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*Full Length Research Paper*

## Internet information seeking and use by Medical Students of Nnamdi Azikiwe University, Nigeria.

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Every form of information resource needed to support academics is available on the Internet both retrospective and current. The research determined information seeking and use of the Internet by medical students of the College of Health Sciences, Nnamdi Azikiwe University, Nnewi, Nigeria. Data was collected using a questionnaire. Sample was 161 clinical students in 400 to 600 levels of study. Result shows that Internet was used daily by 72% of the respondents. Internet was used mainly to search for medical information (82%), social media communication, (77.6%) and for course assignments (62.2%). There is low use of academic resources such as online databases, e-journals, e-books and library websites to find information. The most frequently used website is Wikipedia (30.4%). This is followed by Medscape (25.5%) and PubMed (20.5%). Lack of Internet access (81.3%) was a barrier to the effective use of the Internet by the medical students. Other barriers identified by the respondents include: restriction of important information for payment (78.3%) and too many results returned for search (70.8%). The study concluded that Medical librarians have a role in improving students' use of educational resources on the Internet through an extensive and curriculum based information literacy programme.

**Keywords:** Internet use, medical students, medical education, information seeking behaviour.

### INTRODUCTION

Students are at great advantage in the twenty first century in their academic endeavours because of the Internet which is proving to be an incomparable information resource for learning and research. Every form of information resource needed to support academics is available on the Internet both retrospective and current. For medical students, many of the tools that support and transmit medical education and health research are now available online. There are e-book, e-

journals, subject databases, academic and professional websites with numerous educational resources. Jadoon et al. (2011) described the Internet as an important learning tool in medical education by providing access to latest evidence anytime and anywhere. It is especially useful for students from developing countries helping them to keep abreast of ever expanding knowledge bridging the gap resulting from scarcity of resources. Geissbuhler and Boyer (2006) also noted that as a

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collaborative work tool, the use of the Internet is now essential for biomedical research and for the development of health systems. Advanced information retrieval technologies integrating scattered databases give new meaning to knowledge management

Apart from creating easy availability of information resources that support education, the Internet as a digital object is a tool that has enriched the learning experience by giving new forms of access to information. As a multimedia education resource, students are benefiting from the wide range of interactive objects offered by the materials in the Internet. Chowdhury (1999) noted that the multimedia and hypermedia features have made the Internet particularly suitable for distant learning and self education. Computer – aided instruction packages and 'virtual' universities, etc., have opened new possibilities in the teaching and research environments throughout the globe.

Social media platforms and networking on the Internet is also a tool for exchange of ideas and knowledge sharing by students. World Federation for Medical Education (WFME), 1998 recognizes the potentials of computers and Internet in medical education. They noted that the computer with its capacity for managing information and linking is the most powerful tool for processing medical knowledge and opens new avenues to the teaching and learning process. It is also a knowledge sharing tool which through linking local networks allow institutions to collaborate worldwide and exchange teaching materials and ideas.

With these resources easily available online, students can now find information to solve a learning or research problem on any topic and improve their knowledge. They can also do their assignments with ease. This makes the Internet a great tool for education and research.

### **Medical Students Use of the Internet**

Despite the fact that the Internet is a rich information resource that can support medical education, internationally, many reports show that medical students predominantly use the Internet for non medical and educational purposes such as social media, email and surfing. Lal et al. (2006) in a research on Internet use among medical students and residents of a medical college of North India ranked medical students use of the Internet as e-mail surfing, chatting, entertainment and education. Ghabili and Alizadeh (2008) in a study of computer and Internet use among 320 Iranian medical students reported that connection to the Internet by the students was largely for non-scientific purposes. A third used it for recreational purposes. The researchers suggested that curriculum supervisors and medical trainers should revise the current medical curriculum by adding courses in computer skills or search skills to

