most often tied to the vision of its parent institution. An academic library exists primarily in a university, college, or polytechnic to provide content, materials, and resources, both print and electronic, to support the teaching, research, and recreation of the university community (Nyarko et al. 2016:70). Change is an inevitable concept in academic libraries creating the need for academic library services to keep changing to meet the changing demands of its user community.

Information technology is the driver of this inevitable change in academic libraries (Appiah et al. 2016:32). Information technology has affected the operation and work function of every facet of operation including the provision of academic library services (Makgahlela and Bopape 2015). These technologies include telecommunications and networking, information delivery systems, office systems, expert systems, digitisation, speech recognition devices, hardware, and software, among others.

The ease with which the application of information technologies solves problems and reduces stress in repetitive work (Gangadharaiah 2009) makes it a useful tool in academic library service provision. Library services provided in academic libraries can be categorised into "Library Public User Services" (LPUS) and "Library Technical User Services" (LTUS) (Li 2006:397). Li (2006) explains that LPUS includes circulation services, library instruction, remote/virtual learning assistance, reference services and special/heritage collections services-which are provided directly to users. Library Technical User Services (LTUS) on the other hand are the back-end routine library functions performed by librarians to develop the library's resources to suit the changing demands of users and to allow access and retrieval of these materials by users. These services include collection development and management, classification, acquisitions of materials among others. Leveraging on IT, academic libraries will be able to provide distinguished services to satisfy the information needs of their user community (Li 2006:397).

Another study by Altinay et al. (2016:665) where the views of school managers and teachers on the impact of IT on their work were sampled, revealed that aside the capabilities of collaborations, the use of technology offered enhanced

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transparent management and teamwork when applied in organisations. Although the use of technology makes the work of librarians easy by providing them with easy solutions, collaborations, transparent management, and effective decision-making, users on the other hand find it difficult to understand and navigate the end results and products of these technologies. A lot of library patrons require some assistance to meaningfully use information in electronic formats available in academic libraries. Libraries, therefore, have the task to develop user-friendly information services and resources. This can only be achieved by relying on feedback from experiences and expectations.

This study sought to collect information on the lived experiences and expectations of the systems and information technology-mediated services provided by the Balme Library of the University of Ghana to its undergraduate and post-graduate students. The Balme Library is the main library of the University of Ghana Library System (UGLS) and is equipped with modern infrastructure and highly skilled staff has seen significant transformation since it was established in 1948. Findings from this study would help the management of the library to improve their technology-mediated services to satisfy the diverse and changing information demand of these undergraduate and post-graduate students.

2 Objectives of the study

- To determine the availability and accessibility of information technologies to users in the Balme Library
- To assess the skills and competencies of users in the use of information technologies in the Balme Library and find out their expectations and experiences.

H1: There will be a significant positive relationship between the accessibility of library IT facilities and learning and research among users

3 Problem statement

Academic libraries are to support the task of supporting learning, teaching, and research activities in their institutions. The use of IT tools enables libraries to effectively meet this task to satisfy the needs and demands of their users (Asogwa et al. 2015:1134). The rapid development of IT infrastructure in the field of librarianship demands that more research goes into them to identify the effects and uses of these technologies as opined in studies by “Adanu (2006:102); Amekuedee (2005:445); Badu (2005:27) and Dadzie (2005:293). These studies found that academic libraries in Ghana are progressively using IT facilities to provide services. This study is intended to identify the kinds of IT facilities available, how accessible they are, and the extent to which they are effective as mediated tools in delivering efficient library services. Little research has been done in the past to evaluate the efficacy of IT in library service provision in Ghana and as a result, librarians find it difficult to assess the usefulness of these IT tools to their users and struggle to indicate how well they are meeting the changing needs of the community in which they exist.

4 Review of literature

4.1 Availability and accessibility of IT infrastructure in academic libraries

There have been improvements in the delivery of services in libraries using technological facilities such as computer software, networking and communication tools and the internet (Yang & Li 2016). These rapid improvements have led to the continuous development of information communication tools and systems considering the gradual change in expectations and user needs (Chow and Bucknall 2012:106; Sammeta & Madara 2017). Chow and Bucknall (2012:107) believe that the selection and implementation of IT infrastructure in libraries need to be planned carefully in line with the needs of users in line with the institution’s values.

