Efficiency of the Web-Based Services of Davao Doctors College Library and the Level of Satisfaction of the Faculty and Students

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ABSTRACT

Web-based services are services that are designed and delivered in a way that aligns well with Web Technologies. Libraries use their websites to provide services to users without their physical presence. This study was conducted to determine the efficiency and satisfaction level on the functionalities and features of the Web-Based Services offered by the DDCL. The study made use of the descriptive – correlational method of research employing a self-made questionnaire which underwent validation by three experts and reliability test. There were 400 respondents of the study, specifically 25 faculty members and 375 students randomly selected inside the Library. The statistical tools used in the study were Weighted Mean, ANOVA and Pearson Product Moment Correlation Coefficient. Findings revealed that the efficiency and satisfaction levels on the web-based resources at DDC Library are high; noted though that in terms of E-Books, students rated them as moderately efficient and satisfactory; the mean ratings on the efficiency and satisfaction level of web-based resources significantly vary among students; and the efficiency of Web OPAC, E-journals and E-Books databases is significantly related or affected by the satisfaction level.

Keywords: *Library and Information Science; Web-based Services, Efficiency; Web-based Services, Satisfaction; Descriptive – Correlation and Comparative Design; Davao City*

INTRODUCTION

The attractive functionality of web-based delivery systems and the challenge of other search services such as Google have prompted libraries to respond by developing new search interfaces which offer a wide range of exciting opportunities to modernize library discovery interfaces and delivery mechanisms. A study in Malaysia revealed that generally, it was apparent that students' awareness of the web-based services is quite low. The participants mainly accessed the library web site to log on to online databases for full text articles to complete assignments and other research purposes. Other services used were the digital reference service, FAQs, online customer feedback, alert services, online library tutorials, and access to digitized materials. Further, findings reveal that the concerns of library customers in the web environment are similar to those in the traditional library environment. They are concerned about receiving online help for technical problems and also help to search and use information. Reference services are still highly in demand with an emphasis on the characteristics of the online librarian. Another major need is the ability to give feedback and receive a quick response from the library (Kaur and Singh, 2011).

Students' utilization of digital technology has inspired college officials to rethink services provided on and off campus. More recently, libraries are integrating library services with learning management systems and providing streaming video instruction. Student's no longer tie the resources traditionally associated with the library solely to its physical place (Gardner & Eng, 2005). On the other hand, Tyler and Hastings (2011) explore on the factors influencing virtual patron satisfaction with online resources and services at the North West Florida University. Overall, students reported satisfaction with the university's online library resources and services.

Comments submitted to open-ended questions regarding areas for improvement to the online library provide library administrators with avenues for development to increase awareness of library services, focus improvement in navigation, and enhance student satisfaction. In the Philippines, libraries have been offering web-based services too. Though majority don't have separate website, such services are integrated into the website of the institution. As presented by Versoza (2012), one of the challenges in library service is Online Access to Library Catalogues, databases and the internet. Moreover, other challenges are on online access to digital resources, database searching, electronic reference and online circulation service. Library services therefore should be frequently evaluated and updated to meet the satisfaction of the users.

Locally, a recent study conducted by Caredo (2012) aimed to find out the level of satisfaction of the UM Graduate Students on the Electronic Resources accessible online. Findings revealed that the respondents are highly satisfied with their e-resources available from their library particularly ProQuest and Ebrary. In today's electronic age developing creative and effective ways to enhance an agency's services is an ongoing challenge (Nations, 2014). Davao Doctors College Library (DDCL) is in line with this challenge. Since the acquisition of electronic resources at DDCL, no formal study has been conducted. The efficiency of these library online resources such as how the faculty and students maximize the resources and how satisfied are they with these web-based services were the reasons why this study was conducted.

