

An Assessment of the Impact of Information and Communication Technology on the User Services Division of the Forde Library of University of the Southern Caribbean

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Abstract

This study seeks to assess the user frequency and impact of ICT on the performance of the User Services Division, with specific insight on the Circulation and Reference and Instruction Units of the Forde Library. The impact of ICT was measured using cluster-based sampling. The analysis revealed a significant lack of awareness and usage of the ICT offerings. Exceptions to low usage and awareness were the OPAC and the library's website. The main factors that impacted the low awareness and usage were limited marketing, no knowledge of ICT offerings, no need for the offerings and complications experienced while using the offerings. Overall, the benefits of the ICT offerings were not recognized by the students surveyed, so lower scores of relevancy, ease of use, and user-friendliness were recorded. Recommendations focused on marketing, training, and interdepartmental collaboration.

Keywords: information and communication technology; user services; technology; Caribbean libraries; academic libraries; user engagement; database usage; library marketing; training

Introduction

The core mission of any library, regardless of its patron categories, is to provide a repository for knowledge and easy retrieval of information by users (Chow & Bucknall, 2011). In the twenty-first century, academic libraries are called to serve their colleges and universities, ensuring that their patrons have timely and

adequate access to resources and services to fulfill their information needs. Ayre (2016) indicates that technology is increasingly becoming a necessity in all libraries, as it has increased the efficiency and performance of all units in the library, particularly in User Services. More specifically, technology improves the operations of User Services in such a way that patrons have a fast, easily accessible, and efficient way of completing a number of processes. Thus, User Services have seen faster processing of patrons' requests, faster communication loops, and an overall closer user interaction than previous generations (Mahwasane, 2019; Porumbeanu, 2009).

In order to experience these benefits, academic libraries have implemented "Information and Communication Technologies" (ICTs), which Christensson (2010) defines as technologies that provide access to information and use the Internet, wireless networks, cell phones, and other communication mediums. Warnken (2004) states that libraries which have not implemented any version of ICT or integrated technology into their user services platforms leave their patrons isolated, and their systems become outdated very quickly. The result is their inability to meet the needs of patrons, which is a foundational service point of all libraries.

In the Forde Library of the University of the Southern Caribbean (USC), this broad goal is accomplished through the cooperative work of various units or divisions in the library, namely, User Services, Technical Services, Serials, and Collection Development. User Services, which encompasses Circulations, Accounts, West Indian, and Reference and Instruction units, can be identified as the face of the library because most of the patron interactions happens within this division.

Background of the Forde Library

The Forde Library is an integral part of the tertiary educational landscape for Seventh-day Adventists in Latin America and the Caribbean. Its parent institution is the University of the Southern Caribbean (USC), located in Trinidad and Tobago, which recently commemorated ninety-four years of education through its Founder's Day activities in August of 2021. USC provides a number of undergraduate, graduate, and online programs in addition to short courses and partnerships with other institutions for doctoral programs across its nine schools: Business & Entrepreneurship, Distance Education, Education & Humanities, Graduate Studies & Research, Science, Technology & Allied Health, Social Sciences, Theology & Religion, The Language Center, and USC Online (USC, 2021).

The existence of the Forde Library can be traced back to April 1928 when several copies of a main textbook by a past president, Elder Fitch, were donated to the Caribbean Training School, now USC. The change in academic status from school to university has also brought changes to the size and functionality of the library. To date, the Forde Library offers a wide cadre of services all geared toward increasing the meaningfulness and learning experience of everyone on campus. The services offered include My Library, Orientation, Instruction, Teaching and Consultation, Technology and Spaces, Reference Queries, Printing and Photocopying, Scanning, and Circulations. The library offers both print and electronic resources and is staffed by a small team of professionals and paraprofessionals (The Forde Library, 2020). Within the past five years, however, there has been a marked increase in digital services and resources and intention to offer more to match the evolving needs of the USC community.

Literature Review

The literature has been very clear about the benefits to be gained by integrating technology with library services to support the learning process. Technology has increased the efficiency and user friendliness of a wide range of services and resources. Premchand-Mohammed (2011) stresses that for Caribbean libraries, in particular UWI, St. Augustine, the need for ICT came from a shift from predominantly print resources to a hybrid collection, offering both print and electronic resources. Through informal interviews, students reported that they wanted the following ICT needs addressed in order to do their research: ease of access; remote access—anywhere, anytime; range of disciplines covered; depth of coverage; searching and navigation issues; and availability of full text (p. 320). These needs required the library to engage in adequate and ongoing training of staff and a reorganization of the library's workflows and competencies. More online training and IT skills were needed not only by the IT specialists, but also by librarians and library assistants who interact with these online platforms and technologies.