Most of these emerging technology tools are designed to satisfy specific user needs based on specific conditions or situations. For instance, the provision of virtual tutorials to distance students using learning management software, and the use of assistive technology tools like the braille embosser to generate notes and handouts for visually impaired users (Evans 2012:169) among others. Chow and Bucknall (2012:170); (Yang & Li 2016); Sammeta and Madara (2017) found that most of these advanced technologies are used in libraries in Western and European countries with South Africa leading in Africa. IT infrastructure in libraries can be categorised under hardware and software applications. Several studies have shown that the following hardware and software applications discussed below are available and accessible in most academic libraries across the world.

4.1.1 Library management systems

It has become a widely accepted approach that libraries automate their services to improve functionality. Information technology is the means or process of “operating or controlling a system through automatic means” using “electronic devices to reduce human intervention to a minimum” (Anas, Iqbal & Ahmad 2014:297). A library that uses the computer and other electronic devices to augment its human ability in service provision is generally considered as an automated library.

Ojedokun, Olla and Adigun (2016:33) and Boateng et al. (2014:1061) acknowledge that changes in learning and the demand for quick and efficient services and resources warrant the design and implantation of library management systems. Automated library systems have proven to promote efficiency and accuracy in the indexing and classification of library resources and provide wide and easy access to library resources promoting learning, teaching, and research (Anas, Iqbal, & Ahmad 2014:297; Ojedokun, Olla & Adigun 2016:33; Boateng et al. 2014:1061).

Thompson and Pwadura's (2014:68) indicated that despite the positive assertions made about library automation there are some challenges libraries encounter during and after the implementation process stating insufficient power supply, inadequate skills of library staff, and lack of funding for implementation and maintenance of information technologies (Thompson and Pwadura 2014:68).

4.1.2 Institutional repositories and digitisation

Digitisation and institutional repositories are useful in the conservation and dissemination of information in academic institutions (Agbo 2015:257; Otubelu & Ume 2015:38). They argue that repositories provide free access to millions of users at the same time with speed and accuracy. In the same manner, repositories help libraries to preserve rare and important materials by digitising and storing them in their repositories (Agbo 2015; Otubelu & Ume 2015). Libraries preserve and disseminate materials such as photographs, maps, manuscripts, videos, lectures and speeches, newspapers, and heritage materials among others (Otubelu & Ume 2015:39).

Digitisation projects require huge funding considering the high cost of the equipment and technologies used, this has been the headache of a lot of libraries that aspire to embark on building their institutional repositories. Fabunmi et al. (2006) state that several institutions in advanced countries have implemented their digitisation projects by collaborating and relying on donor funding. In developing countries, most academic libraries also depend on the benevolence of international organisations to fund the implementation of their institutional repositories. The University of Ghana's library (Balme Library) was able to implement the digitisation of its heritage materials through donor support provided by the Royal Tropical Institute of the Netherlands (KIT) (Dadzie & Van der Walt 2015:98).

4.1.3 Assistive technologies

Different users of libraries require different attention and services to support their learning and research processes. Universities admit students with some form of disability or special needs and libraries have the mandate to design and deliver services in equal manner to these users (Afrane 2020:36). Libraries therefore spend a large portion of their budget to acquire assistive technologies to fulfil the information needs of their students with special needs (Sunrich & Green 2006:35; Koulikourdi 2008:389). These assistive technologies allow this category of users to fully utilise library resources to put them on a level ground with their counterparts who do not have those special needs (Majinge & Stilwell 2014; Husain & Nazim 2015; Saleem & Sajjad 2016; Erdem, 2017) and indicate that users with special needs can independently go about their studies and conduct quality research when they are provided with these assistive technologies. Some examples of assistive technologies in academic libraries include

- JAWS
- Kurzweil
- Braille Embosser
- Digital recorders
- Closed Circuit Television
- Handheld Magnifier

4.1.4 Electronic resources/databases

The availability of the internet coupled with its ease of use, has transformed how academics and information seekers collect information relevant to their requirements in recent years (Shuling 2007:85). There is heightened interest in assessing and evaluating the availability and usage of electronic information (Fari & Ocholla 2015; Husain & Nazim 2015; Makgahlela & Bopape 2015) in satisfying the growing demands of users. According to Tlakula and Fombad (2017:878), IT resources in libraries evolved from CD-ROM to electronic formats that can be accessed remotely. Most users are inclined to using e-resources through remote access due to the availability of the internet and the user-friendly nature of these electronic resources (Husaina & Nazim, 2015; Makgahlela & Bopape 2015). Using electronic resources, users are able to assess current and timely information (Akussah et al. 2015:35) which was otherwise not readily available in their print counterpart.

