

## **LIBRARY AUTOMATION SYSTEM OF ACADEMIC LIBRARIES: A MULTICULTURAL PARADIGM**

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### *Abstract*

*This research was conceived to create a picture of the Library Automation System of Academic Libraries in Zamboanga City. The study was premised on null hypotheses which were tested at 0.05 level of significance. The quantitative research design employing descriptive survey method was used. In the selection of respondents, the systematic random sampling was also employed and the five (5) point likert-type questionnaire-checklist was utilized. The findings revealed that the extent of library automation system in terms of: Administration and Staffing; Facilities, and Services of the (3) three Higher Education Institutions (HEIs) involved was found that it is moderately implemented. However, HEIs from public institution showed undesirable results in some areas compared to HEIs from private institution, where the library automation system has been helpful in facilitating loaning services in a multicultural level of clientele. The significant differences among institutions do exist in the library services offered showing that the respondents have their own library services needed to satisfy their needs. It also shows that Academic Libraries are for technological advancement using different library automation systems for different reasons to facilitate library transactions. However, the posited null hypothesis is accepted where all average responses are from 3.40 to 4.19 criteria, implying that whatever ethnic profile respondents belong (multicultural clientele), their responses were similar and were rated within the satisfactory criteria. Therefore, multicultural clientele is not a factor of having poor utilization in the transformation of library services using the Library Automation System. Based on the findings, the full implementation of the library automation system, upgrading of library technology tools and e-resources, creating a functional and interactive library web page, and designing innovative library programs using social media tools to support the educational system with diverse clientele were recommended.*

**Keywords:** *library automation, academic libraries, multicultural library clientele, library automation utilization, library automation system*

## A. INTRODUCTION

Library automation may be defined as the application of computers to perform traditional library housekeeping activities, such as, acquisition, circulation, cataloguing, and reference and serials control. Automation is used to reduce the amount of staff time devoted to repetitive (and often less challenging) activities that must be done in any properly functioning library. It is to remember that various library operations are automated, not the library (Pattom, 2009).

Moreover, automating a school or academic library is a way to restructure its functions and reinvents its services to serve the teaching and learning community more effectively. In this way, automating traditional library make sense to connect and help students from various cultures to become more skilled information users and life-long learners where modernized library and information center is proper planned and implemented.

Today, management of libraries is facing a new situation and unforeseen challenges in this age of information technology (IT). They are reeling under pressure to fulfill their obligation of meeting the diverse information needs of clientele. Libraries need to evaluate, measure the impact of information technology on them. This will equip them with the knowledge of turning this information technology into a boon for improving its services.

In the early 1990's, higher-education institutions already adopted library automation by collecting and reporting data about their academic library's operating expenditures, staffing levels, and holdings for accreditation purposes and annual reports. To properly maintain its role, academic libraries content offerings today extend far beyond the books on library shelves. It also offers vast collections of scholarly articles and digital materials, such as, photographs, documents, or manuscripts managed by an integrated library system or ILS in association with online catalogs to show proportion of its overall collection or library holdings. This broader view of library collections leads to press the new generation of discovery services to a corresponding breadth of scope. Instead of

presenting a menu of different specialized search tools, it is becoming more common for libraries to offer a single search box that addresses all the many different repositories that represent the library's collections.

In Zamboanga City, where diverse cultures are currently manifested also shows on how libraries perform in the delivery of its services to their respective clientele. In this study, it focusses to answer the following questions: 1. What is the extent of library automation system in terms of a) Administration and Staffing; b) Services; and c) Facilities? 2. Is there a significant difference on the library services offered among institutions in terms of: a) Online Public Access Catalog (OPAC) searching services; b) CD-ROM/Internet Services; c) Loaning Services; and d) Current Awareness Services (CAS)? 3. Does the Library Automation System significantly affect the research work and learning of the clientele when classified according to ethnicity: a) Zamboanguenos; b) Tausug; c) Visayan; d) Yakan, e) Others?

As such, hypotheses statements were drawn, to wit: 1. There is no significant difference on the library services offered among selected higher education institutions.; 2. The Library Automation System does not significantly affect research work and learning of the clientele when classified into their ethnic groups. Thus, this study seeks empirical evidence which served as bases for designing a paradigm that contributes in serving Academic Libraries' clientele across cultures in Zamboanga City. Whereby, it benefits the following: library users, librarians, libraries, Higher Education Institutions, administrators, and future researchers.

## **B. METHODOLOGY**

This study used quantitative-qualitative research design employing descriptive survey method. It attempted to determine the library automation system used by academic libraries in Zamboanga City. This method is deemed appropriate since the researcher will deal with quantified data to answer questions.

According to Ardales (2001), among the different types of descriptive researches, the survey is the most commonly-used design. It is suitable for studies wherein the objective of which is to see a general picture of the population under investigation, describe the nature of existing conditions, or determine the relationships that exist between specific variables or events. The descriptive research method is the collection of data from the respondents, whereby direct contact will be made through survey questionnaire. It employed the quantitative method to treat, analyze and interpret the data in order to provide empirical support to the research questions.

Moreover, the study dealt primarily on the Library Automation System of Academic Libraries in Zamboanga City for Academic Year 2014-2015 and to determine its extent in terms of library resources, services and facilities.

### **Respondents and Locale**

A total of 395 respondents were utilized that includes school administrators, faculty, staff, which came from multicultural clientele of the three universities in Zamboanga City labeled as AL-A for Ateneo de Zamboanga University (ADZU). AL-B for Universidad de Zamboanga (UZ), and AL-C for Western Mindanao State University (WMSU). These universities are the only institutions which already adopted library automation for more than five years and catered students from different cultures from neighboring provinces and cities in Zamboanga City. To mention, Zamboanga City is one of the first class cities located at the southern part of the Philippines with more than 150 local dialects from diverse cultures.

