

Perceived Impact on the Adoption of Koha on the State University Library's Management System

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Abstract—The study was conducted primarily to describe the adoption of the Koha Integrated Library System in a state university library. This study used the descriptive-correlation type of research utilizing frequency, percentage, standard deviation, and weighted mean to determine the responses of the participants. The Spearman's Rho correlation coefficient was also used to relate the variables of the study. The study selected the library employees of a state university as the participants of the study. Based on the findings of the study, the participants' level of awareness on the acquisition, cataloguing, circulation, member's registration, and reporting modules of the Koha Integrated Library System was averagely described as high. Moreover, the participants' demonstration of practices relevant to the use of the library system was also described as high. Furthermore, the participants' perceptions of the impact of the use of the Koha Integrated Library System were also high. Finally, the relationship of the variables of the study was determined using the Spearman's Rho correlation coefficient and the finding of the study revealed that the participants' level of awareness and practices on the Koha Integrated Library System are significantly related to the perceived impact of adopting the system. This study points to the need of the university library officials to frequently conduct an in-house awareness program of the functions of the different modules of the Koha Integrated Library System, especially for library systems that are updated to the latest version.

Keywords—Adoption of Innovation, Koha Integrated Library System, Library Management System.

I. INTRODUCTION

Library automation is one of the major technology applications implemented in libraries locally and globally. The Integrated Library System is a Library Automation System consisting of hardware, software, peopleware, procedures and data that provide a number of benefits to the library and information services a number of benefits.

Libraries usually select three types of Integrated Library System: namely, open source, commercial or proprietary, and in-house. According to [1] Open source library system is a library software where the programming codes are "open," that is, the source code for the programming is free and available to anyone – users can look at it, it can be modified for the librarian's own specific purposes, and most importantly, it can be used and redistributed for others to use. The use of library systems, more and more functions of the library are being automated, and the software is continually improving and upgrading. Currently, libraries have automation systems that manage their serials, track and process their interlibrary loan requests, acquire materials from vendors, and provide patron authentication for remote access to the electronic databases on their web sites.

The Koha Integrated Library System (ILS) is one of the free softwares licensed under Open Source Software. This

particular library system was developed in [2] New Zealand by Katipo Community for the library that preferred to use free software instead of a commercialized software. This is also the software used in the library, where the researcher is currently working. This software was deployed in early 2013 to replace the in-house library system which was made by one of the former IT employees of the said university.

The adoption of this software is not easy because some of the library employees are not willing to use it, some still preferred the traditional practice, others are not convinced of the benefits they can get from the software, and others do not have the necessary skills and knowledge on how to use and operate the computers that run the software and at the same time is used to access the software. This study aims to know the adoption of the Koha Integrated Library System by describing the library employees' awareness and practices towards the Koha ILS and to draw some impacts in the Organization and Management of the library resources, circulation, and reporting of the library's activities.

The adoption of the Koha ILS based on awareness and practices has a conceptualized relationship or presumed cause that implies improvement or development of library services in the areas of Organization and Management of the library resources, circulation services, and reporting of the library's activities. This research study was conducted primarily to look at how the Koha ILS can benefit the entire library by saving the time spent by the librarian in their day-today tasks and by the provision of a responsive library services to the library clientele. The importance of this study was also derived from the fact that libraries and librarians must increasingly demonstrate their pivotal role in education and research through provision of academic services, to the academic community. To [3] pursue their vital role in higher education; academic libraries must continue to refine high-quality user services that benefit from the use of technology-based information systems in order to anticipate changing needs, requirements and expectation.

This study is anchored on three theories; namely the **Diffusion of Innovation** theory by [4] Everett Rogers (2003), **Scientific Management** by [5] Frederick Taylor (1964), and the **Expectancy theory** by [6] Victor Vroom (1909). *Diffusion of Innovation* has always been the much used theory in implementation of innovation in many organizations such as innovative ideas in the library. The theory aims to give explanation about how and why innovative ideas and technology spread through cultures. In library setting, the adoption and implementation of an Integrated Library System can be considered as an innovation primarily because it will create a new environment where all the manual and traditional

practices in library management and services become more systematized and automated. The *Scientific Management Theory*, on the other hand, describes how the application of the scientific method to the management of library, to a great extent, could improve output to a great extent. Scientific management methods called for optimizing the way that tasks were performed and simplifying the jobs enough so that workers could be trained to perform their specialized sequence of motions in the one "best" way. The management of the library can be seen as interconnected and systematized as the Koha ILS can provide the necessary functions, with the use of its modules, for the different tasks to be integrated. The library is also composed of sub-systems; these sub-systems must function in order to support the function of the library in general. Finally, the *Expectancy theory* also attempts to explain what motivates people in the workplace. This theory is more concerned with the cognitive antecedents that go into motivation and the way they relate to each other. It is a motivation theory that is based on the idea that people believe about the relationships between the effort they put forth in the work, the performance they achieve from that effort, and the rewards they achieve from their effort and performance. In other words, people will be motivated if they believe that strong effort will lead to desired rewards (Lunenburg, 2011). In the library, the library employees will receive a reward in a form of recognition from their user community that they are doing what is expected of them.