In Ghana, studies by Akussah et al. (2015:36) and Ankrah and Atuase (2018:28) examining the effects of e-resources found that 73% of users were aware of them. This was ascribed to the library staff's proactive creation of awareness through

training, the library guide, and other electronic resources. They do, however, propose that librarians do more to improve access to resources for research and learning.

4.1.5 Social media tools

Another technology that academic libraries have recently used to provide regular services to their customers is the usage of social media technologies. Users spend 22% of their internet time on social networking sites or applications. "Canty (2012:41), Perera (2015:1), Wasike (2013:9), Young and Rossmann (2015:32)" all stated that the dynamic nature of social media resources allows librarians to connect with users easily, allowing them to interact with users, inventors, and vendors for future collaborations. "Blogs, Wikis, Myspace, Facebook, Social marks, Podcasting, Mash-up, YouTube, RSS, Flickr, Tag Cloud, Folksonomy, Twitter," to name a few examples of social media (Wasike 2013:10). According to studies, academic libraries mostly use Facebook and Twitter to promote library resources, facilities, and services (Winn et al. 2017:298; Stvilia & Gibradze 2017:258).

4.2 Skills and competencies for using IT

Requisite knowledge and technical knowhow is needed by librarians to manipulate recent technologies available in academic libraries and to enable users access them freely with ease (Ayoku & Okafor 2015:512; Hamada & Stavridi 2014:103). Academic librarians, according to Hashim and Mokhtar (2012:152), should have expert IT skills, knowledge of content management systems and the skills to evaluate these technologies in providing satisfactory user services. They should also be able to conduct online database searches, "use computer applications, computer hardware, networks (LAN, WAN), internet searching, various electronic formats of materials, digital imaging and multimedia skills" (Missingham 2006:259; Ayoku & Okafor 2015:513).

In Ghanaian and Nigerian academic libraries, studies by Ashcroft and Watts (2005:8), Ayoku and Okafor (2015:515), Owusu and Adjei (2015), Chukwu (2016:23), and Anyim (2018:22) indicated poor levels of IT capabilities among librarians. These studies suggested that librarians should acquire IT skills through formal education, workshops, symposiums, and training seminars to develop the requisite IT skills needed to harness the use IT resources and to provide excellent service to their users in the digital age.

4.3 Information Technology perceptions, expectations, and experiences of library users

Evolving technologies and the desire of academic libraries to meet the needs of their users has brought about several studies to investigate the perceptions of users, their expectations, and experiences. These research findings assist academic libraries to make the best decisions when choosing appropriate facilities to provide technology equipped reading and discussion spaces, satisfy user needs and demands thereby improving library service offerings (Becker et al. 2017: 23; Swapna et al. 2017: 355). A comparable survey done in India by Bhattacharjee et al. (2016:10) among students from various universities in Tripura revealed that the majority of respondents saw the library as an avenue for the implementation of current technologies in information provision and anticipated that the library would adopt the use of social media technologies in their service provision.

In another survey conducted by Nkechi (2015:241) to evaluate library users' impressions of resources and services in ten (10) academic libraries in South-Eastern Nigeria, 60 percent of respondents stated that the libraries in question lacked up-to-date science and technology materials and equipment. According to the study, library employees lacked the necessary skills and knowledge to provide clients with satisfactory services. These library customers anticipated that the libraries would embrace developing technologies, train employees, and/or hire qualified staff to meet their changing demands. Nyantakyi-Baah (2016) conducted a comparative study of two university libraries in Ghana and found that users of the libraries thought the service quality was low, but also had the perception that the staff were courteous and willing to help. The low service quality was attributed to the lack of suitable IT infrastructure.

