Integrated Library System's Functionality In Dumaguete City's Academic Libraries

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Abstract**:** *This study evaluates the functionality of the Integrated Library System (ILS) in the five academic libraries in Dumaguete City. Specifically, this study seeks to: 1) identify the profile of the Integrated Library Systems employed; 2) determine the level of functionality of the ILS in terms of: a) Online Public Access Catalog (OPAC); b) cataloging; c) circulation, and d) reports, and 3) point out the problems encountered by the academic libraries in using the Integrated Library System (ILS). Through a purposive sampling technique, a total of 37 librarians and support staff served as respondents; and with the employment of both the descriptive and evaluative survey methods of research, the needed data were gathered. The research instrument used was a revised questionnaire patterned after ILS Checklist of New Zealand National Library. Participants' responses to the items in this instrument were supplemented by a structured interview questionnaire. The data reveal that in terms of ILS's profiles, the five academic libraries have windows operating system except for one institution. This operating system was installed early in 2011 and majority have implemented the ILS since 2006. In terms of the ILS's functionality, they claim that the ILS is "functional" in all four areas but significantly "fully functional" in the cataloging module. The most significant problems encountered are as follows: insufficient training to operate the modules, no proper documentation of data, the software vendors' lack of maintenance program and less administrative support. Seemingly, similar responses were observed in the structured interview administered.*

Keywords: *Integrated Library System, Library, Functionality, Software*

1. Introduction

Computers are used in libraries to increase the efficiency and effectiveness of the operation and services. They also provide information management for taking effective decisions. The development and use of information and communication technology (ICT) does not only enable the libraries to offer the clientele the appropriate information available within the libraries but also gain access to catalogues of other libraries, both local and outside stations (Singh, 2003).

The terms "integrated library system" (ILS) and "automation system" are interchangeably used but mean the same. They are terms used to describe the software that operates the circulation, cataloguing, public-access catalog, reports and other modules that do the work of typical library operations. When libraries moved from card-based system (card catalog, shelf list, etc.), staff would apply the "automated" circulation and catalog process, hence, the term "automation system." The books have barcodes instead of pockets and customers searched for materials using a computer screen and keyboard instead of perusing polished wooden drawers with three-by-five catalog cards.

Every library needs an integrated library system. The software utilizes the patron and bibliographic records to perform a host of efficient functions due to the processing speed and power of computers.

The importance of integrated systems in library activities such as cataloguing, circulation, acquisition and serials management, etc., is no longer debatable as libraries all over the world have realized the need to move from their manual practices into integrated systems and networked operations. Prior to computerization, library tasks were performed manually and independently from one another. Selectors ordered materials with ordering slips, cataloguers manually catalogued items and indexed them with the card catalog system (in which all

bibliographic data was kept on a single index card), and users signed books out manually, indicating their name on cue cards which were then kept at the circulation desk (Uzomba, Oyebola, Izuchukwu, 2015).

Omeluzor, Adara, Ezinwayi, Bamidele, and Umahi (2012) stated that "the pursuit for excellence in all aspects of a university educational system made it imperative for universities around the world to rise up to their responsibilities." If a librarian is to deliver prompt and adequate services to the clients, he/she must adapt to the changing environment and the use of current software to manage library routine activities.

In the Philippines, few academic and research libraries have taken the lead in spearheading library automation. Although, quite a good number of them have personal computers, the high cost of library integrated systems, CD databases, software licenses, software programs and hardware equipment, and the cost of maintaining a pool of systems people to manage/staff the library's computer services, are contributing to the slow pace of accelerated technological advances taking place abroad (Verzosa, 1997).

In Dumaguete City, a number of academic libraries have integrated library systems. These are Silliman University, Foundation University, St. Paul University-Dumaguete, Negros Oriental State University-Main Campus, and STI Dumaguete. Each institution has its own integrated library system to improve their library services; and for this reason, the researcher wants to evaluate the Integrated Library System of the four modules in library automation such as OPAC, Cataloguing, Circulation and Reports, and what problems are encountered using this integrated library system.