current educational programmes. Maroof et al. (2012) assessed how medical students were using the computer and Internet and found that the main use of the Internet was for communication (58.5%) and entertainment, that is, downloading movies and games (46.3%). Report by Kumar (2012) on application of information and communication technology by medical students in Chandigarh, India showed that 65.95% of the students use the Internet for scanning the available literature, while 63.82% use it for the purposes of sending and receiving e-mail. 34.04% use it for online chatting with their friends. Kommula and Kusneniwar (2013) found that 64.9 % Medical Students of Medciti Institute of Medical Sciences, Andhra Pradesh, India have an account in social networking sites like Facebook and Orkut. However, over half the students 56.7% have no knowledge about medical education websites. The study concluded that training in computing skills and information regarding medical education websites are required to enable better utilization of digital resources by medical students. Similarly, in the study by Chathoth et al. (2013) on Internet behaviour pattern in undergraduate medical students in Mangalore, the most common purpose for Internet use was found to be social networking (97.8%), followed closely by e-mailing (87.8%).

However, some studies show predominant use of the Internet by medical students for academic and research purposes. Jadoon et al. (2011) evaluated Internet access and utilization by medical students in Lahore, Pakistan; and reported that about two third of the students (61.0%) use Internet for both academic and professional activities. Akporido (2014) studied Medical Students Use of Internet in College of Health Sciences, Delta State University, Abraka, Nigeria and found that all respondents (100%) use the Internet for email and research.

Nnamdi Azikiwe University is a Federal Government owned tertiary institution situated in Anambra State, Nigeria. Though researches on the use of the Internet by medical students have been carried out in many institutions in several countries, little is known about its use by medical students in this institution. The Internet is now an undisputable tool in medical education and health practice. It is imperative to find out how this group of students are maximally utilizing the tool that has potentials to enrich their learning experience as well as build their knowledge base. Data collected will provide an insight into the information seeking behaviour of the students on the internet and possibly establish gaps and barriers that need to be addressed so that the students can effectively use the Internet in their studies.

### **Objectives**

The main purpose of the study was to determine the

**Table 1.** Respondents' demography.

Gender	Frequency	%
Male	113	70.2
Female	48	29.8
<b>Ages of Respondents</b>		
20-24	76	47.2
25-29	68	42.2
30-35	10	6.2
36 and above	2	1.3
Missing	5	3.1
<b>Level of Study</b>		
400	31	19.3
500	48	29.8
600	82	50.9

n=161

pattern of use of the Internet by the medical students of Nnamdi Azikiwe University. Specifically, the research determined:

1. Frequency of use of internet
2. Internet search skills of the medical students
3. Activities on the Internet
4. The most consulted websites for academic studies
5. Subject pattern of e-book access through the Internet
6. The benefits of the Internet to the medical students' academic career
7. Barriers encountered by the medical students in accessing the Internet for academics

### Research questions

The following research questions guided the study:

1. What is the frequency of use of the internet by the medical students?
2. What is the Internet search skill of the medical students?
3. What activities do the medical students undertake on the Internet?
4. What are the most consulted websites for academic studies?
5. What is the subject pattern of e-book access through the Internet?
6. What are the benefits of the Internet to the medical students' academic career?
7. What are barriers encountered by the medical students in accessing the Internet for academic purposes?

### METHOD

The survey research method was used for this study. The study was carried out in the Faculty of Medicine, College of Health Sciences, Nnamdi Azikiwe University, Nnewi Campus. The research focused on clinical students of the faculty on 400 to 600 level. Data was collected using the questionnaire instrument. The Questionnaires ( $\alpha = .846$ ) were distributed to the medical students in their various classrooms and in the medical library. Two hundred copies of the questionnaire were distributed, a total of 161(80.5%) usable questionnaires were collected. Results were analyzed using simple percent and mean score. Analysis was done using SPSS version 17.

### RESULTS

Respondents' demography is shown in Table 1. A higher percentage of the respondents were male 113 (70.2%), as compared to female 48 (29.8%). Majority of the respondents 76 (47.23%) were aged 20 to 24 years and 68 (42.2%) were aged 25-29. 10(6.2%) were aged 30-35, and 2(1.3%) 36 years and above. On level of study, about half (50.9%) were in the final year.

### Access to the Internet

Respondents' access pattern and Internet search skills is shown in Table 2. Results as shown in Table 2 indicates that 117 (72.7%) of the student have personal computers (Laptop). 142 (88.2%) have access to the Internet. Majority (73.3%) of the students access the Internet through the Smartphone. There is no access from the faculty and Library. This is expected because the Internet facility of the College is currently not functional.