In support of tertiary education on a global scale, Ayre (2016) states that most libraries carry some rudimentary form of ICT, whether that may be wi-fi access or email subscriptions to online reference services. It should be noted that a significant extent of traditional roles have been computerized and now exist in the virtual world. Chow and Backnall (2011) outline the emerging technology trends applicable to libraries, which include but are not limited to integrated library systems, new metadata schemas and programs, meta-searching and discovery tools, Web 2.0, ebook readers and e-readers, pay-per-view access, consortia and group purchasing, media, meeting spaces, circulating devices, mobile devices, digitization, cloud computing, virtual worlds, and instructional literacy and technology. Krubu and Osawaru (2011) also itemize the available ICT in the User

Services Divisions at the Benson Idahosa University Library and John Harris Library respectively as “OPAC, reference services, bibliographic services, current awareness services, document delivery, interlibrary loan, audio visual services and customer services” (p.33). Moreover, virtual time through interactive software and increasing availability of material are what twenty-first century end users now require of their library. The current educational landscape is marked by an increase in equity to access quality education and access to ICTs. Therefore, for academic libraries, ensuring consistent access to their ICT facilities will promote the ideology that the library is a necessity and not a luxury (Osuchukwu & Obuezie, 2017).

ICT has been proven to increase the quality of information provided by the libraries in Nigeria, as well as extend the reach of the library by meeting the needs of a diverse audience (Adebayo et al., 2018). Additionally, Boateng and Ameyaw (2019), conducting research at the Presbyterian University College Library (PUCL) in Ghana, found that ICT availability in an academic environment motivates students for success in their learning and research needs. In other words, the integration of ICT in libraries provides faster and better services to the end user. Nevertheless, despite heavy investment in ICT, ICT use in the academic libraries of developing nations, including the Caribbean region, is far below expectations. For academic libraries across the Caribbean, not meeting the patrons’ informational needs will drive patrons to Internet/Cyber cafes and other information centers to get information or assistance that should be and often is readily available to them through the library.

These findings were supported by a study carried out by Deans and Durrant (2016) that found online resources, mainly online databases, at the libraries in five Jamaican community colleges were underused, despite the libraries fighting for the purchase of these databases and materials through consortia arrangements. The limited use was attributed to a lack of awareness of the content available on these databases as well as a perceived lack of usefulness of the information. This landmark study revealed that the majority of students used the library as an additional source for their informational needs. The study also indicated that these students were made aware of the library’s potential to meet their needs by a friend or through orientation.

In addition to the presented advantages and potential of ICT implementation in academic libraries, research has also concluded that ICT has resulted in obstacles for professionals in the User Services Division, namely stress with extended computer hours, ever-changing technologies, and rising expectations (Chu, 2012). The body of literature also acknowledges that merely implementing new technology does not guarantee its immediate adoption, calling for recommendations of a greater training, marketing, and awareness drives across Caribbean campuses to empower students and faculty through the benefits and ease of navigating ICT and research facilities.

Research Questions

This study sought to extend the existing work on ICT use in Caribbean libraries by surveying how USC students view and use the ICT available from the Forde Library to gauge the impact of the ICT. The study was guided by the following research questions:

1. What ICT offerings are the students of the Forde Library aware of in the User Services Division?
2. What is the impact of the Forde Library's ICT on the students' research and learning processes via the Reference and Instruction Unit of the User Services Division?
3. How would students rate the usefulness and ease of use of the ICT offerings of the Forde Library?

Methodology

Study Design

The researchers used a quantitative research approach to carry out the research. A questionnaire, designed by the researchers, was disseminated to the student population of the University, with the objective of gathering data from a sample of the USC student population concerning their awareness of the impact of ICT in the Forde Library.

The official sampling frame was cited at 3,100 students (USC, personal communication, January 28, 2019). The researcher used cluster-based sampling, wherein the student population was divided into clusters or groups according to academic years: freshman, sophomore, junior, and prospective graduate. Select Statistical Services offered an online sampling size calculator, and using this software, the researcher cited the ideal sample size of 340, having a 95% confidence level or 5% margin of error for the students who attend the university. Therefore, the sample size of 340 was selected, divided equally among all four designations, on average equating to 85 students in each grouping. Data was collected over a four-day period with each day focusing on a different academic group or year. The questionnaire had twenty questions wherein, section A covered demographic data, section B dealt with items related to research question 2, and section C tackled content related to research question 3.

To establish the relevance of the findings between the confidence level and the margin of error, a regression analysis was done using the one-way ANOVA (Appendix B), a statistical function that seeks to test a relationship between two variables against an alpha value of .05. If the p value is less than this alpha figure, a relationship is established, and if the p value is higher than the alpha, no statistical relationship between the variables is established.