2. Methodology

This study employed both the descriptive and evaluative survey methods of research. It carefully appraises the worthiness of the functionality of the Integrated Library System of the academic libraries in Dumaguete City.

2.1. Research Instrument

The questionnaire used as the primary source of data in this study was a survey instrument patterned after ILS Checklist of New Zealand National Library. The questionnaire contained three parts:

Part I focused on the profile of the Integrated Library System of academic library in Dumaguete City.

Part II deals on functionality of the ILS in terms of the four modules: OPAC, Cataloguing, Circulation and Reports.

Part III dealt with the problems encountered by the respondents in using this system.

A structured interview questionnaire supplemented the responses done by selected students and faculty members of each institution. This was constituted of the following questions: 1. What are the advantages of Library Integrated System?; 2.What are the disadvantages of Library Integrated System?, and 3. What suggestions can you provide to improve the library integrated systems?

2.2. Data Gathering Process

A transmittal letter was written addressed to the President of the Universities through the Vice President for Academic Affairs and the Chief Librarians to solicit permission to distribute questionnaires to the library staff.

After securing the necessary permit, the questionnaire was administered to the respondents per arrangement with the Library Heads concerned and the researcher. A period of one week was given for each library for the retrieval of the instruments. After the instruments were collected, the researcher presently checked each questionnaire to secure the answered, unanswered or omitted items. For the structured interview, the researcher initiated the interview with the student and faculty members during the visit. The data were then treated statistically.

3. Results and Discussion

3.1. Profile of the Integrated Library Systems

VARIABLES	NAME OF THE SCHOOL				
	A	B	C	D	E
Name of the System	Destiny Library Manager	In-house	Athena	In-house	Infolib
Vendor of the System	Follett	-	Sagebrush Corporation	-	-
Version of the System	10	-	Athena V.9.1	-	-
Date of Installation	January 2011	-	October 2006	March 2011	April 2011
Date of Implementation	On-Going	-	Nov. 2006	July 2012	April 2011
No. of Computer units	10	10	4	4	1
Operating system	Windows	Windows,	Windows	Windows	Windows

The profile of the Integrated Library System of the five academic libraries show that the majority have Windows operating systems compatibility except for one institution. All have done the installation early in 2011. Though most of them have computer units, the number is not enough to cater to the clientele's need of the institution. However, significant majority have implemented the ILS since 2006.

3.2. Functionality of Integrated Library System of Academic Libraries

All five academic libraries are functional in all three areas namely: OPAC, Circulation, Reports Modules but significantly Fully Functional in the area of Cataloguing module. They are discussed as follows.

3.2.a Online Public Access Catalog (OPAC) Module

VARIABLES	School A N=25		School B N=3		School C N=4		School D N=4		School E N=1	
OPAC MODULE										
	WM	Remarks	WM	Remarks	WM	Remarks	WM	Remarks	WM	Remarks
a. Provides advanced search options, such as Boolean searching, field searching, search by material type, date range, etc	2.60	Fully Functional	3.00	Fully Functional	3.00	Fully Functional	3.00	Fully Functional	3.00	Fully Functional
b. Results can be ranked by relevance e.g. author, title, year, classification, format etc	2.60	Fully Functional	3.00	Fully Functional	3.00	Fully Functional	1.50	Not Functional	1.50	Fully Functional
c. Search results with visual prompts depicting format, location and availability information	2.84	Fully Functional	3.00	Fully Functional	2.50	Fully Functional	1.50	Not Functional	1.50	Functional
d. Effective alternative spelling facility (misspellings retrieves useful results /list of preferred terms available)	2.32	Functional	2.67	Fully Functional	1.50	Not Functional	2.00	Functional	2.00	Functional
e. Provides up-to-date list of the library's new acquisitions, referred to as "featured list"	2.44	Fully Functional	2.67	Fully Functional	1.50	Not Functional	1.00	Not Functional	1.00	Functional
f. Provides an up-to-date list of most borrowed items	2.56	Fully Functional	2.33	Functional	1.75	Functional	1.50	Not Functional	1.50	Fully Functional
g. Book cover images included as part of Catalogue record	2.92	Fully Functional	2.33	Functional	1.50	Not Functional	1.00	Not Functional	1.00	Fully Functional
h. Includes an interactive Tutorial	1.32	Not Functional	2.33	Functional	1.75	Functional	1.00	Not Functional	1.00	Fully Functional
i. Provides feedback form for posting comments, suggestions, requests, etc	2.40	Functional	2.00	Functional	1.33	Not Functional	1.00	Not Functional	1.00	Fully Functional
j. Can be access through library website 24/7 Access (and by more than one person at a time	2.56	Fully Functional	3.00	Fully Functional	1.50	Not Functional	3.00	Fully Functional	3.00	Fully Functional
Average Weighted Mean (AWM)	**2.20**	**Functional**	**2.33**	**Functional**	**1.78**	**Functional**	**1.65**	**Functional**	**1.65**	**Functional**