### **Research Instruments and Validation**

The development of the most appropriate research instrument for collecting needed data was considered as the major phase of the study. For the purpose of this study, a survey questionnaire was constructed by the researcher based on the statement of the problem using the five-point Likert scale. The

research instrument was adapted and patterned from the CHED Memo No. 52 series of 2007 and the AACUP survey instruments. To identify the instrument used for each item, statements on Administration and Staffing, item numbers 1, 2, 5 and 6 were taken and patterned from AACUP survey instrument while item numbers 3, 4 and 7 both were taken and patterned from CHED and AACUP survey instruments. For statements on Services, item numbers 1, 4 and 7 from AACUP while item numbers 2, 3, 5 and 6 both from CHED and AACUP survey instruments. For statements on Facilities, item numbers 1 to 6 both from CHED and AACUP survey instruments while item number 7 from CHED standard/instrument.

There are three (3) areas that contains in evaluating academic libraries' automation system, to wit: a) Administration and Staffing; 2) Facilities and; 3) Services. It aimed to elicit data on how the respondents feel about the Library Automation in Academic Libraries in Zamboanga City.

Each area contains seven indicators. The first describes on how the library automation system is managed and supervised. Second, describes the effectiveness of the services. The third concerns the functional design of the library that provides adequate and appropriate space and facilities to serve the academic community

The respondents simply indicate their extent of agreement and disagreement to each statement using five-point Likert scale type of questionnaire with its numerical ratings with the corresponding adjectival rating utilized in the interpretation of the study.

Table I shows the scales used in determining the extent of the of library automation system as perceived by respondents in the selected higher education institutions.

**Table 1. Scales Used in Determining the Extent of the Library Automation System**

Numerical Rating	Adjectival Rating	Interpretation
4.20 - 5.00	Excellent	Provision is very much extensive and functioning excellently
3.40 - 4.19	Satisfactory	Provision is moderately extensive and functioning very well
2.60 - 3.39	Average	Provision is adequate and functioning well
1.80 - 2.59	Low	Provision is limited and functioning poorly
1.00 - 1.79	Very Low	Provision is missing but necessary

**Sampling Procedure**

To determine the sample size, the Slovin's formula was employed illustrated herein as:

$$n = \frac{N}{1 + N(e)^2}$$

Where: n = sample size; N= population; 1 = constant; and e = margin of error (.05).

Table II shows the population and sample distribution.

**Table 2. Population and Sample Distribution**

Academic Libraries Respondents' Group	HEIs	Total Population	Total Sample size
Multicultural Clientele	AL-A	4,056	53
(Students, Faculty and	AL-B	8,619	113
Administrative staff)	AL-C	17,428	229
Total		30,103	395

In the selection of respondent, the systematic random sampling was employed. It means that an interval was obtained for each HEI to serve as basis for selection. For example, the interval of 77 was used to AL-A respondents. It means that the respondents whose names are in 77,154,232,308 and so on until the desired number of respondents was obtained. The same process was observed in the selection in other HEIs.

### **Data Gathering Procedure and Delimitations**

The questionnaire was administered in the selected Academic Libraries in Zamboanga City. Retrieval of the questionnaires was automatically done right after the conduct. After the retrieval of the questionnaires, the responses were tabulated, encoded, computed using the Statistical Package for Social Sciences (SPSS), analyzed and interpreted according to the sequence of the problems raised in the study.

Gathering of data was delimited to the use of Commission on Higher Education (CHED) standards and Accrediting Agency of Chartered Colleges and Universities in the Philippines (AACUP) survey instruments specifically for the library area.

### **Statistical Treatment of Data**

The data obtained from the responses were treated with high degree of confidentiality and were organized and analyzed with the use of the following statistical tools. Portions of the analysis were done using descriptive statistics while deeper treatment involved non-parametric test. Before employing this method, data were tested using Kolmogorov-Smirnov test which revealed that data follows some characteristics of a normal distribution. For Problem no. 1, Frequency Count and Weighted Mean; Kruskal-Wallis was utilized on problem no. 2. While Spearman Rho was used to test the significant difference and association for Library Automation Services across Ethnicity. The over-all assessment of the library automation system was determined using 5-point Likert whereby weighted mean was calculated to indicate satisfaction level.

## **C. RESULTS, DISCUSSIONS AND ANALYSIS**

This study contains quantitative and qualitative data obtained from the responses of 395 multicultural library clientele from the three selected HEIs in Zamboanga City. The discussion is carried out according to the sequence of the problems raised in this study.

The first problem that this study sought to answer was, "What is the extent of library automation system in terms of administration and staffing, facilities, and services?" There are three indicators used to gauge the extent of library automation system of Academic Libraries in Zamboanga City. These are administration and staffing, facilities, and services. Each indicator has seven statements. The results are shown in the following tables on the Extent of Library Automation System.

The summary results for **administration and staffing** are presented in Table 3.