On frequency of use, Internet was used daily by 116(72%) of the respondents. It was used two to three times a week by 29 (18%) of the respondents. 5 (3.1%) never use the Internet to search for information.

On Internet search skills, Majority 88(54.7%) rated their skills as proficient. Few 7 (4.4%) had no skills.

### The most satisfactory information resource used for search

The students were asked to indicate which information resource gives the most satisfaction when searching for information. Result is shown in Table 3. The table shows that majority 121(74.5%) of the respondents indicated that the Internet gives them the most satisfaction when searching for information. 37 (23%) prefer print books and journals. Only 4 (2.5%) considered CD-ROM as the most satisfactory information resource.

### Activities on the internet

Respondents were asked to rate the frequency of various



**Table 2.** Access to the Internet.

	Frequency	%
<b>Have personal computers</b>		
Yes	117	72.7
No	41	25.5
Missing	3	1.8
<b>Have access to the Internet</b>		
Yes	142	88.2
No	19	11.8
<b>Internet Access Points*</b>		
Smartphone	118	73.3
home facilities	69	42.9
cyber café	36	22.4
other students	26	16.2
Faculty and Medical Library	Nil	Nil
<b>Frequency of Internet Use</b>		
Daily	116	72
2 to 3 times a week	29	18
At least monthly	8	5.0
Never	5	3.1
Missing	3	1.8
<b>Internet search skills</b>		
Very Proficient	41	25.5
Proficient	88	54.7
Little Skills	25	15.5
No skills	7	4.4

\* Response not mutually exclusive.

**Table 3.** The most satisfactory information resource used for search.

Information resource	Frequency	%
Printed Books / journals	37	23
Internet resources	121	74.5
CD ROM resources	4	2.5

activities on the Internet on a four point scale of very often to never. Result is shown in Table 4. Percentage score in Table 4 indicates that the Internet is regularly used by the respondents for searching for medical information (82%), social media communication, (77.6%) course assignment (62.2%) and sending and receiving e-mail (57.2%). Notably a substantial percentage never consulted online databases (41.6%), read or downloaded e-books (42.9%), accessed e-journals (41%) or visited

library websites (68.9%).

#### Most consulted websites for academic studies

Respondent were asked to list three websites they consult most frequently for academic studies. Result in Table 5 shows that the most frequently consulted website by the students is Wikipedia. This is followed by

**Table 4.** Rate of use of the Internet for activities.

Activities	Very often/often	Occasional	Never	Mean	Std. D
Search for academic medical information	132(82)	23(14.3)	6(3.7)	3.21	0.83
Use social media e.g. Facebook, Chat	125(77.6)	20(12.5)	16(9.9)	3.26	1.04
Course assignment	100(62.2)	53(32.8)	8(5.0)	2.93	0.97
Send and receive e-mail	92(57.2)	52(32.3)	17(10.5)	2.75	1.01
Read newspapers	90(55.9)	53(32.9)	18(11.2)	2.8	1.07
To get Research information	87(54.1)	64(39.7)	10(6.2)	3.03	0.99
Use Online databases e.g., PubMed	42(26.1)	52(32.3)	67(41.6)	1.89	0.93
access electronic books	39(24.2)	53(32.9)	69(42.9)	1.88	0.97
Use e-journals	33(20.5)	58(36)	66(41)	1.82	0.92
Visit library websites	21(13.1)	29(18.00)	111(68.9)	1.47	0.87

**Table 5.** Three most consulted websites for academic studies.

Website	Frequency	%
Wikipedia	49	30.4
Medscape / E-medicine	41	25.5
PubMed	33	20.5

**Table 6.** Respondents' Downloading of E-books through the Internet by Subjects.

	Frequency	%
Internal Medicine	34	21.1
Pathology	27	16.8
Pharmacology	25	15.5
Paediatrics	24	14.9
Surgery	24	14.9
Obstetrics and Gynaecology	23	14.3
Ophthalmology	22	13.7
Community medicine	21	13
Radiology	20	12.4
Anaesthesiology	15	9.3

Medscape/E-medicine and PubMed.