Range: (1 - 1.66) Not Functional (1.67 - 2.33) Functional
(2.34 - 3.00) Fully Functional

With a weighted mean ranging from 1.65 – 2.33, the Integrated Library System of the five academic Libraries deemed to be functional. The OPAC, that is, catalog search engine of the five academic libraries manifests its functionality as it enables the system to share data among its modules. This integration reduces redundant data and effort exerted by clientele when searching for the needed resources.

3.2.b Cataloguing Module

The five academic libraries almost have varying claims of the ILS functionality in terms of Cataloguing Module as reflected in the table.

VARIABLES	School A N=25		School B N=3		School C N=4		School D N=4		School E N=1	
CATALOGUING MODULE	WM	Remarks	WM	Remarks	WM	Remarks	WM	Remarks	WM	Remarks
a. Provides an easy way of cataloguing any type of material (e.g. monographs, articles, multimedia)	2.80	Fully Functional	2.67	Fully Functional	2.75	Fully Functional	3.00	Fully Functional	2.00	Functional
b. Cataloguing is easy to use form of new data entry records	2.76	Fully Functional	2.67	Fully Functional	3.00	Fully Functional	3.00	Fully Functional	3.00	Fully Functional
c. Have its work reflected "real time" in the OPAC	2.72	Fully Functional	2.00	Functional	3.00	Functional	3.00	Fully Functional	3.00	Fully Functional
d. Can import catalog records (Copy Cataloguing)	3.00	Fully Functional	3.00	Fully Functional	2.75	Not Functional	2.00	Functional	3.00	Fully Functional
e. Allow editing of imported records	3.00	Fully Functional	3.00	Fully Functional	2.75	Not Functional	2.00	Functional	2.00	Functional
f. The system offers database that allows records for any type of material in any format to be created, searched and displayed.	2.92	Fully Functional	2.67	Fully Functional	2.75	Not Functional	3.00	Fully Functional	3.00	Fully Functional
g. Bibliographic Control/Cataloguing module support MARC-format error checking?	2.76	Fully Functional	2.00	Functional	2.75	Not Functional	2.00	Functional	3.00	Fully Functional
h. The system allow exporting bibliographic data from external computer files such as Text files, Spreadsheets, or other file format	2.72	Fully Functional	2.00	Functional	2.50	Fully Functional	1.00	Not Functional	3.00	Fully Functional
i. Can generate and print own barcodes and spine labels	1.20	Not Functional	1.67	Not Functional	3.00	Fully Functional	1.00	Not Functional	3.00	Fully Functional
j. It is integrated with other module like circulation and reporting	2.80	Fully Functional	2.33	Functional	2.75	Functional	2.00	Functional	3.00	Fully Functional
Average Weighted Mean (AWM)	**2.67**	Fully Functional	**2.40**	**Functional**	**2.80**	**Functional**	**2.20**	**Functional**	**2.80**	Fully Functional

Range: (1 - 1.66) Not Functional (1.67 - 2.33) Functional (2.34 - 3.00) Fully Functional