**Table 3. Extent of Library Automation System in terms of Administration and Staffing**

Item/Indicators	Weighted Mean	SD	Adjectival Rating
1. The library personnel allow and encourage the fullest and most effective use of available library resources	4.18	.81	Satisfactory
2. The organizational structure of the library IT Specialist System Administrator is clearly drawn in the organizational chart.	4.05	.82	Satisfactory
3. There is an adequate number of clerical and support staff to assist the Automation System.	3.95	.86	Satisfactory
4. Library It/System personnel are well trained, qualified and knowledgeable in assisting clientele.	4.10	.83	Satisfactory
5. The library automation system maintains written policies and procedures.	4.22	.81	Satisfactory
6. These policies are conspicuously posted and efficiently implemented.	4.13	.85	Satisfactory
7. There is an accessible and adequate research system: update catalogs/ online public access catalog (OPAC) for clientele.	4.03	.94	Satisfactory
<b>Grand Mean</b>	<b>4.09</b>	<b>.66</b>	<b>Satisfactory</b>

Adjectival equivalent:

Very Low = 1.00-1.79; Low =1.80-2.59; Average =2.60-3.39; Satisfactory =3.40- Excellent =4.20-5.00

As gleaned in Table 3, it shows that among the seven indicators, statement number 5 obtained the highest mean rating of 4.22 described as "Excellent". It means the provision of library automation system maintains written policies and



procedures is very much extensive and functioning excellently. It indicates that selected HEIs maintain written policies and procedures of the library automation system.

However, statement number 3 yielded the lowest rating of 3.95 described as "Satisfactory". It implies that the provision of an adequate number of clerical and support staff to assist the Automation System is moderately extensive and functioning very well. The over-all assessment of the respondents on the Library Automation System in terms of administration and staffing is 4.09 described as "Satisfactory". It indicates that the provision of Library Automation System in terms of administration and staffing is moderately extensive and functioning very well. The results indicate that academic libraries in Zamboanga City are concerned with the clients' needs and satisfaction, who are the faculty, employees, school administrators and students. It further implies that academic libraries are staffed by competent library personnel who willing to assist the needs of the clientele. According to Claravall (2005), every staff member, librarian, information personnel should know how to translate customer expectations about quality service and the library information centers service convictions into actions. To help the staff respond to patrons, use the training period to describe good service, provide a service role model and give staff members an opportunity to practice quality service in a non-threatening situation. Furthermore, Claravall (2005) stipulated that in providing quality service, the librarian must be concerned with and understanding on clients' needs, providing the right service to meet these needs, implementing a satisfactory delivery system to ensure appropriate and timely service, balance resources and constant commitment to the organizational goals.

The summary results for Services are presented in Table 4.

**Table 4. Extent of Library Automation System in terms of Services**

Item/Indicators	Weighted Mean	SD	Adjectival Rating
1. Library Automation system helps facilitate in the loaning services faster and easier.	4.00	.87	Satisfactory
2. The Library offers OPAC searching that provides quick and easy retrieval of information.	4.12	.85	Satisfactory
3. CD-ROM/internet access is made available for online searching.	3.97	1.00	Satisfactory
4. There is a functional and interactive library web page for current awareness services (CAS) or regular announcement.	3.90	.92	Satisfactory
5. There is enough collection provided in the automation system.	3.88	.87	Satisfactory
6. Electronic resources (e-books/e-journals) are reliable and relevant to the research needs	3.92	.91	Satisfactory
7. There is a provision for multi-media services for Clientele	3.84	.88	Satisfactory
<b>Grand Mean</b>	<b>3.93</b>	<b>.71</b>	<b>Satisfactory</b>

Adjectival equivalent:

Very Low = 1.00-1.79; Low=1.80-2.59; Average= 2.60-3.39; Satisfactory= 3.40-4.19; Excellent= 4.20-5.00

As gleaned in Table 4 shown that among the seven indicators, statement number 2 yielded the highest mean rating of 4.12 described as "Satisfactory". It shows that the provision of OPAC searching provides quick and easy retrieval of information. It shows that the OPAC searching services offered by the selected HEIs can facilitate faster research although it needs some improvements that give more accurate data for metasearch. Moreover, statement number 1 is rated as satisfactory with a mean rating of 4.0. It implies that there are other features of the library system that needs to be included like the returning of books and the overdue fine.

However, statement number 7 generated the lowest rating of 3.84 described as "Satisfactory" which means that the provision of multi-media services for clientele is moderately extensive and functioning very well. It further implies that

upgrading of multi-media equipment and promoting the utilization has less activity.

The over-all assessment of the Library Automation System in terms of services has a mean rating of 3.93 described as "Satisfactory" it implies that the provision for "services is moderately extensive and functioning very well". It further implies that library services of the selected HEIs must be improved through regular acquisition of electronic resources and upgraded facilities and equipment. This also shows that Academic Libraries in Zamboanga City are providing quality library service since library personnel are concerned with the information management to be effectively used by clientele. According to Lankes et.al, (2003), in order to facilitate the interoperability of these heterogeneous services, several predetermined functionalities, or standards, need to be in place. One is to identify potential partnership organizations and the other is how to get and give information with the aid of information technology.

The summary results for **Library Facilities** are presented in Table 5.