Of 340 questionnaires, 211 were returned to the researcher for a response rate of approximately 62%. As a result, the margin of error was increased to 6% with the confidence level at 93%. The low response rate can be attributed to issues surrounding COVID-19 protocols instituted by the university during the data collection period.

Scope and Limitation

The scope of this study was limited to a specific geographic location, type of library, and type of university. The study was based in Trinidad and Tobago and focused on an academic library in a privately funded university. The main limitation of this study is the research methodology. The questionnaire used to collect data is unable to provide further or in-depth information on the students' perception of the relevance and impact of the ICT offerings of the Forde Library.

Results & Findings

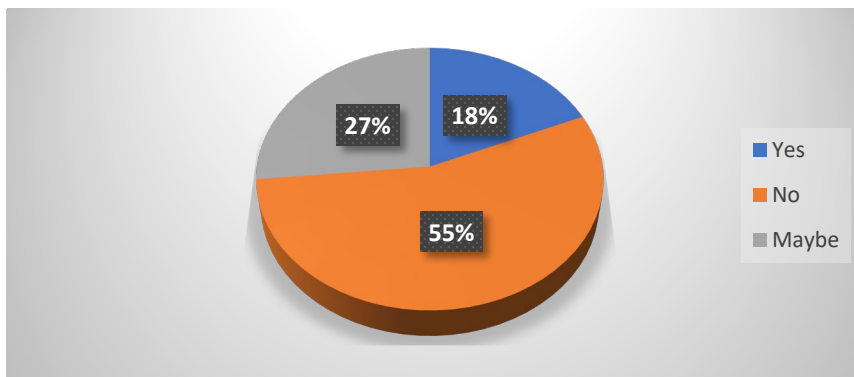
Demographics

The average respondent was a female junior or sophomore between the ages of 16 and 25 years of age, who attended USC full time in the School of Science, Technology & Allied Health.

Students' Awareness of ICT Offerings

Figure 1

Student Awareness of ICT Offerings



Out of the 211 respondents, more than half (55%) were unaware of all the ICT offerings of the Forde Library, while 27% were unsure of their knowledge or had a significant level of uncertainty concerning the listing of ICT offerings (Figure 1). The regression analysis of the data indicated that there were no statistically

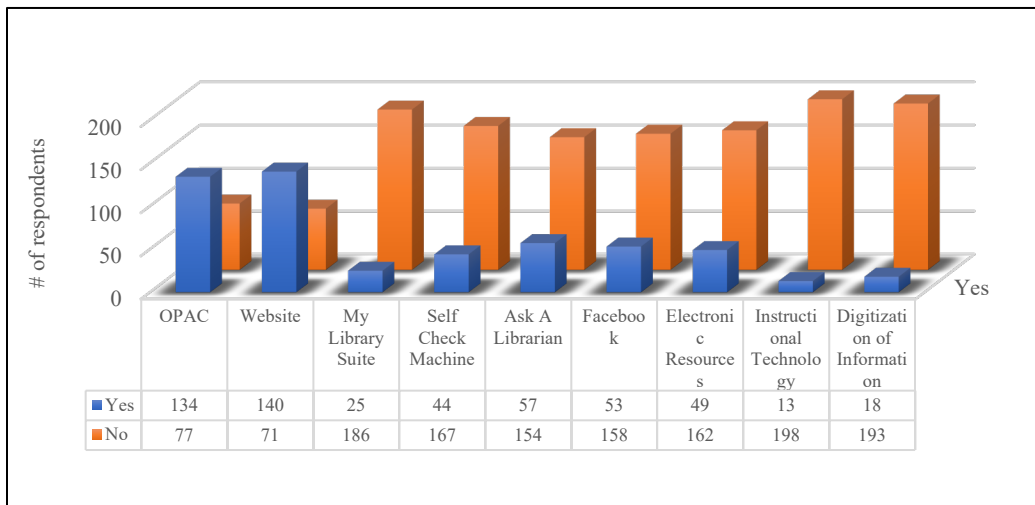
significant relationships found between the level of ICT awareness and the academic level and statuses of students, as the p values were .121 and .266, respectively (see Appendix B). However, a statistically significant relationship was found between the level of ICT awareness and the academic schools of students ($p = 0.037$).

The overall level of awareness seemed to indicate that not enough was done by the library to bring awareness to students about the ICT resources in the library. Therefore, it can be concluded that targeted marketing and awareness drives are needed versus a general marketing plan, wherein academic schools are targeted instead of traditionally targeting the academic level or statuses of students.

Figure 2 further revealed that out of nine ICT offerings, patrons were strongly aware of only two, namely the OPAC and the library’s website. For the rest of offerings, more than half of the respondents were unaware.