Statement of the Problem

This study aimed to determine the efficiency of the web-based services of Davao Doctors College Library and the level satisfaction of faculty and students. Specifically, the sought answers to the following questions:
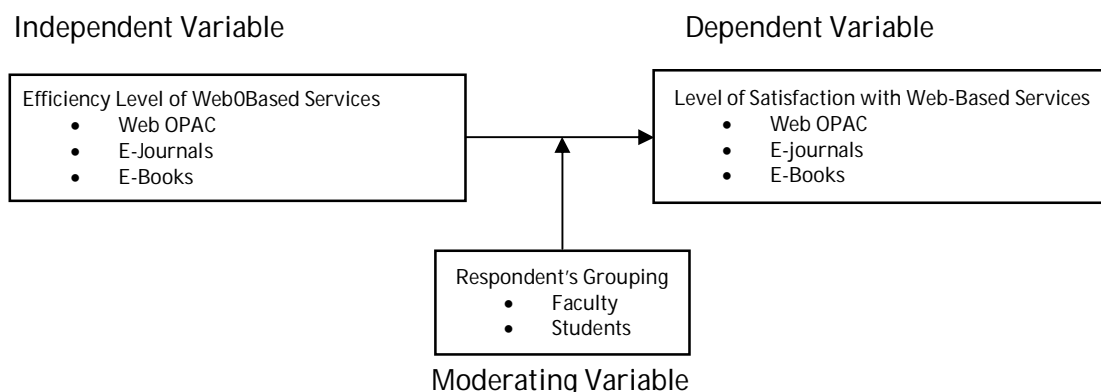
1. What is the efficiency level with the functionalities and features of DDC Web-Based Services as rated by faculty and students in terms of Web OPAC, Electronic Journals, and Electronic Books?
2. What is the level of satisfaction of the faculty and students with the web-based services?
3. Is there a significant difference between the faculty and student's satisfaction and determine significant difference between the respondent's ratings on the efficiency level of the web-based services?
4. Is there a significant relationship between the respondent's ratings on the efficiency level of the web-based services and their satisfaction level?

FRAMEWORK

This study is anchored on the Technology Acceptance Model (TAM), one of the most cited models that permit prediction of the process of user acceptance of information systems (Park, Roman, Lee, & Chung, 2009). Based on usage of computer systems by managers and professionals, the TAM is used to predict acceptance or resistance to end-user systems. Library web-based services are a system with end users – virtual patrons, who will either accept or reject it as an information system.

Acceptance of an information system results when a user finds a system useful and easy to use to the extent it offers significant performance gains (Davis et.al., 1989). The TAM provides a framework for determining students' satisfaction with the resources and services of a library with web-based services. In this study, satisfaction or acceptance equates to meeting the needs of patrons accessing the online library's resources and services. Therefore, when applying the TAM, it is predicted that students who are more satisfied with the resources and services of the online

library have achieved satisfaction of the information system. With the explosion of resources available, the services of librarians are a key factor in meeting the needs of virtual patrons.

Independent Variable		Dependent Variable
Efficiency Level of Web0Based Services • Web OPAC • E-Journals • E-Books	→	Level of Satisfaction with Web-Based Services • Web OPAC • E-journals • E-Books

Respondent's Grouping
• Faculty
• Students

Moderating Variable

METHODS

Research Design

The study used the descriptive- correlational and comparative methods of research to compare the results of the students and faculty and to correlate efficiency level and the level of satisfaction with the web-based services of Davao Doctors College Library.

Respondents and Sampling

The respondents of this study were the faculty and students of the Davao Doctors College for the 2nd Semester, SY 2012-2013. The researcher utilized the Slovin's formula in determining the number of respondents of this study. The researcher generated the list of library users through its Library Entrance Monitoring System. The respondents were randomly selected inside the DDC Library. There were 400 total respondents.

Research Instrument

A survey-questionnaire developed by the researcher was utilized in collecting responses from respondents of the different programs. The survey questionnaire has three sections. Part I of the questionnaire discussed the techno-profile of the respondents; Part 2 assessed the level of efficiency on the functionalities and features of web-based services. The item statements in the survey were categorized in terms of: Web OPAC, Electronic Journals, and Electronic Books. Part 3 of the questionnaire assessed the level of satisfaction with the functionalities and features of web-based services among the faculty and students using the following indicators: Web OPAC, Electronic Journals and Electronic Books.