**Table 5. Extent of Library Automation System in terms of Facilities**

Item/Indicators	Weighted Mean	SD	Adjectival Rating
1. The Library and its system are accessible from any point of activity in the campus	4.10	.84	Satisfactory
2. The library has enough computer units for searching.	3.85	1.05	Satisfactory
3. There is enough equipment to facilitate electronic resources.	3.84	.95	Satisfactory
4. Adequate space and seating arrangements are provided	4.22	.82	Satisfactory
5. The Library is well-lighted.	4.29	.82	Satisfactory
6. The Library is properly ventilated	4.01	.98	Satisfactory
7. The furniture and facilities are functionally and aesthetically arranged	4.20	.88	Satisfactory
<b>Grand Mean</b>	<b>4.07</b>	<b>.73</b>	<b>Satisfactory</b>

Adjectival equivalent:

Very Low =1.00-1.79; Low =1.80-2.59; Average =2.60-3.39; Satisfactory =3.40-4.19; Excellent=4.20-5.00

As gleaned on Table 5, it shows that among the seven indicators, statement number 5 garnered the highest mean rating of 4.29 described as "Excellent". It means that the provision of lights in the library is very much extensive and functioning excellently. It also shows that statement number 4 obtained an excellent rating of 4.22. It indicates that selected HEIs have a very good lighting facility and adequate reading areas or space that provides a convenient research activity to clients. However, statement numbers 2 and 3 are rated closely to each other yielded the lowest rating of 3.85 and 3.84 respectively described as "Satisfactory". It shows that the provision of equipment to facilitate electronic resources is moderately extensive and functioning very well. It indicates that acquisition of equipment is necessary because of the increasing number of clients who use the electronic resources.

Furthermore, statement number 1 is rated with a Satisfactory rating of 4.10. This shows that there is really no perfect library system, be it on the part of librarians' competency or training and the system alone experiencing debugging such as printing, encoding of library data files.

The overall assessment of the Library Automation System in terms of facilities is 4.07, described as "Satisfactory". It suggests that the provision of library facilities is moderately extensive and functioning very well. It shows that the facilities of the Academic Libraries in Zamboanga City are accessible with functional equipment and sufficient space for research work and learning is evident. However, continuous acquisition and upgrading of facilities and equipment is considered for greater and wider access to information. To insure that students and other members of the academic community of the university to have access to and can use successfully the library collections, access to off-site information and enjoy facilities conducive to achieving their purposes in coming to the library (Claravall. 2005).

This is what Taala (2008) contended that the library is considered as the most important intellectual resources of the academic community, the library should gear its services with its learning facilities to implement the general

program and specific educational objectives of the institution. He further reiterates that the facilities of the library should be available to facilitate services. Ibrahim (2004) also stressed that the Australian National Office of Overseas Skills Recognition (NOOSR) claims that modern instructional resources motivate students to study more. Modern innovations allow them to expose themselves earlier to more complicated facilities they may encounter later in the fields of work. A college or university with modern instructional resources and better library and laboratory facilities provides its students with better quality training.

The second problem that this study sought to answer was, "Is there a significant difference on the library services offered among institutions in terms of: a) Online Public Access Catalog (OPAC) Searching Services; b) CD ROM/Internet Services; c) Loaning Services; and d) Current Awareness Services?" To answer to this question, Kruskal-Wallis was used to determine whether there is a significant difference on the responses of the clientele in the selected HEIs. The results are shown in the following tables.

**Table 6. Evaluation of OPAC Searching Services across Institutions and Test of Significance**

The Library offers OPAC searching That provides quick and easy retrieval information				Higher Education Institutions						Total	
				AL-A		AL-B		AL-C		n	%
Very Satisfactory	Low	Low	Average	n	%	n	%	n	%		
				0	0.0	0	0.0	1	0.4	1	0.3
				0	0.0	1	0.9	8	3.5	9	2.3
				8	15.1	14	12.4	66	28.8	88	22.3
				11	20.8	43	38.1	86	37.6	140	35.4
				34	64.2	55	48.7	68	29.7	157	39.7
Total				53	100.0	113	100.0	229	100.0	395	100.0
Test of Significance for OPAC Searching Services											
Test of significance				Total	H-test	Df	Asymptotic Sig. (2-sided test)	Interpretation			
				N							
Kruskal-Wallis				395	30.284	2	0.0001	Significant			

Across the three institutions, OPAC searching services are rated from satisfactory to excellent (75.1%) and only less than 25% rated from very low to average. Within the surveyed HEIs, HEI AL-A showed the highest frequency of excellent responses (64.2%) while HEI AL-B had the second highest excellent

rating (48.7%). HEI AL-C had the least frequency of excellent responses (29.7%), having a majority response of satisfactory (37.6%). Both HEI AL-A and HEI AL-B are private institutions, while HEI AL-C is a public institution

The varied responses across institutional showed a significant difference as presented in Table 6. The H-test is 30.284 with a p-value of 0.0001 which is significant at 0.05 level of significance. It implies that across institutions there is a significant difference on the level of OPAC searching services provided. Among the institutions, HEI AL-A garnered the highest percentage of 64.2% as "Excellent" followed by AL-B with 48.7% and AL-C garnered the lowest percentage of 29.7%. On the other hand, HEI AL- C garnered the lowest rating emphasized that full implementation and exploring the system is still on process

The results showed that library research using OPAC depends upon the application and data inputted such as author's name and lists of vocabulary used by clientele. According to Weng (2008), that user behavior and expectations have changed in the academic library OPACs and many OPACs have not adopted to these new expectations.

**CD-ROM/Internet Service**

Library services for Internet access and CD-ROM learning materials are also assessed across institutions. Table 7 shows the responses on the extent this type of service.