The study recommended that libraries should be upgraded with current IT infrastructure and services, as users' preference of IT is based on the availability and IT infrastructure in the library (Prakash & Patil 2014:5). Academic library users expect libraries to be equipped with cutting-edge technology and skilled staff to support them in their academic pursuits (Kayaoglu 2018:6).

4.4 Impact of IT on students' learning and research

The impact of IT on student's learning and research cannot be over emphasized. Research shows that there is a good deal of improvement in student's learning processes using IT compared to the traditional mode of learning without IT tools (Appavoo 2020:78). Al-Hariri and Al-Hattami (2016:83) observed a significant positive relationship between students' use of technology and their achievements in health colleges. They concluded that the application of IT to education might

produce significant improvements in learning and academic achievements compared to traditional methods of teaching and learning. Mow et al (2019:1) also found high levels of satisfaction in responses from students when their study sought to find out how IT tools have been helpful to the students in their learning. These studies show that investments in IT by academic institutions will improve their overall productivity and efficiency.

5 Methodology

The study used survey approach to enquiry. The population of students (graduate and under-graduate) were 39, 249 (UG Facts & Figures 2019). Using the proportionate stratified random sampling technique, a sample of 150 respondents comprising of 21 and under-graduate students ($150 \times 14\% = 21$) and 129 post-graduate students ($150 \times 86\% = 129$) was drawn. Thus, 150 respondents were drawn from the population for this study. This was guided by Alreck and Settle's (2003). assertion that a smaller sample size of less than 10% of the population is adequate for generalisation. A questionnaire designed by the researcher with insight from literature was used in collecting data from undergraduate and postgraduate students of the university of Ghana (Beck & Manuel 2008; Creswell 2014). In all 150 questionnaires were administered randomly to students as they visited the Balme library to use facilities such as the Knowledge Commons and the Research Commons. Data collected from 129 completed questionnaires representing an 86% response rate were analysed with SPSS version 25. Descriptive and inferential analysis were used in interpreting the data collected. Correlation analysis was employed in assessing the relationship between accessibility of information technology facilities in the library and learning and research among users. All ethical consideration for conducting empirical studies were adhered to for reliable and valid results from the study.

6 Presentation of findings

6.1 Response rate

One hundred and fifty (150) questionnaires were administered to library patrons, with 129 (86%) of them being returned. Eighty-six percent (86%) of the total questionnaire rate is deemed reasonable for establishing population inferences and generalizations. Categorically, we received 19 (12.6%) responses from postgraduate students and 129 (73.4%) from undergraduate students.

6.2 Demographic information

The demographic information of the study participants revealed that 87 (67%) were males which 42(33%) were females. It was also evident that a majority 11(77.5%) were between 15 and 25 years, 25 (19.4%) were between 26-35 years and 4 (3.1%) were between 36-45 years.

Table 1: Demographic information of respondents

	Frequency	Percent %
Gender	Male	67
	Female	33
	Total	100
Age	15-25 years	77.5
	26-35 years	19.4
	36-45 years	3.1
	Total	100
Level	Undergraduate	85.3
	Post-graduate	14.7
	Total	100

Lastly, the study revealed a majority 110 (85.3%) of the respondents to be undergraduate students while 19 (14.7%) were postgraduate students.

4.3 Availability of information technology infrastructure in the library

The study's first objective was to determine the availability and accessibility of information technologies to users in the Balme Library. Enquiring about the availability of IT infrastructure in the library, respondents were asked to select from a list of options the hardware facilities present in the library. Table 4. 2 revealed that 27 (20.0%) mentioned the availability of "computers, printers, scanners, projectors, photocopiers, video conference facility, telephones, multimedia facilities," 26 (20.2%) indicates that computers, printers, projectors, photocopiers were available and 20 (15.5%) mentioned "computers, printers, photocopiers, book theft security system". Nineteen (14.7%) mentioned "computers, printers, scanners, photocopiers, book theft system, CCTV" while 13 (10.1%) indicated the availability of "computers, printers, scanners, photocopiers, book theft security system."