The survey questionnaire was submitted to the advisers or validators for comments, suggestions and improvement both in content and format. The validators rated the questionnaire 4.7 described as "Very Much Agree". As a result of the reliability test, the scale which consisted of 62 item statements was divided into 3 indicators. Using all items in the questionnaire and employing the 62 items to undergo Reliability Analysis, the Cronbach's Alpha Coefficient showed a very high reliability coefficient of 0.896 for Web OPAC, .935 for Electronic Journals, and .902 for Electronic Books which suggest that the questionnaire is reliable. The study utilized Weighted Arithmetic Mean, ANOVA and Pearson Product – Moment Correlation Coefficient in processing the data.

RESULTS AND DISCUSSION

Efficiency level of DDC Web-Based Services

Table 1 shows the efficiency level on the functionalities and features of Web OPAC as rated by faculty members and students. The overall mean reflects overall ratings of 3.64 and 3.58 with a verbal description of high. This means that efficiency of Web OPAC as a web-based service at Davao Doctors College Library is often manifested. This further means that Web OPAC is of great used by faculty and students. Looking deeply into the results, the faculty rating is higher than the students. It is affirmed by the techno-profile of Faculty of which it reflected that all faculty members have their own laptops than the students; hence, they have the opportunity in using the Web OPAC even if they will not visit the library.

Table 1. Efficiency level on WEB OPAC

Item	FACULTY		STUDENTS	
	Mean	VD	Mean	VD
1. Offers types of searches:				
a. Basic search	3.92	High	3.77	High
b. Advanced search	3.84	High	3.6	High
2. Full search capability on conventional- access points (i.e., Title, Keyword, etc.)	3.64	High	3.62	High
3. Hypertext links in full bibliographic- record display (i.e., Authors, Subject, Call No., Series, Location Map)	3.72	High	3.64	High
4. Provision of browsing capabilities (Browsing by authors, subjects, series, publishers, call. no., etc.)	3.76	High	3.63	High
5. The user can start a search anywhere	3.72	High	3.55	High
6. The user can select return to a previous-screen and change a selection	3.72	High	3.62	High
7. There is an online tutorial	3.12	Moderate	3.21	Moderate
8. Help messages are provided	3.44	Moderate	3.45	Moderate
9. User-friendly, requires little staff assistance	3.64	High	3.67	High
10. Instructional information free of jargon	3.56	High	3.58	High
Overall Mean	**3.64**	**High**	**3.58**	**High**

Noted high among the items for both respondents are as follows: *Offers types of basic search* (3.92, 3.77) and *advance search* (3.84, 3.6), *Provision of Browsing capabilities* (3.76, 3.63), *Hypertext links in full bibliographic record display* (3.72, 3.64), *Full search capability on conventional access points* (3.64, 3.62), *User friendly* (3.64, 3.67), and *Instructional information free of jargon* (3.56, 3.58). On the contrary, there were two items with moderate results for both respondents: *there is online tutorial* (3.12, 3.21), and *help messages* are provided (3.45, 3.45).

The foregoing two items with moderate results affirmed the findings of Umarani, Nagarkar, and Jagtap (2003) that online tutorial and help messages of Web OPAC are rarely used not because they are not available but respondents are not familiar with them. Moreover, Search and retrieval of library materials has become easy due to OPAC. But it has been observed in some instances, that users are not coping with this change. There seems to be two reasons for this. First, some users lack computer knowledge; hence are reluctant to accept the change. Second, the designs of the interfaces of some systems are not user friendly. Umarani and others observed that personal and extended help is possible from library staff to the users to search OPAC effectively within the library. But it becomes difficult to provide such a help to online users. Therefore, it becomes essential to design user friendly OPACs and to test them for usability on a regular basis.

The results also concurred with the findings of Ruzegea (2012) which revealed the degree of usage of OPAC interface features in the International Islamic University of Malaysia (IIUM) library of which its potential has not been fully utilized. Some issues pertaining to awareness of OPAC interface features and usability such as frequency of use, multiple searches, navigation speed and or duration i.e. time taken to accomplish search task, can render the IIUM Library OPAC less effective.