**Table 7. Evaluation of CD-ROM/Internet Services across Institutions And Test of Significance**

CD-ROM/Internet access is made available for online searching	Higher Education Institutions							Total	
	AL-A		AL-B		AL-C		n	%	
	n	%	n	%	n	%			
Very Low	0	0.0	0	0.0	11	4.8	11	2.8	
Low	0	0.0	0	0.9	18	7.9	18	4.6	
Average	8	15.1	12	10.6	67	29.3	87	22.0	
Satisfactory	17	32.1	41	36.3	77	33.6	135	34.2	
Excellent	28	52.8	60	53.1	56	24.5	144	36.5	
Total	53	100.0	113	100.0	229	100.0	395	100.0	
Test of Significance for OPAC Searching Services									
Test of significance	Total N	H-test	Df	Asymptotic Sig. (2-sided test)	Interpretation				
Kruskal-Wallis	395	52.991	2	0.0001	Significant				

The Internet access and relevant services are available across the three institutions. Overall, there is a satisfactory to excellent rating for this type of service (70%). Similarly, HEI AL-B and HEI AL-A showed high responses for excellent ratings, as much as 53.1% and 52.8% respectively. HEI AL-C had the most response of a satisfactory rating (33.6%) followed by an average rating (29.3%). For HEI AL-C, there are more respondents who rated the Internet access services as average to satisfactory (62.9%) than satisfactory to excellent (58.1%). And only HEI AL-C showed undesirable results of poor to low as rated by 12.7% respondents whereas other HEIs did not have any rating of poor and low.

The test for significant difference for this type of service across the institutions is highly significant as presented in Table 7 as evident in the test statistics of 52.991 and p-value of 0.0001 significant at 0.05 level of significance. This implies that the level of services provided for Internet access and CD-ROM learning materials has a significant difference across HEIs. Among the institutions, HEI AL-B garnered the highest percentage of 53.1% as "Excellent" followed by AL-A with 52.8% and AL-C garnered the lowest percentage of 24.5%. This further shows that HEI AL-B has enough electronic resources and equipment to aid clientele in their research. While HEI AI-C has less electronic resources and lack of equipment to aid research activity of the clients. Results also showed that fast Internet connection is needed to facilitate faster research. David (2000) explained that Internet provides global information and interaction. As such, Internet search engines not only provided viable alternative to traditional sources of information but forever changed user expectations regarding the information provision role of libraries.

### **Loaning Services**

As for loaning services, most of the respondents rated satisfactory mark for this type of library service (40.3%), as presented in Table 8 showing the responses on the extent of this type of service. There are also 32.2% of respondents who rated excellent service and as much as 23.8% who rated it as average.

**Table 8. Evaluation of Loaning Services across Institutions And Test of Significance**

Library Automation system helps facilitate in the loaning services faster and easier.	Higher Education Institutions						Total	
	AL-A		AL-B		AL-C		n	%
	n	%	n	%	n	%		
Very Low	0	0.0	0	0.0	3	1.3	3	0.8
Low	0	0.0	0	0.0	12	5.2	12	3.0
Average	8	15.1	12	10.6	74	32.3	94	23.8
Satisfactory	14	26.4	42	37.2	103	45.0	159	40.3
Excellent	31	58.5	59	52.2	37	26.2	127	32.2
Total	53	100.0	113	100.0	229	100.0	395	100.0
Test of Significance for OPAC Searching Services								
Test of significance	Total N	H-test	Df	Asymptotic Sig. (2-sided test)	Interpretation			
Kruskal-Wallis	395	70.277	2	0.0001	Significant			

Among the institutions, HEI AL-C has satisfactory as the highest response (45.2%), which is closely followed by average (32.3%). Both HEIS AL-A (52.2%) and HEI AL-B (58.5%) have excellent as the highest response, showing majority of responses for each participating HEI. There is no response for low and very low ratings for these two institutions, while HEI AL-C showed 6.5% of responses for low and very low ratings. This may imply that the Library Automation system for HEI AL-C may not have been helpful in facilitating loaning services, as compared to HEI AL-A and HEI AL-B.

When tested statistically, results show that there is a significant difference in the responses in Library Automation services in facilitating loaning services across the three institutions. Among the institutions, HEI AL-A garnered the highest percentage of 58.5% as "Excellent" followed by AL-B with 52.2% and AL C garnered the lowest percentage of 16.2%. The result for loaning services is the same with CD-ROM/Internet services as to which HEI garnered the highest and lowest percentage. It simply shows that having enough resources and equipment will also have an excellent loaning service. In other words, the consistency between the resources and the loaning services is reflected.

Rulona (2005) emphasized that library service is an effort to improve the quality of service open to library users, such as the means to derive customer input and satisfaction, and organizational response mechanisms. It is a common



practice for any type of library concerned with services to support the educational and research objectives of its parent organization. According to Anday (2008). The users have knowledge about availability of electronic resources, but many use them as the supplementary way to use information.

### Current Awareness Services

Table 9 presents the results on the question if there is a functional interactive library web page for current awareness services across the institutions. The findings among all institutions showed a satisfactory level (40.8%) on this type of library service.

**Table 9. Evaluation of Current Awareness Services across Institutions and Test of Significance**

There is a functional and interactive library web page for current awareness services (CAS) or regular announcement	Higher Education Institutions						Total	
	AL-A		AL-B		AL-C		n	%
	n	%	n	%	n	%	n	%
Very Low	1	1.9	0	0.0	2	0.9	3	0.8
Low	1	1.9	3	1.8	23	10.0	27	6.6
Average	12	22.6	14	12.5	66	28.8	92	23.4
Satisfactory	25	47.2	51	45.5	85	37.1	161	40.8
Excellent	14	26.4	45	40.2	53	23.1	112	28.4
Total	53	100.0	112	100.0	229	100.0	395	100.0
Test of Significance for OPAC Searching Services								
Test of significance	Total	H-test	Df	Asymptotic	Sig.	Interpretation		
	N			(2-sided test)				
Kruskal-Wallis	395	24.175	2	0.0001		Significant		

As gleaned in Table 9, the highest response falls under the satisfactory for all three institutions. The HEI AL-B shows a substantial number of excellent responses (40.2%), while HEI AL-A and HEI AL-C have 26.4% and 23.1% excellent ratings, respectively. In this type of library service, all HEIS showed average to very low responses as much as 39.7% for HEI AL-C, 14.3% for HEI AL-B and 26.4% for HE AL-A. The results in this category, describe the deficiency of regular announcements or a functional interactive library web page among institutions.