Figure 2

Awareness of ICT - Applied Services

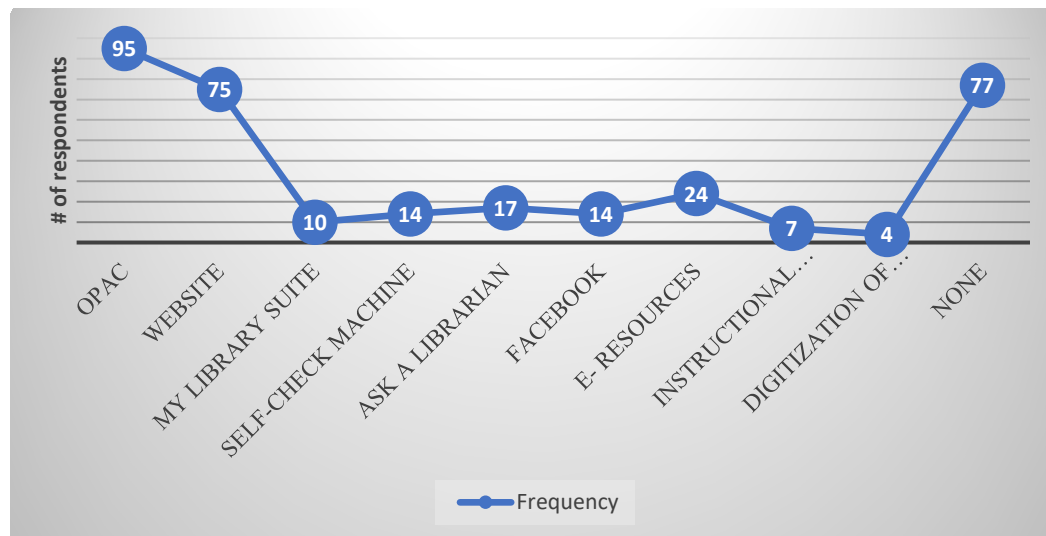


Using the representative power of this sample in relation to the population, the data indicates that the main challenge is spreading awareness across campus and to the stakeholders about the listing of ICTs and the positives that can be gained through their use. It appeared that the OPAC and website were easily identified through marketing and used to locate physical materials in the library. The other ICTs seem to depend on the students’ pro-activeness and engagement with the library to assist them in their research and educational needs. Furthermore, instructional technology, which scored the lowest out of the nine ICT offerings, depends heavily on faculty recommendation to students. Therefore, increased

marketing seems necessary and should be done with both students and members of the faculty.

Figure 3

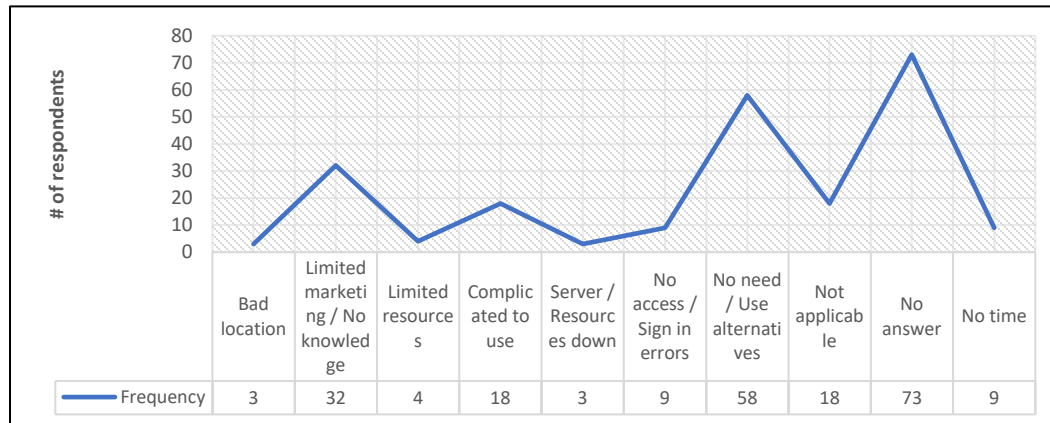
Usage of ICT Offerings



From Figure 3 above, 70.9% of the respondents indicated that they used the OPAC, and 56% indicated they used the website, which appeared to parallel the level of awareness. The other ICT offerings seemed to have low usage rates, ranging from 3% to 17.9%. This again appears to indicate the library needs to embark on a strong marketing campaign within the university. Of the students who were aware of the ICT offerings other than the OPAC and website, a majority said they had no use for them and were willing to use alternate information sources. Another thirty-two students reported that not enough marketing is done to warrant major buy-in and usage (Figure 4). This seemed to mean that even if students were made aware of these offerings by some ad hoc initiatives or through word of mouth, they were not inclined to use these offerings on their own.