Further, the interface features of the IIUM Library OPAC were not optimal for serving user needs, with apparent limitations in its design, lack of aid in visual display and lack of multimedia features (audio, real play, etc.). Yet, an improvement of the interface cannot be the only line of effort in developing a good OPAC system of library. Aspects such as the technological factor, mechanisms forthe better use OPAC, or the heightened preparation and awareness of the users (through continuous education) with regards to search techniques, are areas that deserve further attention (Ruzegea, 2012).

Presented in Table 2 is the efficiency level on the functionalities and features of electronic journals. For both respondents, the overall ratings are 3.77 and 3.54 verbally described as high. This means that the efficiency of electronic journal at DDC Library is often manifested. Noted high as rated by faculty member among the items are the following: *provision of answers for research work, writing papers, project and preparing notes* (3.92), *recentness of published articles* (3.88) and *citation status* (3.88). However, student-respondents rated moderate the following items: *provision of email alerts* (3.38), *links with other article and archival facility* (3.46), *Choice of format* (3.45) and *Citation Status* (3.48). This means that according to respondents, e-journal is not so efficient in terms of email alerts, links with other articles, and choice of format and citation status.

Table 2. Efficiency Level of Electronic Journals

Item	FACULTY		STUDENTS	
	Mean	VD	Mean	VD
1. Prompt Availability	3.8	High	3.59	High
2. Accessibility (ease of entry)	3.8	High	3.56	High
3. Provision of answers for Research Work, Writing Papers, Project, and Preparing Notes	3.92	High	3.58	High
4. Recentness of published articles	3.88	High	3.51	High
5. Archival Facility and Hyperlinks to references	3.72	High	3.50	High
6. Provision of E-mail Alerts	3.52	High	3.38	Moderate
7. Links with other articles and Archival facility	3.68	High	3.46	Moderate
8. Choice of format i.e. PDF, Spreadsheet, etc.	3.68	High	3.45	Moderate
9. Full text retrieval	3.8	High	3.50	High
10. Citation status	3.88	High	3.48	Moderate
Overall Mean	**3.77**	**High**	**3.50**	**High**

The results confirmed that student-respondents are not familiar with the features of e-journal database. E-journal database has an RSS feed which corresponds to email alerts; it has also citation features, and links to other documents or sees similar documents. However, as to the choice of formats, it's only limited to PDF. Therefore, library users may find them inefficient not because they are not available but users are simply not familiar with them. In relation to the findings, the student-respondents did not fully maximize the use of the electronic resources.

Presented in Table 3 is the efficiency level on the functionalities and features of electronic books. The overall ratings reveal contrasting results between the two respondents. Faculty members reveal an overall rating of 3.6 verbally described as High while Students yield a Moderate rating of 3.17. This means that students feel that efficiency of e-books is sometimes manifested while faculty ratings reveal that it is often manifested.

Table 3. Efficiency Level of Electronic Books

Item	FACULTY		STUDENTS	
	Mean	VD	Mean	VD
1. Allows highlighting and note taking within a digital document	3.52	High	3.18	Moderate
2. Automatically saves highlights, notes, and bookmarks on a personal bookshelf using this database	3.56	High	3.12	Moderate
3. Allows copy and paste text into Word, HTML or email application with an automatic bibliographical citation and a URL back to the source	3.68	High	3.20	Moderate
4. This database offers simple and advanced search, by full-text, keyword, subject or author.	3.72	High	3.17	Moderate
5. Allows the users to print the selected page/s	3.64	High	3.13	Moderate
6. Provision of different languages	3.48	High	3.18	Moderate
7. Simple and user friendly interface	3.52	High	3.20	Moderate
8. Compatible to all internet browsers	3.64	High	3.17	Moderate
9. Adequate number of book titles	3.6	High	3.17	Moderate
10. Downloads selected page for offline reading	3.6	High	3.17	Moderate
Overall Mean	**3.60**	**High**	**3.17**	**Moderate**

This further implies that those faculty members regularly use e-books while students do not. Looking also into the techno-profile of the respondents, majority of the faculty were able to access the web-page of the college where link to e-books is posted. The more they access the web-page, the more that they can utilize the e-books.