School A, for instance, claims "full" functionality of the cataloguing module in almost all aspects except that it fails to function when it comes to "generating and printing barcodes and spine labels." Apparently, School C claimed "Not functional" in the following aspects of the ILS: Copy Cataloguing, editing of imported records, database that allows records for any type of material in any format to be created, searched and displayed, and Bibliographic Control/Cataloguing module support MARC-format error checking. But the overall weighted mean still shows that School C's ILS is functional. Significantly, School D reports "full" functionality of the ILS's cataloguing module. This claim then shows that the five academic libraries ILS's are performing the expected basic functions of the cataloguing module.

3.2.c Circulation Module

VARIABLES	School A N=25		School B N=3		School C N=4		School D N=4		School E N=1	
CIRCULATION MODULE	WM	Remarks	WM	Remarks	WM	Remarks	WM	Remarks	WM	Remarks
a. Provides all major circulation services (e.g. check-out, check-in, and renewal);	2.80	Fully Functional	2.67	Fully Functional	2.50	Fully Functional	-	-	2.00	Functional
b. The staff can access all function with a single click or equivalent keyboard command.	2.64	Fully Functional	2.33	Functional	3.00	Fully Functional	-	-	3.00	Fully Functional
c. Customer can register and their accounts are created and managed through the library system.	2.80	Fully Functional	2.00	Functional	1.75	Functional	-	-	2.00	Functional
d. University student records can be imported from the university registration system into the library system.	1.76	Functional	2.67	Fully Functional	1.00	Not Functional	-	-	2.00	Functional
e. Customer can renew their loans through OPAC?	2.20	Functional	1.67	Not Functional	1.50	Not Functional	-	-	2.00	Functional
f. Completely customizable library privileges for users and user groups	2.00	Functional	3.00	Fully Functional	1.50	Not Functional	-	-	3.00	Fully Functional
g. Enables selected borrower groups to access specific resource categories	2.16	Functional	3.00	Fully Functional	1.50	Not Functional	-	-	3.00	Fully Functional
h. Alerts library staff when a reserved item is returned and issued	2.00	Functional	3.00	Fully Functional	2.50	Fully Functional	-	-	3.00	Fully Functional
i. Can tracks the last customer to borrow an item	2.32	Functional	3.00	Fully Functional	2.50	Fully Functional	-	-	3.00	Fully Functional
j. Details of borrower history, by date, current loans, overdues are available	2.20	Functional	2.67	Fully Functional	2.33	Functional	-	-	3.00	Fully Functional
Average Weighted Mean (AWM)	**2.29**	Functional	**2.60**	**Fully Functional**	**2.01**	**Functional**	-	-	**2.30**	**Functional**

Range: (1 - 1.66) Not Functional (1.67 - 2.33) Functional (2.34 - 3.00) Fully Functional

School A obtained a varying degree of ratings. Significant weighted scores of 2.80 and 2.64 are on the following: "provides all major circulation services"; "customer can register and their accounts are created and managed through the library system"; and "the staff can access all function with a single click or equivalent keyboard command". Other seven items were rated "Functional". But a significant lowest weighted score of 1.74 is on the item, "University student records can be imported from the university registration system into the library system."

School B, seventy (70) percent of the items were rated "Fully Functional" however four of which are rated perfect 3.00 on the following items: "Completely customizable library privileges for users and user groups"; "Enables selected borrower groups to access specific resource categories"; "Alerts library staff when a reserved item is returned and issued"; and "Can track the last customer to borrow an item". However, a significant lowest weighted score of 1.67 was given to the item "Customer can renew their loans through OPAC?"

School C, the weighted scores vary on the ten items listed. A significant weighted score of 3.00 was given on the item, "The staff can access all function with a single click or equivalent keyboard command. Significantly, the lowest weighted score of 1.00 is given on this item, "University student records can be imported from the university registration system into the library system."

Significantly School D, was perceived by the respondents that the academic libraries have no circulation module.