27 (16.8%) and Pharmacology 25(15.5%). Anaesthesiology 15 (9.3%) is the least downloaded subject.

### Access to e-books in medicine through the Internet

Respondents were requested to indicate subjects to which they have downloaded e-books for study. The result is shown in Table 6.

Table 6 shows that the most downloaded subjects by the students are Internal Medicine 34 (21.1%), Pathology

### Benefit of the Internet to Academic studies

Respondents were asked to indicate the benefits of the Internet to their academic studies.

Results in Table 7 shows that large majority indicated that easy access to information (81.3%), faster access to

**Table 7.** Benefits of the Internet to Respondents' Academic Studies.

	Yes	%
Easier access to information	134	83.2
Faster access to information	131	81.3
Access to current information	128	79.5
Access to a wider range of information	127	78.9

**Table 8.** Barriers to using the Internet.

Barriers	Yes	%
Lack of Internet access	131	81.3
Important information I need on the Internet are restricted for payment	126	78.3
Too many results returned for my search	114	70.8
I find it difficult to get local information from the Internet	108	67.1
Limited access to a computer	99	61.4
Information I find are too technical and foreign for my use	84	52.2
Lack of Internet search skills for effective search	72	44.7

information (83.2%), access to current information (79.5%) and access to wider range of information (78.9%) are the benefits of the Internet to their academic work.

### Barriers to using the Internet

Respondents were asked to indicate barriers to the use of the Internet for academic studies. The Result is shown in Table 8. As shown in the table, the major barrier to use of the Internet for academic purposes is lack of Internet access (81.3%). Other barriers include restriction of important information for payment (78.3%) and too many results returned for my search (70.8%).

### DISCUSSION

The research determined pattern of information seeking and use of the Internet by medical students of Nnamdi Azikiwe University. Results show that 88.2% have access to the Internet. Internet was used daily by 72% of the respondents and this access is mainly through their smart phones. This pattern of use is consistent with the findings of Aggarwal et al. (2015) where 78.57% of the medical students use Internet daily and majority access the internet through their phones. This appears to show increasing preference and shift in sources of access to hand held devices. The rate of use is however higher than that of Singh et al. (2013) where only 51.2% respondents used it daily.

The students were asked to indicate their level of

Internet search skill which is very essential for them to access educational and research resources on the Internet. 80.2% gave a high rating of their Internet search skills as proficient, and very proficient.

The Internet was highly rated by the medical students as an information resource. It gives majority of the students the most satisfaction when searching for information with 74.5% of the respondents preferring the Internet compared to 23% that prefer print books and journals. This percentage of preference for the Internet is higher than that found by Unnikrishnan et al. (2008) where 42% of the respondents prefer the Internet and 24% textbooks. This is not unexpected considering the wide diffusion of the Internet in the past five years.

On Internet activities, percentage score shows that the Internet is highly used by the respondents for searching for medical information (82%), social media communication, (77.6%) course assignment (62.2%) and sending and receiving e-mail (57.2%). This pattern of use is different from earlier findings (Parashar and Bansalm, 2012; Ghabili and Alizadeh, 2008) which showed that the main use of the Internet was for recreation, communication and entertainment. Notably, the Internet is highly used for medical information and course assignment, but there is low use of online databases, e-journals, e-books and library websites. This implies that students may not be accessing quality information from the subject databases specifically developed for the purpose. Kommula and Kusneniwar (2013) also reported that 56.7% of the students have no knowledge about medical education websites. For Jadoon et al (2011) it was only 34% that possess the knowledge. They researchers noted that there is under utilization of the potential of Internet

resources to augment learning. Increase in awareness, availability of requisite facilities and training in computing skills are required to enable better utilization of digital resources by medical students.

Textbooks are major information resource for students. Many of the core medical texts are now available in e-format and are accessible through the Internet either for free download or on payment. 82 (50.9%) indicate downloading their medical text through the Internet. Internal Medicine 34 (21.1%), Pathology 27 (16.8%) and Pharmacology 25(15.5%) are the most downloaded subjects by the students. Anaesthesiology 15 (9.3%) was the least. Though the percentage of downloading for the medical subjects is small, it shows a growing awareness and acceptance of the e-book format.