The result supports the statement of Ashcroft and Watts (2004) that mentioned the potential advantages of e-books including easier access, speedy publications space-saving and lower costs. Moreover, Gakibayo, Ikoja-Odongo, and Okello-Obura (2013) stressed that students need to be encouraged by their lecturers to use e-resources for references to enable students to use and locate these resources. This may increase the number of students acquiring the necessary information retrieval skills. If students are not encouraged to use electronic resources by their lecturers, and if information skills training occur outside the curriculum, students will be less likely to make use of electronic resources for academic purposes. This calls for the university library to put in place more effective strategies in its sensitization and training of end-users.

Reflected in Table 4 is the summary of the efficiency level on the functionalities and features of web-based services. Web OPAC has an overall mean of 3.61 verbally described as High; Electronic Journals with a mean rating of 3.64 also verbally described as High and Electronic Books has an overall rating of 3.39 verbally described as Moderate. The efficiency level of web-based services has an overall mean of 3.55 verbally described as High. This means that the efficiency level of web-based services at Davao Doctors College Library is often manifested except the Electronic Books which was just moderately maximized of its usage.

Table 4. Summary of the Efficiency Level of Web-Based Services

Item	Mean	Descriptive Equivalent
Web OPAC	3.61	High
Electronic Journals	3.64	High
Electronic Books	3.39	Moderate
Overall Mean	**3.55**	**High**

Satisfaction Level of Web Based Services

Table 5 presents the satisfaction level with functionalities and features of Web OPAC. It has overall ratings of 3.95 and 3.80 both verbally described as High. Looking closely at the data, for both respondents, all items yielded high results except an item '*There is an online tutorial*' in which both respondents reveal a moderate result. This means that both faculty and students agreed that the service of Web OPAC is often satisfying at the Davao Doctors College Library. The accessibility of Web OPAC is via the webpage of the school such that the high satisfaction level of respondents is

validated by the techno-profile of students in which 82% of the instructors suggested to them through an announcement, e-mail, discussion or syllabus that they should visit the Library on campus or online.

Table 5. Satisfaction level with WEB OPAC

Item	FACULTY		STUDENTS	
	Mean	VD	Mean	VD
1. Offers types of searches:				
a. Basic search	4.2	High	3.95	High
b. Advanced search	4	High	3.89	High
2. Full search capability on conventional- access points (i.e., Title, Keyword, etc.)	3.96	High	3.90	High
3. Hypertext links in full bibliographic- record display (i.e., Authors, Subject, Call No., Series, Location Map)	4	High	3.86	High
4. Provision of browsing capabilities (Browsing by authors, subjects, series, publishers, call. no., etc.)	4.04	High	3.87	High
5. The user can start a search anywhere	4	High	3.79	High
6. The user can select return to a previous-screen and change a selection	4.04	High	3.80	High
7. There is an online tutorial	3.44	Moderate	3.41	Moderate
8. Help messages are provided	3.76	High	3.65	High
9. User-friendly, requires little staff assistance	4.08	High	3.87	High
10. Instructional information free of jargon	3.92	High	3.78	High
Overall Mean	**3.95**	**High**	**3.80**	**High**

The result of the study supports the findings of Mehtab, A. A., &Amita. (2008) that users who consulted the online catalogues frequently and found relevant materials in their searches were satisfied with search results using the OPAC. Moreover, these users also preferred online catalogues to card catalogues and considered the OPAC a successful tool in retrieving documents.

The above results also affirm the findings of Gohain and Saikia (2013), which pointed out that the satisfaction level of B.Tech students of School of Engineering on OPAC was quite encouraging and that they were very much satisfied with the performance and quality of OPAC services. However, some problems faced by users while using OPAC were also highlighted such as lack of skills to use OPAC independently, lack of awareness about OPAC and lack of proper guidance to use OPAC were the major problem faced by the users while using OPAC.

Shown in Table 6 is the satisfaction level with functionality and features of electronic journals. The overall mean reflect overall mean ratings of 3.85 and 3.67 respectively, both verbally described as 'High'. This means that both respondents affirmed that the service of the e-journal particularly the ProQuest database is often satisfying. Noted highest among the parameters are as follows: *Provision of answers for research works, writing papers, project and preparing notes and Accessibility* (ease of entry) both with 4.04 mean ratings, verbally described as High. Though all items are rated high, the least among them is *Citation status* (3.60).