Figure 4

Reasons for Low Usage of ICT Offerings



Impact of ICT Offerings

Concerning the level of satisfaction with ICT implementation at the Forde Library, Table 1 shows that there was clear dissatisfaction, as only 29.86% of the respondents were satisfied. The vast majority (53.08%) indicated a vague response of “maybe,” which can be interpreted as partial satisfaction, either swaying on the positive or identifying areas for improvement, considering the low awareness and usage statistics.

Table 1

Level of Satisfaction for ICT Implementation Frequency Distribution

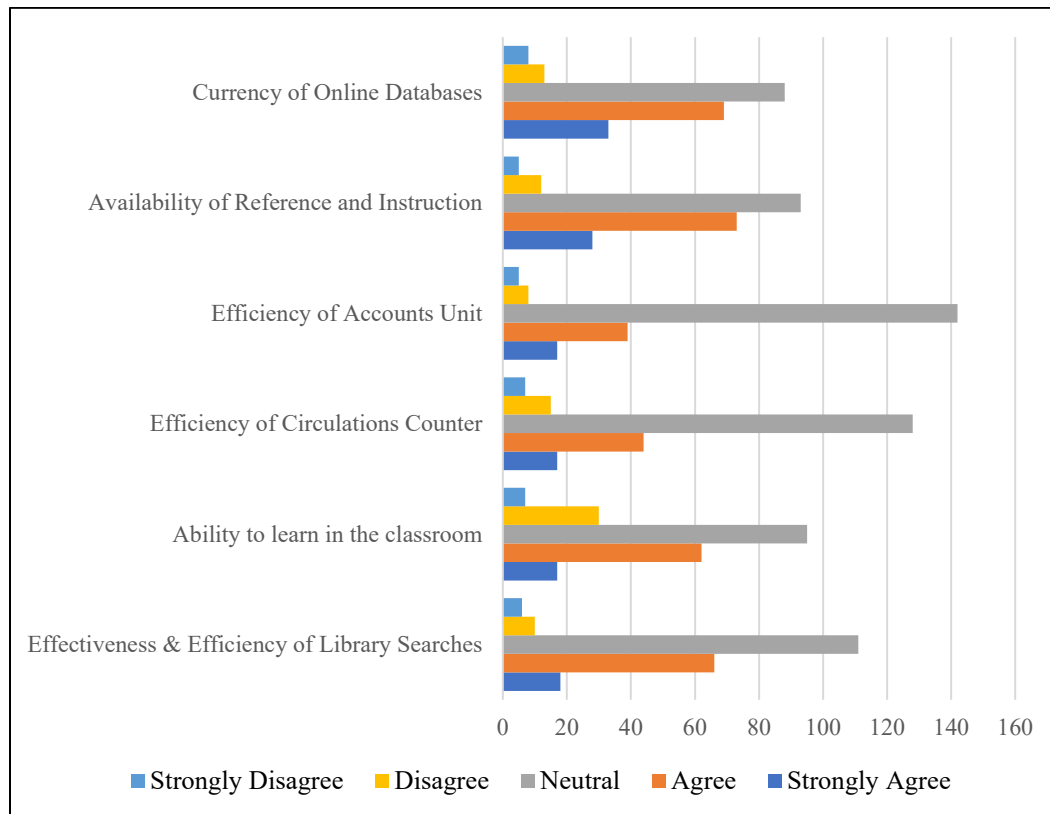
Value Label	Value	Frequency	Percent
Yes	1	63	29.86
No	2	36	17.06
Maybe	3	112	53.08
Total		211	100

Within the above context, the following presents the impact of ICT on learning and research. According to Figure 5 below, 102 (48.3%) of the respondents agree that the online resources are current. This appears to support their willingness to use the online resources for their research. One hundred one (47.9%) of the respondents also agree that reference and instruction ICT resources are useful. Many students also agree that the ICT resources aid in their classroom learning (79 students or 37.4%) and library searches (84 or 39.8%), respectively. Statistically

significant positive relationships were found between the impact of the ICT on research and learning needs and the level of satisfaction for the implementation of ICTs, as all p values were less than .05 (see Appendix B). Of significance is the low rates for the efficiency of the Accounts Unit and the Circulations Unit. Marketing efforts are needed in all aspects of User Services, but especially for these two sections.