Table 2: Hardware facilities available in the Library

Hardware facilities available in the Library		
	Frequency	Percent
Computers only	6	4.7
Computers, printers, scanners, projectors, photocopiers, video conference facility, telephones, multimedia facility	27	20.9
Computers, printers, scanners, photocopiers, book theft security system	13	10.1
Computers, printers, scanners, photocopiers, book theft system, CCTV	19	14.7
Computers, printers, photocopiers, book theft security system	20	15.5
Computers, printers, CCTV	4	3.1
Computers, printers, photocopiers, braille embossers	1	0.8
Computers, printers, projectors, photocopiers	26	20.2
Computers, printers	3	2.3
Computers, scanners, photocopiers, CCTV	3	2.3
Computers, scanners, closed circuit television, magnifiers	3	2.3
Computers, magnifiers, braille embossers	4	3.1
Total	129	100.0

Again, 6(4.7%) mentioned computers only, 4 (3.1%) each mentioned "computers, printers, CCTV and computers, magnifiers, braille embossers while 3(2.3%) each mentioned "computers, printers," computers, scanners, photocopiers, CCTV and computers, scanners, closed circuit television, magnifiers. Finally, 1(0.8%) respondent mentioned "computers, printers, photocopiers, braille embossers."

6.4 Available software facilities for use by library users

Enquiring about available software facilities, forty-four (34.1%) of the respondents indicated that the internet, e-databases, library website, IR, off-campus access, e-theses, e-past questions were the available software facilities in the library. Thirty-two (24.8%) mentioned "internet, reference management software, electronic databases, library website, OPAC, electronic past questions," 23(17.8%) mentioned "Internet, reference software, e-databases, library website, IR, off-campus access, e-theses, e-past questions "and 8 (6.2%) each mentioned internet only and internet and library website respectively.

Table 3: Available software facilities

Available software facilities for use by library users		
	Frequency	Percent
Internet	8	6.2
Internet, reference management software, electronic databases, library website, OPAC, electronic past questions	32	24.8
Internet, reference software, e-databases, library website, IR, off-campus access, e-theses, e-past questions	23	17.8
Internet, e-databases, library website, IR, off-campus access, e-theses, e-past questions	44	34.1
Internet, library website	8	6.2
Internet, library website, e-theses, e-past questions	7	5.4
Internet, library website, JAWS	7	5.4
Total	129	100.0

Table 4.2 also revealed that 7 (5.4%) each of the respondents indicated that the internet, library website, e-theses, e-past questions and the internet, library website, JAWS "were the software's available in the library.

6.5 Skills, knowledge, and competencies of library users

Assessing the skills and competencies of the library users, which was the study's second objective, 33 (25.6%) said they were highly skilled, 70 (54.3%) skilled, 23 (17.8%) moderately skilled, and 3 (2.3%) poorly skilled in the using library IT tools as shown in Table 4.3.

Table 4: Level of skills and competencies of users in IT facilities

Level of skills on the use of IT facilities in the library		
	Frequency	Percent
Highly skilled	33	25.6
Skilled	70	54.3
Moderately skilled	23	17.8
Poorly skilled	3	2.3
Total	129	100.0

H1: There will be a significant positive relationship between accessibility of library IT facilities and learning and research among users. A Correlation analysis was carried out to assess whether there will be a significant positive relationship between the accessibility of ICT facilities in the library and learning and research among library users.

Table 5: Relationship among Study Variables

	1	2	3	4	5	6
1 Age	-					
2 Level of Study	.659**	-				
3 Accessibility of IT facilities in the library	.153	.052	-			
4 Use of IT facilities in the library	.016	-.038	.072**	-		
5 Level of skills in the use of IT facilities in the library	.042	.103	.072**	.057**	-	
6 Improvement in learning and research	.217*	.154**	.030**	.122**	.101**	-
7 Promotion of collaboration and teamwork	.013	.003	.207**	.068**	.103**	.233**

The output shown above in Table 4.4, reveals that the correlation between accessibility of IT facilities in the library and improvement in learning and research was ($r = .030$, $p < .01$). indicating that there exists a significant positive relationship between accessibility of ICT facilities in the library and improvement in learning. This means that access to IT facilities in the library helps to improve the learning and research activities of users. Learning and research will however decline when IT facilities are not available in academic libraries. This finding supports H1.