Table 6. Satisfaction Level with Electronic Journals

Item	FACULTY		STUDENTS	
	Mean	VD	Mean	VD
1. Prompt Availability.	3.96	High	3.70	High
2. Accessibility (ease of entry)	4.04	High	3.77	High
3. Provision of answers for Research Work, Writing Papers, Project, and Preparing Notes	4.04	High	3.76	High
4. Recentness of published articles	3.96	High	3.75	High
5. Archival Facility and Hyperlinks to references	3.96	High	3.61	High
6. Provisionof E-mail Alerts	3.64	High	3.65	High
7. Links with otherarticles and Archival facility	3.64	High	3.63	High
8. Choice of format i.e. PDF, Spreadsheet, etc.	3.68	High	3.62	High
9. Full text retrieval	3.76	High	3.64	High
10. Citation status	3.8	High	3.60	High
Overall Mean	**3.85**	**High**	**3.67**	**High**

Scrutinizing the techno-profile of respondents, the results are validated in their responses that they had assignments that required them to access the library on campus or online in which both respondents reveal a uniform rating of 88%. Since E-Journals database is only accessible online, visiting the library online due to assignments required by teachers really affirms the high satisfaction rating.

The result of the study also affirms the findings of Bansode (2013) which reveal that electronic journals are really helpful in finding out the appropriate references and is useful to each and every user. The only thing that needs to be verified is whether it really helped the faculty members to increase their productivity. This can be done by undertaking the citation analysis; hence, 81% of his respondents admitted that their information requirements are fully satisfied with the electronic journals subscribed by the library.

Table 7 presents the satisfaction level with the functionalities and features of electronic books. Both respondents show a contrasting results as faculty's ratings manifest an all high in all the items while moderate ratings for the student-respondents. This means that students are not as highly satisfied as the teachers in using electronic books. Noted lowest among the items are as follows: *Downloads selected page for offline reading*, with a mean rating of 3.24, verbally described as "Moderate" and *Automatically saves highlights, notes, and bookmarks on a personal bookshelf using this database* with a mean rating of 3.27 verbally described as "Moderate".

Table 7. Satisfaction Level with Electronic Books

Item	FACULTY		STUDENTS	
	Mean	VD	Mean	VD
1. Allows highlighting and note taking within a digital document	3.8	High	3.30	Moderate
2. Automatically saves highlights, notes, and bookmarks on a personal bookshelf using this database	3.76	High	3.27	Moderate
3. Allows copy and paste text into Word, HTML or email application with an automatic bibliographical citation and a URL back to the source	3.6	High	3.37	Moderate
4. This database offers simple and advanced search, by full-text, keyword, subject or author.	3.64	High	3.39	Moderate
5. Allows the users to print the selected page/s	3.64	High	3.28	Moderate
6. Provision of different languages	3.52	High	3.33	Moderate
7. Simple and user friendly interface	3.64	High	3.38	Moderate
8. Compatible to all internet browsers	3.64	High	3.30	Moderate
9. Adequate number of book titles	3.72	High	3.31	Moderate
10. Downloads selected page for offline reading	3.6	High	3.24	Moderate
Overall Mean	**3.66**	**High**	**3.32**	**Moderate**

The data support the findings of Li, Poe, Potter, Quigley and Wilson (2011) in which they studied University of California Libraries Academic E-Book Usage Survey. Findings reveal that annotating and highlighting within the e-book environment is perceived as vital to the majority of respondents who use academic e-books. The ability to download the entire e-book to a device for later use is a highly valued feature. Respondents expressed frustration with those e-book vendors that restrict downloading or printing to chapters or other pre-defined sections. The ability to download the entire e-book to a device for later use is a highly valued feature. Respondents expressed frustration with those e-book vendors that restrict downloading or printing to chapters or other pre-defined sections.