Figure 5

Rankings on the Impact of ICT Offerings



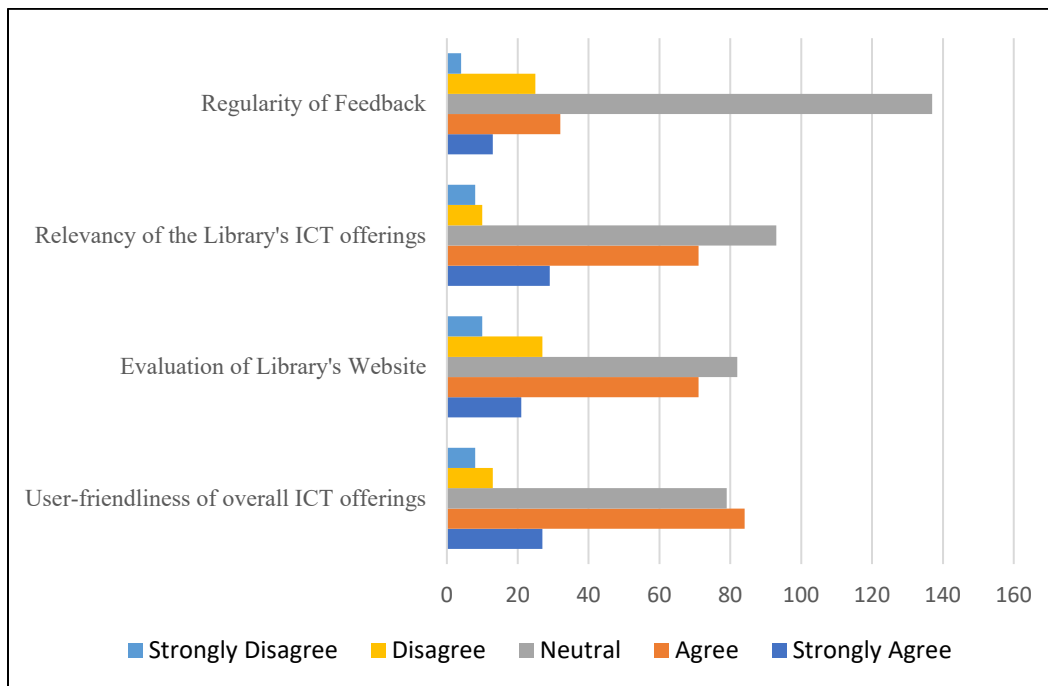
Ease of Use

Figure 6 reveals that 51% of the respondents agree that the ICT offerings of the library are user-friendly, and 47% of the students surveyed agree that ICT resources are relevant to their academic pursuits. These results seem to indicate that the ICT resources of the library are useful, thus the onus is on the library to ensure that the resources are adequately marketed to reach other students, as a majority of them were neutral on the issues. These high levels of agreement corresponded with the statistically significant relationships between the rankings for relevancy and

ease of ICT use and the level of satisfaction for the implementation of ICT (see Appendix B).

Figure 6

Rankings on the Relevance and Ease of Use for ICT Offerings



Discussion

In answer to Research Question 1, approximately 55% of the undergraduate students were not aware of all the ICT offerings available from the Forde Library through the User Services Division. More specifically, out of the nine ICT offerings available, most students were only aware of the OPAC and the library’s website, despite the investments made in the remaining seven. These offerings align with the best practices for ICTs in libraries as endorsed by Chow and Backnall (2011) and Krubu & Osawaru (2011), which include integrated library systems, ebook readers, circulating devices, mobile devices, digitization, cloud computing, virtual worlds, and instructional literacy and technology.

The overall lack of awareness seems to correlate with these ICT offerings being heavily underused, namely via schools based on the regression analysis. No correlations were found between minimal ICT awareness and academic levels or statuses. This study further revealed that the main reasons for underuse of the ICT

offerings among USC students were that students perceived that they had no need for these ICTs or they used alternatives. The high confidence levels translate into these relationships or insights being representative of the entire USC undergraduate population. Additionally, limited marketing initiatives or simply no knowledge of these offerings were also factors. These results endorse the conclusions in the earlier research by Deans and Durrant (2016), who found that in Caribbean libraries online resources, particularly databases, were heavily underused due to a lack of awareness of the content available on these databases as well as a perceived lack of usefulness of the information. The current research also supports recommendations by Deans and Durrant (2016) for more training, marketing, and awareness drives across campuses in the Caribbean. These initiatives can inform students and faculty about the benefits and ease of navigating ICT and research facilities.