For School E, the respondents rated eight (8) out of ten items "Fully Functional." Two other items were rated "Functional" such as: "Customer can register and their accounts are created and managed through the library system." and "University student records can be imported from the university registration system into the library system."

Based on these, it can be claimed that the academic libraries ILS's circulation module, in general, is working as expected by the participants of this study. Though there are some areas of the ILS which do not fully function, still they are perceived by the respondents to help perform the necessary functions the system is expected to manifest in terms of circulation.

3.2.d Reports Module

School A obtained a varying weighted scores on listed items. The highest weighted score of 2.64 was given on the item, "The system should have the ability to produce overdue reports". However, significant lowest weighted scores of 1.52 and 1.24 were given on the following items: "Generates reservation and recall notices" and "Can display options, e.g., Bar chart, Pie chart, Line chart".

School B obtained a rate of "Fully Functional" in all items and six of which are rated perfect 3.00. However, a rating of 1.67 was given on the item, "Can display options e.g. Bar chart, Pie chart, Line chart".

School C's weighted score of 3.00 were rated based on the four items: "Ability to give current stock by location, call numbers, value and copies"; "Provide row, column, and grand totals in applicable reports"; "Generate number of resources accessioned between a range of dates"; and "Ability to be previewed and / or printed". Significantly, the lowest weighted score of 1.75 was on the three items: "Can display options e.g. Bar chart, Pie chart, Line chart"; "Generates reservation and recall notices"; and "Can generate reports involving materials such as new accessions lists, shelf lists, circulation lists, and bibliographies".

School D, was perceived by the respondents that the academic library possess no reports module.

School E, the respondents rated seven (7) out of ten items "Functional". However, the other three items were rated "Not Functional" such as: "Provide lists, counts, and statistical reports for number of items issued and returned by day, week, month and year"; "Can display options e.g. Bar chart, Pie chart, Line chart"; and "Generates reservation and recall notices".

With a weighted mean ranging from 2.17 – 2.73, it can be claimed that the ILS operates accordingly though there are areas that also need to be improved or fixed.

VARIABLES	School A N=25		School B N=3		School C N=4		School D N=4		School E N=1	
REPORTS MODULE	WM	Remarks	WM	Remarks	WM	Remarks	WM	Remarks	WM	Remarks
a. The system should have the ability to produce overdue reports	2.64	Fully Functional	3.00	Fully Functional	2.50	Fully Functional	-	-	3.00	Fully Functional
b. Can generate reports involving materials such as new accessions lists, shelf lists, circulation lists, and bibliographies	2.40	Functional	3.00	Fully Functional	1.75	Functional	-	-	3.00	Fully Functional
c. Provide lists, counts, and statistical reports for number of items issued and returned by day, week, month and year	2.60	Fully Functional	3.00	Fully Functional	2.00	Functional	-	-	1.00	Not Functional
d. Can display options e.g. Bar chart, Pie chart, Line chart	1.24	Not Functional	1.67	Functional	1.75	Functional	-	-	1.00	Not Functional
e. Generates reservation and recall notices	1.52	Not Functional	2.33	Functional	1.75	Functional	-	-	1.00	Not Functional
f. Ability to give current stock by location, call numbers, value and copies	2.44	Fully Functional	3.00	Fully Functional	3.00	Fully Functional	-	-	3.00	Fully Functional
g. Provide row, column, and grand totals in applicable reports	2.40	Functional	3.00	Fully Functional	3.00	Fully Functional	-	-	3.00	Fully Functional
h. Generate number of resources accessioned between a range of dates	2.04	Functional	3.00	Fully Functional	3.00	Fully Functional	-	-	3.00	Fully Functional
i. Ability to save online	2.36	Functional	2.67	Fully Functional	2.75	Fully Functional	-	-	3.00	Fully Functional
j. Ability to be previewed and / or printed	2.04	Functional	2.67	Fully Functional	3.00	Fully Functional	-	-	3.00	Fully Functional
Average Weighted Mean (AWM)	**2.17**	**Functional**	**2.73**	Fully Functional	**2.45**	Fully Functional	-	-	**2.40**	**Functional**