Table 8 presents the summary of satisfaction level with the functionalities and features of the Web-based services. As it shows, Web OPAC has the highest mean rating of 3.88, followed by Electronic Journals, 3.76 and the least is Electronic Books, 3.49. This means that faculty and student affirmed that they are more satisfied with Web OPAC and Electronic Journals than that of Electronic Books.

Table 8. Summary of the Satisfaction Level of Web-Based Services

Item	Mean	Descriptive Equivalent
Web OPAC	3.88	High
Electronic Journals	3.76	High
Electronic Books	3.49	Moderate
Overall Mean	**3.71**	**High**

Difference in the Efficiency Level of Web-Based Services

One-Way Analysis of Variance is used to determine the difference in the efficiency level on the functionalities and features of web-based services as rated by DDC faculty. This is shown in Table 9.

Table 9. Difference in the efficiency level of Web-Based Services as Rated by DDC Faculty

Respondents	N	Level of Efficiency of Web-Based Services					
		Web OPAC		E-Journals		E-Books	
		Mean	VD	Mean	VD	Mean	VD
Faculty	25	3.64	H	3.77	H	3.60	H

F-Test Result= 9.875
P-value =.875
DF =74
Decision = Accept Ho1

Reported in the table is the efficiency level of web-based services in terms of Web OPAC, E-Journals and E-Books which yield an F-test result of .134 and a p-value of 0.875. Since the p-value is greater than 0.05, the null hypothesis is accepted. Therefore, there is no significant difference in the efficiency level on the functionalities and features of Web-OPAC, E-Books and E-Journals.

One-Way Analysis of Variance is used to determine the difference in the efficiency level on the functionalities and features of web-based services as rated by students. This is shown in Table 10.

Table 10.Difference in the efficiency level of Web-Based Services as Rated by DDC Students

Respondents	N	Level of Efficiency of Web-Based Services					
		Web OPAC		E-Journals		E-Books	
		Mean	VD	Mean	VD	Mean	VD
Students	375	3.58	H	3.50	H	3.17	M

F-Test Result= 10.169
P-value =.000
DF =1124
Decision = Reject Ho1

Reported in the table is the efficiency level of Web-based services in terms of Web OPAC, E-Journals and E-Books which yield an F-test result of 10.169 and a p-value of 0.000. Since the p-value is lesser than 0.05, the null hypothesis is rejected. Therefore, there is a significant difference in the efficiency level on the functionalities and features of Web-OPAC, E-Books and E-Journals as rated by DDC students. To scrutinize further the difference, Duncan Multiple Range Test was employed to determine which of the web-based services are significantly different from each other's ratings. Employing the procedure, it further revealed that Web OPAC has significantly different mean ratings (3.58) as compared to E-Journals (3.50) and E-Books (3.17); therefore their ratings do vary. These results also depict that as affirmed by DDC Students, Web OPAC and E-Journals' efficiency level on functionalities and features is often manifested, while the E-Book's efficiency level is sometimes manifested. It implies that student-respondents usage of Web OPAC and E-Journals were in maximum level whereas the E-books were not fully maximized.

Difference in the Satisfaction Level of web-Based Services

One-Way Analysis of Variance is used to determine the difference in the satisfaction level with the functionalities and features of web-based services as rated by DDC faculty. This is shown in Table 11.

Table 11.Difference in the Satisfaction Level with the Web-Based Services as Rated by DDC Faculty

Respondents	N	Satisfaction Level of Web-Based Services					
		Web OPAC		E-Journals		E-Books	
		Mean	VD	Mean	VD	Mean	VD
Faculty	25	3.95	H	3.85	H	3.66	H

F-Test Result= 1.206
P-value =.305
DF =74
Decision =Accept Ho2

Reported in the table is the satisfaction level with Web-based services in terms of Web OPAC, E-Journals and E-Books which yield an F-test result of 1.206 and a p-value of 0.305.   Since the p-value is greater than 0.05, the null hypothesis is accepted. Therefore, there is no significant difference in the satisfaction level on the functionalities and features of Web-OPAC, E-Books and E-Journals as rate by DDC faculty. Results revealed that faculty had the same level of satisfaction in the usage of these electronic services.