In relation to Research Question 2, this study reported that just under 30% of students were satisfied with the level of ICT implementation and 53% indicated that they may be satisfied. When this statistic is juxtaposed against 37% to 49% of students perceiving the ICT offerings of the Forde Library as having considerable impact on their learning and research needs, it can be interpreted that those who were aware and satisfied with the level of implementation either completely or to some degree reported a positive and notable impact. As such, high cumulative scores for “agree” and “strongly agree” were seen in all four areas for learning and research: online databases, reference and instruction, ability to learn in the classroom, and efficiency and efficacy of library searches. These showed an association in the regression analysis, citing strong statistical relationships between the satisfaction level of ICT implementation and the library aiding students’ ability to effectively search the collection, learn in the classroom, access reference and instruction services, and use up-to-date information. These findings support research by Boateng and Ameyaw (2019) that indicated that ICT availability in an academic environment motivates the student for success in their learning and research needs.

Noteworthy, however, is the significant number of students who chose “neutral” on the Likert scale, which made it difficult to determine whether the ICT offerings had an impact on the majority of students’ learning and research needs. According to Roberts et al. (2018), neutral responses can be interpreted as the respondents having three positions: they are not familiar with the topic, their opinions are not concrete, or they do not want to report a negative response or view on the organization under study. Therefore, to eliminate bias in the study, the neutral scores were removed prior to analysis of the results. Due to the lack of knowledge about the many ICT offerings and under 50% of the students responding positively to these questions, it is still apparent that more work is needed to galvanize the students’ and faculty members’ desire to use the Forde Library to

fulfill their learning and research requirements, as corroborated by Wallin et al. (1999).

Lastly, to answer Research Question 3, the researchers had students rate the usefulness and ease of use of the ICT offerings of the Forde Library. The data collected revealed that the ICT offerings and the library's website were relatively user-friendly and easy to use, and the resources were relevant to students' disciplines at USC. Findings in this area again align with a positive perception of the satisfaction for the level of ICT implemented at the Forde Library. This endorses earlier research by Deans and Durrant (2016), who concluded that there was a relationship between the degree of under-utilization and perceived difficulty in navigating online resources and the usefulness of said resources.

Conclusion

Students were largely unaware of the Forde Library's ICT offerings, with the exceptions of the OPAC and the library's website. As such, usage was very low across the board, and the main reasons given were limited marketing, no knowledge of the ICT offerings, and no need to use them or preferred use of alternatives. The researcher concluded that the nine ICT offerings had considerable but not a significant impact on undergraduate students' academic life at USC in the areas of research and learning. Lastly, students rated the library's website and overall ICT offerings as user-friendly and relevant to their programs of study. Furthermore, the study revealed that the respondents were not aware and so could not capitalize on the many changes and upgrades that the User Services Division of the Forde Library has implemented in the circulations, accounts, and reference and instruction units.

Recommendations

The following recommendations can be made to the library administration of the Forde Library and by extension, to USC:

1. To engage in targeted marketing and promotional activities to all stakeholders across campus.
2. To introduce more ICT undergraduate level workshop/seminars and/or tutorials for all students to acquire not only basic but practical skills in navigating the technological landscape in the twenty-first century. This is where the Forde Library must focus its attention as indicated at numerous points in the study.
3. To encourage teachers/lecturers in use or incorporate research in their teaching and assessment activities for students to increase the students' usage of the library's research platforms.
4. Many of the instructional technology and research databases had low usage, even though they can greatly increase the quality of academic papers and

complement the learning process. Further to this point, there is need for more collaboration between the library and faculty members.

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BIOGRAPHIES

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Kerry-Ann Rodney-Wellington is a published author of several research articles, who hails from the island of Jamaica, in the Caribbean. She is currently the Head, Instructional Media Service, Calvin McKain Library, University of Technology, Jamaica. Mrs. Rodney-Wellington is also an adjunct lecturer at the Department of Library and Information Studies, UWI, Mona. Her competencies lie in the seamless integration of technology, multimedia learning, user services, and education within library and technological settings. Mrs. Rodney-Wellington also has a graduate degree in Library and Information Studies. <https://orcid.org/0000-0001-8504-0017>

Appendix A – Questionnaire

My name is Anastasia Mulraine-Campbell and I am a graduate student at the University of the West Indies, Mona Campus. As part of my requirements for the Masters in Library and Information Studies, I am conducting research on the topic: *Assessing impact: the use of Information and Communication Technology (ICT) in the User Services Division of the Forde Library of the University of the Southern Caribbean.*

Do **NOT** write your name on this questionnaire as all responses should remain anonymous. Your willingness to participate is entirely voluntary and as such, you are free to withdraw from completing this questionnaire at any point in time. Kindly return questionnaire to the researcher if you do not wish to go any further. Thank you for your cooperation.

Instructions: Please tick the most applicable response.