` *Range: (1 - 1.66) Not Functional (1.67 - 2.33) Functional*
(2.34 - 3.00) Fully Functional

3.3. Problems Encountered in Using the Integrated Library System (ILS)

Problems Encountered	A		B		C	
	f	%	f	%	F	%
1. Insufficient training on how to operate all modules of the integrated library system (ILS) proficiently.	7	41.18	2	40.00	1	20.00
2. Back up and restore of data is not well documented and intuitive	6	35.29	1	20.00	1	20.00
3. Vendor does not provide a software maintenance program	3	17.65	1	20.00	1	20.00
4. No administrative support in upgrading the Integrated Library System	0	0	1	20.00	1	40.00
5. Others	1	5.88				
Total	17	100.00	5	100	4	100.00

As shown in the table, only 3 schools (i.e., represented by letters A, B, and C) reported to have encountered problems in using the Integrated Library System. Data show that the most significant problems encountered were "insufficient training to operate the modules," "no proper documentation of data," "the software vendors lack of maintenance program," and "no administrative support in upgrading the ILS." These results confirm Sani and Tiamiyu's (2005) claim that the automated services are far from adequate and that the inadequacy of funds and in human resources are considered as two of the major obstacles militating against the automated services. This further emphasizes Amekuedee's (2005) stance that "even though the university libraries realize the importance of library automation, they are hindered by lack of funds, skilled staff to embark on automation of all library processes."

4. Conclusion

The evaluation of the Integrated Library System's Functionality in the five academic libraries in Dumaguete city shows that the ILS is functioning according to what it upholds as claimed by the participants of this study. However, there are some specific functions which needed to be looked into and improved by the software

vendors themselves; and that these problems also behoove the respective academic institutions' administration to work hand in hand with the school library personnel, IT professionals and library users so the ILS's operations will be fully functional and will in return contribute to the welfare of the academic community in general.

In the light of the findings, using the Integrated Library System whether it is for commercial in-house or open source, it enhances the efficiency of the librarians and library users, reduces cost, enhances the productivity of the library personnel, saves time, and enhances the presentation of the Library.

5. Acknowledgements

The researcher wishes to express his sincere gratitude to the people who have significantly assisted and contributed vital information, ideas, knowledge, expertise and financial support to accomplish and complete his study:

Mary Jhoanne T. De la Cruz, Adviser, for her expertise and full generosity and full support coupled with her commendable help and encouraging and humble aura to inspire the researcher to finish this professional endeavor;

Dr. Joemert C. Endam, Statistician, his kind and gentle persuasion, encouragement and assist the researcher to deeply understand the statistical aspect of the research including the precious time allotted despite busy schedules;

Ms. Catherine and Chloe Cadiz for their untiring, unselfish support, accommodation, and sincere contributions to make this work a success;

To the librarians, library staff, students and faculty, of Foundation University, Silliman University, Negros Oriental State University, St. Paul University and STI Dumaguete City for the honest, sincere and cooperative spirit for the data gathered.

To my colleagues at Negros Oriental State University Siation Campus, the faculty, and staff for the continual prodding and support afforded;

Msgr. Julius Perpetuo S. Heruela, the spiritual adviser, whose invaluable guidance made the researcher strong to continue this paper;

My brothers and sisters of Ang Lingkod ng Panginoon (ALNP) community, for the help extended throughout the many years in spiritual growth that gave way to shape my life modestly as servants of the Lord.

To my dear Divahlee Abad, my guiding light in all the task I need to accomplish. Thank you for the sharing, love, moral support and for believing in my capacity to achieve success.

His Mother Cherry, Brothers Boy and Elvin, and sister Gigi, for the patience, generosity and constant understanding that serve as my greatest inspiration to become determined in this endeavor.

To those whom I failed to mention but have given enough unsolicited advices and suggestions to make this humble study a remarkable professional symbol of academic upliftment.

Above all, to God Almighty, for His unconditional love, guidance and Divine Mercy.

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