II. METHODOLOGY

A descriptive-correlation research was employed in this study since the main intention was to determine the level of awareness and practices of the library employees towards the Koha ILS in relation to the perceived impact of adopting the said library system. The study used the descriptive statistics (frequency, mean, percentage and standard deviation) to determine the level of awareness and practices towards the Koha ILS, and inferential statistics (Spearman Rho) to measure the relationships of the variables of the study. The researcher intended to involve the entire 121 library employees of the Mindanao State University, Marawi City as the participants of the study. A researcher-made questionnaire were used in the study. The said questionnaire was composed of five (5) questions on acquisition module, six (6) on cataloguing module, thirteen (13) on circulation module, five (5) on member registration module, and ten (10) questions on the reporting module, under the awareness. There were also nineteen (19) questions about practices. Finally, there were eight (8) stated questions in Organization and Management of the library resources, circulation, and reporting of the library's activities.

The questionnaire underwent content validity by pilot testing to the library employees to determine the reliability. Using the Alpha Cronbach coefficient, the instruments yielded the following values:

Acquisition Module = 0.885, Cataloguing Module = 0.891, Circulation Module = 0.884, Members Registration Module = 0.847, Reporting Module = 0.953, Ease of Use = 0.791, Organization and

Management = 0.865, Circulation Services = 0.865, Library Report Management = 0.809.

According to [7] Spiliotopoulou (n.d.), editors and reviewers consider a measure with alpha equal to or greater than 0.70 as reliable for research purposes. From the Alpha values yielded, the items in instruments were considered "reliable".

III. FINDINGS

Table 1.
Participants' Level of Awareness of the Functionalities of Koha Integrated System

Functionalities of Koha Integrated System	Mean	SD	Description
Acquisition Module	4.22	1.02	Moderately High
Cataloguing Module	4.66	0.79	High
Circulation Module	4.92	0.69	High
Member Registration Module	4.84	0.87	High
Reporting Module	4.79	0.88	High
Overall Mean	4.68	0.85	High

Table 1 presents the Participants' Level of Awareness on the functionalities of the Koha Integrated Library System. In a nutshell, the participants were highly aware of the functionalities of the Koha Integrated Library System as indicated with an overall mean of 4.68. It was on circulation module that got the highest mean of 4.92, while acquisition module got the lowest mean of 4.22.

This result also implies that the library employees were all aware that the Koha Integrated Library System has the capabilities to provide different sort of reports on different occasions. The result is highly expected because each sections of the MSU Main Library as well as the College/Satellite Libraries needs to generate their own specific reports and pass it to the Administrative Services Division of the University Library after the semester ends. The reporting module is the life-saver of the librarians of the said university because of the fast, accurate, and reliable report generation of the system. Additionally, the system can also store data in the database so the librarian can access it again in the future. This result is supported by the paper of [8] which stated that about 42.86% librarians in India rated the modules of the Koha ILS as excellent.

Table 2 shows the participants' demonstration on their practices relevant to the use of the Koha Integrated Library System in terms of ease of use. Averagely, the overall description of their practices is high with a mean of 4.64. As shown, fifty-six (56) or 57.73 percent of the participants demonstrated high practice in the ease of using the Koha Integrated Library System, thirty-six (36) or 37.11 percent were moderately high, while three (3) or 3.09 percent were very high, and two (2) or 2.06 percent were demonstrated a low practices.

Table 2.
Distributions of Participants' Demonstration of Practices Relevant to the Koha Integrated System (Ease of Use)

Range	Description	F	%
5.51 – 6.0	Very High	3	3.09
4.51 – 5.50	High	56	57.73
3.51 – 4.50	Moderately High	36	37.11
2.51 – 3.50	Moderately Low	0	0.00
1.51 – 2.50	Low	2	2.06
1.0 – 1.50	Very Low	0	0.00
Total		97	100.0

Overall Mean: 4.64 SD: 0.54 Description: High

This result suggests that the adoption of the Koha Integrated Library System is not actually difficult because the library employees of the State University demonstrate positive practices. Similarly, the Koha Integrated Library System is not difficult to learn and to adopt because of the positive attitudes of the employees towards the system such as they don't feel irritation when somebody is teaching them on how to use the system (M=2.38), and they also exercise fairness and equality in delivering the best and excellent library services to its user community with the provision of the Koha Integrated Library System (M=5.02).