Section A – Demographics

1. **Gender:** Male [] Female []
2. **Age:** 16-25 [] 26-35 [] 36-45 []
46-55 [] 56 and over []
3. **Academic Level:** Freshmen [] Sophomore []
Junior [] Prospective Graduate
[]
4. **Status:** Full Time [] Part Time []
Provisional [] Other []
5. **Academic School:** School of Education and Humanities []
School of Theology and Religion []

*(Other schools listed on
other page)*

School of Business, Entrepreneurship &

Continuing/Professional Studies []

School of Science, Technology & Allied Health []

School of Social Sciences []

Section B – Students’ Awareness of ICT Offerings

6. Do you think that **you are aware of all the available ICT offerings** from the Forde Library?

Yes [] No [] Maybe []

7. Tick any of **current ICT offerings that you are aware of**, from the Forde Library that we use to communicate with you or assist you in meeting your informational needs.

OPAC [] Library’s Website [] My Library Suite []

Self-Check Machine [] Ask-A-Librarian chat feature []

Facebook / social media [] Electronic resources / virtual world []

Instructional technology [] Digitization of information []

8. Have you **ever used any of the current ICT offerings** of the Forde Library? From the list above, name those that you have used.

9. If your answer to Question #8 less than 4 offerings, why do you think your usage is low?

10. Do you think that the level of ICT implementation is satisfactory at the Forde Library?

Yes []

No []

Maybe []

Please briefly explain your answer:

Section C – Impact of the Forde Library’s ICT offerings

Rank the following statements using the scheme below. Place a tick in the appropriate box.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
11. The Library’s ICT offerings have increased the effectiveness and efficiency of my library searches.					
12. The Library’s ICT offerings have increased my ability to learn in the classroom.					
13. The Circulation Counter is more efficient as patrons experience faster service.					
14. The Accounts Unit provides faster service due to their integrated student management system.					
15. Reference and Instruction assistance are readily available online.					
16. Online databases provide me with more up-to date information than the physical collection.					

Section D – Relevancy and ease of use of the Forde Library’s ICT offerings

Rank the following statements using the scheme below. Place a tick in the appropriate box.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
17. The Library’s ICT overall offerings are user-friendly.					
18. The Library’s website is easy to navigate and user-friendly.					
19. The Library’s ICT offerings are relevant to my academic stay at USC.					
20. I get regular feedback from the Library when I reach out to the Library via their social networking sites.					

Appendix B – ANOVA Results

Awareness of ICT: one way; variables = available ICT by academic level.

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Do you think that you are aware of all the available ICT offerings from the Forde Library?	Between Groups	2.59	3	.86	1.96	.121
	Within Groups	91.04	207	.44		
	Total	93.63	210			

one way; variables = available ICT by academic level.

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Do you think that you are aware of all the available ICT offerings from the Forde Library?	Between Groups	4.50	4	1.13	2.60	.037
	Within Groups	89.13	206	.43		
	Total	93.63	210			

one way; variables = available ICT by status.

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Do you think that you are aware of all the available ICT offerings from the Forde Library?	Between Groups	1.18	2	.59	1.33	.266
	Within Groups	92.45	208	.44		
	Total	93.63	210			

Impact of ICT: one way; variables = library searches, classroom, circulation, accounts, reference and instruction, and online databases by implementation of ICT.

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
The Library's ICT offerings have increased the effectiveness and efficiency of my library searches.	Between Groups	22.49	2	11.25	19.63	.000
	Within Groups	119.18	208	.57		
	Total	141.67	210			
The Library's ICT offerings have increased my ability to learn in the classroom.	Between Groups	24.60	2	12.30	16.99	.000
	Within Groups	150.58	208	.72		
	Total	175.18	210			
Reference and Instruction assistance are readily available online.	Between Groups	9.04	2	4.52	6.12	.003
	Within Groups	153.70	208	.74		
	Total	162.74	210			
Online databases provide me with more up-to date information than the physical collection.	Between Groups	17.88	2	8.94	10.63	.000
	Within Groups	174.87	208	.84		
	Total	192.75	210			

Ease and User Friendliness of ICT: one way; variables = overall offerings user friendly, website user friendly, offerings relevant, and feedback by implementation of ICT.

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
The Library's ICT overall offerings are user-friendly.	Between Groups	20.59	2	10.29	13.37	.000
	Within Groups	160.10	208	.77		
	Total	180.69	210			
The Library's website is easy to navigate and user friendly.	Between Groups	31.49	2	15.75	19.28	.000
	Within Groups	169.86	208	.82		
	Total	201.36	210			
The Library's ICT offerings are relevant to my academic stay at USC.	Between Groups	10.07	2	5.03	6.12	.002
	Within Groups	168.65	208	.81		
	Total	178.72	210			
I get regular feedback from the Library when I reach out to the Library via their social networking sites.	Between Groups	12.63	2	6.31	12.00	.000
	Within Groups	109.41	208	.53		
	Total	122.04	210			