7 Discussion of findings

7.1 Availability of IT infrastructure and accessibility of IT in the library

To determine library users' awareness of the resources available at the Balme Library, we presented a list of available IT infrastructure at the library. The study revealed that the Balme Library has adopted a number of IT facilities to facilitate the delivery of services to users. Several IT tools including the internet, computers, referencing software and more were found to be available and freely accessible to users at the Blame Library as well as other auxiliary equipment like printers, photocopiers, and braille embossers. The existence of one form or another of IT infrastructure was confirmed by all respondents, affirming the availability and accessibility of IT resources at Balme Library. This finding confirms the studies by (Evans, 2012:169); Chow and Bucknall (2012:170); Yang & Li (2016) and Sammeta & Madara (2017) who indicated that the availability of software in academic libraires enable all students especially those with special needs to be independent user of academic libraries for their study, research and learning purposes. Additionally, this finding reveals the state and availability of IT infrastructure in academic libraries as suggested by "Adanu (2006:102); Amekuedee (2005:445); Badu (2005:27) and Dadzie (2005:293)".

7.2 Skills, competencies, experiences, and expectations of library users

Another goal of the research was to determine the degree of abilities and competencies of library users when it came to using technology. According to the study, 54.3 percent of library users said they had decent IT abilities, while 25.6 percent said they had very high IT skills. According to the findings, a small fraction of users lacked relevant IT abilities and required

assistance. It's a good sign that more people are using the library's IT services since they have sound IT skills. Advanced training in IT can be acquired through formal education, workshops, symposiums, and training seminars. This finding contrast with those of Chukwu (2016), who showed that users had a difficult time adapting to ICT resources due to a lack of skills and awareness.

Users of the library had positive experiences with the library's IT services, according to the research confirming a similar study by Nyantakyi-Baah (2016). Users of the library expected improvements in the library's IT infrastructure, according to the survey. This finding also confirms a study by Nkechi (2015:241) which also revealed the desire of library users to see further improvement in library IT infrastructure. Managers of the academic library should have plans to constantly embrace change in consonance with evolving technology and the changing needs and demands of users.

Despite the library's efforts to incorporate modern IT facilities, respondents to the survey complained about a variety of issues, including sluggish internet connectivity, and constant power disruptions among other challenges confirming Thompson and Pwadura's (2014:68) study. As a result, library administration must seek out options to close the gap and provide a fair distribution of IT resources to library users.

7.3 Relationship between variables (H1)

The study predicted that there will be a significant positive relationship between the accessibility of ICT facilities in the library and learning and research among library users and as shown in the analysis of the research data, there exists a significant positive relationship between the two variables (access to IT facilities and learning outcomes. This finding validates Al-Hariri and Al-Hattami's (2016:83) study which observed a significant positive relationship between students' use of technology and their achievements in health colleges. This indicates that when libraries provide adequate IT resources to support learning and research, it improves the learning abilities of users of the library and enables them to produce acceptable learning outcomes such as excellent examination results and empirical research outputs (Appavoo 2020:78). The significant positive relationship between the two variables mentioned above also suggests that there will be a decline in the quality of learning outcomes when library users do not get access to IT resources to support their studies.

8 Conclusion

The study revealed that the Balme library has implemented IT resources to assist its users with their learning and research needs in their academic pursuits. The study further revealed that most of the users of Balme library are skilful in the utilisation of the IT resources for their studies. Users of the library as found in the study expect improvements in the IT facilities provided by the library as they pointed out some challenges, they encounter accessing those resources. The study concludes that the Balme library has provided IT resources that adequately support users in their learning and research processes to achieve positive academic outcomes at the University of Ghana.

9 Recommendations

Based on the findings from the study, it is recommended that to justify the university's continued support and efforts in the implementation of library IT resources, the management of the UGLS should carefully organize their training plans for both library customers and employees to enhance the use of implemented IT tools to increase user rates and enhance the quality of research, teaching and learning in the university.

Again, the skills and competencies of library staff should be improved constantly to enable them to provide satisfactory library services. This training can be accomplished through formal training in information technology, workshops, symposiums, and conferences.

Finally, the management of UGLS should make provision in their budgets for the continued upgrade of IT facilities and the update of library software to maintain international standards of library services provision which will lead to the provision of satisfactory library services to the university community to enable smooth teaching and learning processes.

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