Table 3
Summary Table of the Participants' Perception of the Impact of the Use of the Koha Integrated Library System

Perceived Impact of the Koha Integrated System	Mean	SD	Interpretation
Organization and Management of the library resources	5.10	0.58	High
Circulation Module Services	5.03	0.61	High
Reporting of the library's activities.	4.98	0.58	High
Overall Mean	5.04	0.59	High

Table 3 shows the Summary of the participants' perception of the impact of the use of the Koha Integrated Library System. As shown, the participants' perception of the adoption of the Koha Integrated Library System were all described as high with an overall mean of 5.04. This result implies that the adoption the Koha Integrated Library System has a perceived impact in the areas of Organization and Management of the library resources, Circulation Module Services, and Reporting of the library's activities

The result on the Organization and Management of the library resources implies that the adoption of the Koha ILS has a high Impact in the Organization and Management of the Library and its holdings because of the flexibility that the system is capable of doing. Because of the integration of the different aspects and facets of the library, the librarian can check, see, and identify the different transactions made by the

library users in each of the section of the main library and the college library anytime. The Koha Integrated Library System is also a great tool in monitoring the day-to-day operation of the library regularly because it operates in a so-called networked environment of computers which the system runs via the web-browsers. According to the study conducted by [10] stated that the Koha ILS is an asset in Management and organization of knowledge. They further explained that Using the principle of copy cataloguing, information professionals avoids duplicating and wasting time and resources in processing and organization of knowledge. Reference, research and communication services involving information Organization have also improved and Searching of information resources and services through internet access points like Web OPAC is easier, faster, effective and efficient.

The result on the circulation services also implies the great advantages of the library, particularly in circulating the library resources to its library user community with the use of the system's circulation module. The traditional way of circulating library resources was very tiresome because it used a paper-based recording where the librarian needs to record the time and the date of the transactions. The records were then combined and consolidated as a circulation report in a very long period of time. With the use of the circulation module of the Koha ILS, all the transactions were recorded by the computer each time a transaction took place and stored in the database of the said system, there it can be retrieved anytime the librarian wanted to retrieve them. The study of [9] stated that automation of library services generally has the benefit of saving the professional manpower time because performing the routine and repetitive technical works such as charging and discharging of records job are saved in automated library environment.

Another Impact of adopting the Koha Integrated Library System is the amount of time that will probably be saved in the sequence of doing the tasks in the library. An example of that is when doing an inventory of the holdings of the library, the Koha Integrated Library System can simultaneously clean the record of each specific library collection such as when a number of books are physically on the shelves but the librarian failed to return them on the system because of power interruption, the Koha Integrated Library System will bring them back into its default status. Another Impact of adopting the Koha Integrated Library System is the system's capability of integrating the library lending policies to the circulation module. The module can identify and tell the librarian what library resources can be borrowed or allowed by the library users. Examples of this kind are the local collections of the library of thesis and dissertation, journals, and reference materials.

The result on the reporting of the library's activities implies that the Koha ILS is a big help to the library in terms of the generation of reports because all of the reports can be generated by the Koha ILS whenever the librarian needs them. The report module of the system is used to produce a variety of reports from the system; examples are the number of loans of circulation count of particular library borrowers, number of overdue loans, and other reports to support the library activities. Moreover, the library employees were also

tried and experienced the benefits of the electronic reports generated by the library system.

Table 4
Spearman Rho Correlation Coefficients Showing Significant Relationships Between the Participants' Awareness, Demonstration of Practices and Perceived Impact of the Koha Integrated Library System

Hypothesis:

The participants' level of awareness and practices on the Koha Integrated Library System are not significantly related to the perceived impact of adopting the system

AWARENESS OF THE FUNCTIONALITIES OF KOHA INTEGRATED LIBRARY SYSTEM	Measures	PERCEIVED IMPACT OF THE KOHA INTEGRATED LIBRARY SYSTEM		
		Organization and Management	Circulation Module Services	Library Report Management
Acquisition Module	Correlation Coefficient	.262**	.258*	.332**
	Sig. (2-tailed)	.010	.011	.001
Cataloguing Module	Correlation Coefficient	.245*	.324**	.374**
	Sig. (2-tailed)	.015	.001	.000
Circulation Module	Correlation Coefficient	.456**	.545**	.546**
	Sig. (2-tailed)	.000	.000	.000
Member Registration Module	Correlation Coefficient	.524**	.470**	.511**
	Sig. (2-tailed)	.000	.000	.000
Reporting Module	Correlation Coefficient	.605**	.499**	.538**
	Sig. (2-tailed)	.000	.000	.000
PRACTICES OF THE KOHA INTEGRATED LIBRARY SYSTEM (Ease of Use)	Correlation Coefficient	.273**	.393**	.341**
	Sig. (2-tailed)	.007	.000	.001

Table 4 shows the relationship between the participants' level of awareness, demonstration of practices and the perceived impact of the Koha ILS using Spearman's Rho correlation coefficient. The data show that the participants' level of awareness and practices on the system are significantly related to their perceived impact of adopting the system. Hence, from the findings of this study, the null hypothesis on no significant relation to the participants' level of awareness and practices on the system to their perceived impact of adopting the Koha ILS can be rejected.

The data further imply that the higher the awareness of the participants on the modules and the demonstrated practices of using the library system, the higher the perceived impact of the system.

IV. CONCLUSION

The Koha Integrated Library System can transform the library in delivering and providing an effective and efficient library services if it is highly utilized by the end-users, the librarians. The said library system can offer various enhancements because of the nature of its programming codes which are open. It can also offer a number of benefits to the library employees especially in the generation of the various records of their activities whenever it is needed by their user community. Furthermore, the library system can also, in one way or the other, contribute in attaining the mission, vision, goals, and objectives of the library to support to the information needs of its parent institution.

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