Table 9 also illustrates a significant result in the difference of responses in assessing the current awareness services in the library automation system across the three institutions. Test statistics is 24.175 with a p-value of 0.0001 that

significant at 0.05 level. It implies that the assessment of the three institutions for the library current awareness services show significant responses on the varied responses given by each HEI. Among the institutions, HEI AL-B garnered the highest percentage of 40.2% as "Excellent" followed by AL-A with 26.4% and AL-C garnered the lowest percentage of 23.1%. It shows that HEI AL-B is frequently conducting a regular announcement through functional and interactive library website, while the other two HEIs give less importance to this service. According to Morville (2007). The density of information on most Web sites is quite high, which essentially decreases the "findability" of information. Therefore, the posited null hypothesis is rejected, that the significant differences do exist on the library services offered among institutions.

The third problem that this study sought to answer was, **"Does the Library Automation System significantly affect the research work and learning of the clientele when classified as: a) Zamboangueño; b) Tausug; c) Visayan; and d) Yakan?"**

#### **Library Automation System vs. Multicultural Aspect**

To compare if cultural aspect affects the ratings in the assessment of the Library Automation System for HEIs in Zamboanga, the ethnic profile is crossed tabulated across test responses. Prior to this, ethnic profile is provided per HEI. The ethnicity profile of institutions is presented in Table 10.

**Table 10. Multicultural Profile of HEIs**

Multicultural Profile of Respondents by Institution	Higher Education Institutions						Total	
	AL-A		AL-B		AL-C		n	%
	n	%	n	%	n	%		
Zamboangueños	33	62.3	38	33.6	90	39.3	161	40.8
Tausug	6	11.3	35	31.0	81	35.4	122	30.9
Visayan	10	18.9	27	23.9	44	19.2	81	20.5
Yakan	1	1.9	2	1.8	5	2.2	8	2.0
Others	3	5.7	11	9.7	9	3.9	23	5.8
<b>Total</b>	<b>53</b>	<b>100.0</b>	<b>113</b>	<b>100.0</b>	<b>229</b>	<b>100.0</b>	<b>395</b>	<b>100.0</b>

As gleaned in Table 10, HEI AL-C has ample number of Zamboangueños (39.3%) and Tausugs (35.4%). There are also 19.2% of Visayans and 2.2% of Yakans and 3.9% from other ethnic groups. HEI AL-B have 33.6%

Zamboanguenos, 31% Tausugs, 23.9% Visayans, 1.8% Yakans and 9.7% from other ethnic groups, HEI AL-A have a majority of 62.3% Zamboanguenos, 11.3% Tausugs, 18.9% Visayans, and 5.7% from other ethnic groups. HEI AL-C and HEI AL-B have more distributed number of ethnic groups, while HEI AL-A is Predominantly Zamboanguenos. Overall, there are more Zamboangueno respondents (40.8%), followed by Tausugs (30.9%) and Visayans (20.5%). Less than 8% belong to other ethnic groups of Yakan, Waray, Sama, Tagalog and ano. This implies that most of the clientele who are enrolled in the selected HEIs are Zamboanguenos and a native of Zamboanga City whose dialect is Chavacano. It was noted that 30.9% were Tausugs coming from the neighboring provinces of Basilan, Sulu and Tawi-Tawi. It also showed that Visayans have less number compared to Tausug. It could be noted that these Visayans came from the different provinces and cities of Zamboanga Sibugay, Pagadian City, Dipolog City and Dapitan City which are approximately 5 to 8 hours travel time by land to Zamboanga City compared to other neighboring islands of Basilan and Sulu that can be travelled in 45 minutes and 4 hours respectively through boat and fast craft vessel. Other ethnic groups are considered migrants from other regions of the country. This further implies that Zamboanguenos or other ethnic groups preferred to enroll in the university or college located in their own places for economic reason.

To show varied analyses, responses are analyzed through means and frequencies. Table 11 shows the mean scores on Library Automation System in the three categories per ethnic group. While Table 12 provides the cumulative frequencies of responses across ethnic profiles.

**Table 11. Mean Ratings for Library Automation System Survey**

Multicultural Group		Over-all Scores	Administrating and staffing	Services	Facilities
Zamboanguenos	Mean	4.027	3.9425	4.0929	4.0466
	Interpretation	(S)	(S)	(S)	(S)
	N	161	161	161	161
	Std. Deviation	.64772	.74540	.71514	.65044
Visayan	Mean	3.982	3.9122	4.0257	4.0085
	Interpretation	(S)	(S)	(S)	(S)
	N	122	122	122	122
	Std. Deviation	.67990	.71107	.76738	.67281

Multicultural Group		Over-all Scores	Administrating and staffing	Services	Facilities
Tausug	Mean	4.092 (S)	4.0296	4.1337	4.1119
	Interpretation	81 .60771	(S)	(S)	(S)
	N		81	81	81
	Std. Deviation		.65038	.64674	.56544
Yakan	Mean	3.702	3.5725	3.8563	3.6788
	Interpretation	(S)	(S)	(S)	(S)
	N	8	8	8	8
	Std. Deviation	.62424	.45925	.82699	.51388
Others	Mean	3.83	3.6961	3.9439	3.8522
	Interpretation	(S)	(S)	(S)	(S)
	N	23	23	23	23
	Std. Deviation	.71519	.71014	.81253	.69169

Adjectival equivalent:

Very Low =1.00-1.79; Low =1.80-.2.59; Average =2.60-3.39; Satisfactory =3.40-4.19; Excellent=4.20-5.00

As shown in Table 11, all categories showed mean scores ranging from 3.702 to 4.092 indicating a satisfactory level of ratings for administration and staffing, services and facilities of the libraries across all HEIs. An average responses are from 3.40 to 4.19 criteria implying that whatever ethnic profile respondents professed their responses are similar.