One-Way Analysis of Variance is used to determine the difference in the satisfaction level with the functionalities and features of web-based services as rated by DDC students. This is shown in Table 12.

Table 12. Difference in the Satisfaction Level with the Web-Based Services as Rated by DDC Students

Respondents	N	Satisfaction Level of Web-Based Services					
		Web OPAC		E-Journals		E-Books	
		Mean	VD	Mean	VD	Mean	VD
Students	375	3.80	H	3.67	H	3.32	M

F-Test Result= 17.210
P-value =.000
DF =1124
Decision =Reject Ho2

Reported in the table is the satisfaction level with Web-based services in terms of Web OPAC, E-Journals and E-Books which yield an F-test result of 17.210 and a p-value of 0.000.   Since the p-value is lesser than 0.05, the null hypothesis is rejected. Therefore, there is a significant difference in the satisfaction level with the functionalities and features of Web-OPAC, E-Books and E-Journals.

Since the f-statistics for difference is significant, follow-up test for pairwise comparison was run to determine which web-based services are significantly different from each other. Employing the Duncan Multiple Range Test procedure, it further revealed that the Web OPAC (3.80) has significantly difference mean ratings as compared to E-Journals (3.67) and E-Books (3.31); thus their ratings do vary. Therefore, findings reveal that the students are more satisfied with Web OPAC as compared to E- Journals; however, they are least satisfied with E-Books.

Significance in the Relationship of the Variables

Correlation analysis was used to evaluate the relationship of the efficiency level of web-based services to the level of satisfaction. This is shown in Table 13.

Reported in the table are the efficiency and satisfaction levels on web-based services in terms of Web OPAC, E-Journals and E-Books which obtained the Pearson Product-Moment Correlation Coefficients of 0.486, 0.678, and 0.795, respectively. P-values for the significant relationship of the efficiency to the level satisfaction of the web-based services were all reflected in the table and they are all 0.00. All the p-values are lesser than the significant value of 0.05;

therefore efficiency of Web-OPAC, E-Journals and E-Books is significantly related or affected by the satisfaction level of web-based services.

One can also notice that all correlations are all direct and positive which means that, the greater the efficiency level of web-based services observed in the institution, the better the level of satisfaction.

Table 13. Significant Relationship between Efficiency and Satisfaction Level of
Web Based Services

Independent Variable *(Efficiency Level of Web-based Services)*		Dependent Variable *(Satisfaction Level of Web Based Services)*			
		Correlation	Direction	Correlation Description	Decision
Web-OPAC	Pearson Correlation Sig. (two-tailed) N	.486 .000 400	Direct Relationship	Strong Positive Relationship	*Reject Ho*
E-Journal	Pearson Correlation Sig. (two-tailed) N	.678 .000 400	Direct Relationship	Strong Positive Relationship	*Reject Ho*
E-Books	Pearson Correlation Sig. (two-tailed) N	.795 .000 400	Direct Relationship	Very Strong Positive Relationship	*Reject Ho*

CONCLUSION

In conclusion, the efficiency level of web-based services at DDC is high. There is a maximum usage of electronic services among the respondents. The satisfaction level with the web-based services at DDC is also high. The analysis of the significant difference in the efficiency level on the functionalities and features of Web OPAC, E-Journals and E-Books is not significant as rated by DDC faculty. It implies that whether the faculty uses WEB OPAC, E-Journals or E-Books, they have the same maximum usage of the electronic services. However, as rated by DDC students, there is a significant difference. Hence, Web-OPAC and E-Journals' efficiency level are often manifested than E-Books. There is no significant difference in the mean ratings of respondents on the level of satisfaction with the functionalities and features of Web OPAC, E-Journals and E-Books as rated by DDC faculty, thus, it implies that the usage of any electronic services do not matter as to the satisfaction level of the faculty. On the other hand, DDC students' ratings reveal a significant difference. Moreover, DDC Students affirmed that Web OPAC and E-Journals' services are often satisfying than E-Books. The analysis of the significant relationship between the efficiency and satisfaction level on the functionalities and features of web-based services is significant and positively correlated. Hence, the higher the efficiency level of web-based services, the higher the level of satisfaction.

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