**Table 12. Frequency of Responses for Library Automation System across Multicultural Group**

Multicultural Group		Over-all Scores		Administrating and staffing		Services		Facilities	
		N	%	N	%	N	%	N	%
Zamboangueños	Very Low	0	0.0	0	0.0	0	0.0	0	0.0
	Low	5	3.1	2	1.2	8	5.0	6	3.7
	Average	25	15.5	25	15.5	31	19.3	22	13.7
	Satisfactory	62	38.5	56	34.8	57	35.4	56	34.8
	Excellent	69	42.9	78	48.4	65	40.4	77	47.8
Visayan	Very Low	1	.8	1	.8	1	.8	1	.8
	Low	1	.8	1	.8	4	3.3	3	2.5
	Average	25	20.5	15	12.3	16	13.1	27	22.1
	Satisfactory	44	36.1	43	35.2	57	46.7	31	25.4
	Excellent	51	41.8	62	50.8	44	36.1	60	49.2
Tausug	Very Low	0	0.0	0	0.0	0	0.0	0	0.0
	Low	0	0.0	1	1.2	3	3.7	1	1.2
	Average	9	11.1	7	8.6	10	12.3	9	11.1
	Satisfactory	34	42.0	29	35.8	35	43.2	32	39.5
	Excellent	38	46.9	44	54.3	33	40.7	39	48.2
Yakan	Very Low	0	0.0	0	0.0	0	0.0	0	0.0
	Low	0	0.0	1	12.5	0	0.0	0	0.0
	Average	3	37.5	2	25.0	2	25.0	3	37.5
	Satisfactory	3	37.5	3	37.5	5	62.5	2	25.0
	Excellent	2	25.0	2	25.0	1	12.5	3	37.5

Multicultural Group		Over-all Scores		Administrating and staffing		Services		Facilities	
		N	%	N	%	N	%	N	%
Others	Very Low	0	0.0	0	0.0	1	4.3	0	0.0
	Low	1	4.3	1	4.3	0	0.0	1	4.3
	Average	6	26.1	2	8.7	5	21.7	3	13.0
	Satisfactory	9	39.1	12	52.2	12	52.2	9	39.1
	Excellent	7	30.4	8	34.8	5	21.7	10	43.5

Legend:

N=Frequency

Table 12 illustrates the distribution of responses per ethnic group in the over-all scores, administration and staffing, services and facilities. In the total assessment of categories, most ethnic profile has satisfactory to excellent ratings Zamboangueños obtained a satisfactory rating of 38.5% and an excellent rating of 42.9% and Tausugs obtained a Satisfactory rating of 36.1% and an excellent rating of 41.8% showing a similar distribution in the over-all scores from satisfactory to excellent ratings These ratings show the responses of the Zamboangueños and Tausugs to the library automation performance categorized according to administration and staffing, services, and facilities. The Visayans showed almost equal frequencies of responses for excellent and satisfactory. the eight Yakans showed varied responses from average to excellent

Assessment for administration and staffing has majority of excellent responses from Tausug (50.8) to Visayans (54.3%). Zamboangueños also have most responses in the excellent ratings but do not reach more than 50% (48.4%) Yakans showed varied responses from average to excellent while the other ethnic groups like Sama, Waray, Ilocano and Tagalog have a general satisfactory rating (52.2%) The assessment for administration and staffing of having excellent responses by the Tausugs. Visayans and Zamboangueños showed that these ethnic groups evaluate that the library personnel allow and encourage the fullest and most effective use of available library resources and provide accessible and adequate research system for clientele among HEIs. Other ethnic groups evaluated as satisfactory showed that they still want other needs to be provided by the library personnel in attending clientele through library automation

For library services, ratings are mostly satisfactory across all ethnic profiles but Zamboangueños have the most responses of excellent ratings (40.4%) Other groups have also a sufficient percentage of excellent responses It shows that Zamboangueños and other ethnic groups are very much satisfied with the services provided by Academic Libraries using library automation system. The Tausugs and Visayans are not much satisfied of the services provided by library automation it implies that they still want other services to help their research activity faster and easier

Facilities have also been rated from satisfactory to excellent. Although comparing to the total number of respondents, averaging the distribution of ratings are still under the satisfactory category. Less than 50% answered excellent which is closely followed by answers of satisfactory marks for Zamboangueños and Visayans, while responses from Tausugs showed only minimal frequencies for satisfactory ratings. This shows that Zamboangueños, Tausugs and Visayans are not very much satisfied with the facilities and equipment provided in Academic Libraries.

**Table 13. Test of Significance for Library Automation Services Across Multicultural Group**

<b>Test for Sig. Difference</b>	<b>H-test</b>	<b>Df</b>	<b>Asymptotic Sig. (2-sided test)</b>	<b>Interpretation</b>
Over-all scores	5.954	4	0.203	Not Significant
Administration and staffing	6.006	4	0.199	Not Significant
Services	4.117	4	0.390	Not Significant
Facilities	1.514	4	0.824	Not Significant
Test for Sig. Associations	Spearman's rho	Correlation Coefficient	Sig. (2 Tailed)	Interpretation
Over-all Scores		-0.038	0.456	Not Significant
Administration and staffing		-0.028	0.582	Not Significant
Services		-0.033	0.511	Not Significant
Facilities		-0.028	0.583	Not Significant

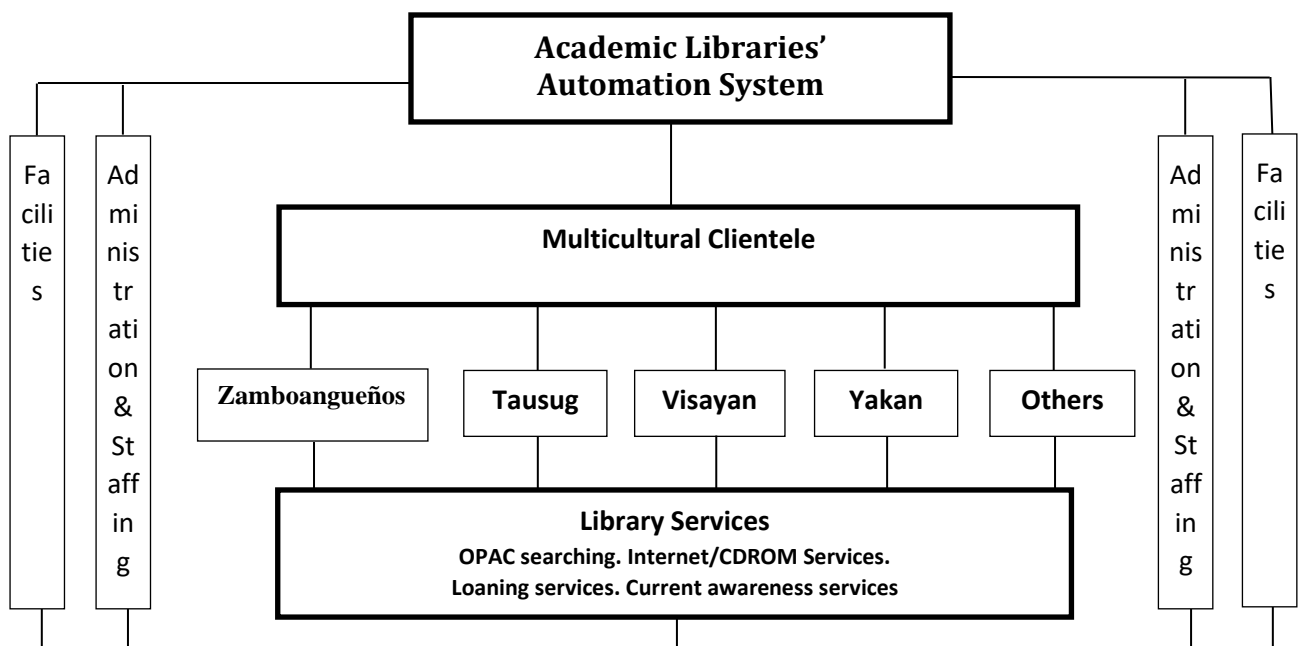
Table 13 shows that there is no significant difference in the responses of the assessment per category and over-all assessment of the Library Automation System both for test of significant differences and test for significant associations. This implies that responses per ethnic groups are similar and have been rated within the satisfactory criteria, as well as ethnicity has no associations to the

assessment of clients to the Library Automation System. Therefore, the posited null hypothesis is accepted that the Library Automation System does not significantly affect the research work and learning of the clientele

As illustrated by Whitmire (2002) that undergraduate's race was not related to the library use as their self-reported gains in critical thinking for any of the institutional types. With this, it is possible to conceive that library performance is equated with customer satisfaction through quality service. Ethnicity as moderator variable shows no significant difference towards student perception on library services (Casim, 2004)

To support and describe the aforementioned statements, a paradigm for a multicultural clientele is presented on Figure 2.

**Figure 2. Multicultural Paradigm Showing the different variables associated with Library Automation System**



The figure shows that the satisfaction of the multicultural clientele is equated to the library services offered by academic library through automation it also shows that library services are always supported by the two aspects, the administration and staffing, and facilities. The administration and staff play a vital role in the delivery of service wherein staff should be well-trained and knowledgeable enough to manipulate the facilities and provide quick and accurate information.

The facilities are also an important element in the library operation wherein the automation needs upgraded facilities and equipment like computers and Internet connection to support the library services. Not only this, but also facilities for proper ventilation, standard reading tables and other furniture, and adequate space for convenient and conducive library research are also a great factor to be considered. With this, it clearly shows that multicultural clientele library satisfaction depends on the services rendered by the academic libraries in the advent of information technology.

#### **D. Conclusions**

Based on the findings of the study, it was concluded that with the extent of library automation system of Academic Libraries in Zamboanga City, it therefore shows that the full implementation and awareness of library clientele to the library services offered by automation system in academic libraries is not noticeable and not given priority. In addition, diverse clientele has its own services needed which can easily satisfy more for the maximum use of the library showing that there is a significant difference on the library services offered among institutions. Lastly, the Library Automation System does not significantly affect the research work and learning of the clientele when classified into their ethnic groups. This implies that the transformation of library services brought by library automation is not a factor of having poor library utilization. Therefore, multicultural clientele depends on the library services provided by academic libraries.

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