The major barrier to the use of the Internet for the medical students was lack of Internet access (81.3%). This is not unexpected because the Internet facility in the College is currently not functional so students source for their own Internet services. This is an important issue that needs to be rectified to ease the problem and costs these students face in accessing the Internet for their education. Another barrier raised by the students is on subscription based publications which deny access to important information they need on the Internet (78.3). This is an issue because many quality journals and textbooks are subscription based and available for purchase with foreign currency. Many of the students may not afford the cost. A good percentage of the students also indicated that too many results are returned for search (70.8%). This may be the result of poor information search skills. Good information search skill may help the students to filter search results for precision.

The study established that the medical students of the institution use the Internet for academic purposes not just for social networking. This is a good development; however this needs to be channelled to the use of academic and subject bibliographic databases relevant to medical education. Medical librarians in the institution have a role to create awareness as well as impart skills that are needed to harness quality medical information resources on the Internet. Therefore there is need for a well organized information literacy programme that will empower the students to use the Internet effectively in their education.

## Conclusion

For learning and research in today's academic world, the Internet has brought lots of information resources that fully support the acquisition of knowledge. Results of the research show that even though the medical students use the Internet highly to access medical and research information, there is low use of quality information resources such as online subject databases, e-books, e-

journals and library websites. They need to be aware of these resources in order to utilize them. Medical librarians have a role in improving students' use of educational resources on the Internet through an extensive and curriculum based information literacy programme. This is highly needed considering the growing concern on the quality of information on the open net.

## Conflict of Interests

The authors have not declared any conflict of interests.

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*Full Length Research Paper*

# The development of University Library in Thailand to ASEAN Community model

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The objectives of this study were: 1) to study and synthesize the status of management and standard of university library in Thailand to ASEAN community, 2) to study the status of management for preparation of university library in Thailand to ASEAN community, 3) to develop university library in Thailand to ASEAN community model and 4) to propose the university library in Thailand to ASEAN community model. The samples consisted of 5 directors or experts of university library to study the first phase, 238 staff and 942 users of the university libraries to study the second phase, 14 directors or experts of university library to study the third phase and 5 experts to study the fourth phase. The data was collected by 1) interview form, 2) questionnaire, 3) Item Objective Congruence form (IOC) and 4) the questionnaire to propose the university library in Thailand to ASEAN community model from experts. They analyzed with content analysis, percentage, mean, standard deviation, t-test and F-test. The findings of this study were as follows: 1) Management of the university library began to prepare for the ASEAN community. The management policy of university library was from the policy of the university to identify the genetic activities of the library. Operational issues on the development of learning resources to support education in ASEAN. The libraries must have a policy of support for the ASEAN community, budgeting for management and promotional activity / project support ASEAN community, personnel readiness, instructional services in the region, academic service and research in the region, service search and development of digital content in more than one language, the environment of libraries to learning atmosphere ASEAN, cooperation between libraries in the region and quality assurance compliance with the quality assurance support services of ASEAN community. 2) The management of university library in Thailand preparation for the ASEAN community from performance of libraries' staff were generally rated at "medium" ( $\bar{X} = 3.33$ , S.D. = 0.76) and the opinions libraries' users were generally rated at "high" ( $\bar{X} = 3.72$ , S.D. = 0.61). 3) The model for the university library in Thailand to ASEAN community consisted of 7 components as followed: management, servicing, personnel, information resources, information resources management and knowledge warehouse, learning environment and cooperation network. And 4) the opinions of experts in the model for the university library in Thailand to ASEAN community were generally rated "highest" ( $\bar{X} = 4.86$ , S.D = 0.16).

**Key words:** University Library, ASEAN Community, Library model, Thailand.

## INTRODUCTION

The Association of South East Asian Nations (ASEAN) was established on 8 August, 1967 through the Bangkok

Declaration. The ASEAN Community is expected to be complete in 2015. The ASEAN community is settled by a

group of countries in Southeast Asia, the member states of ASEAN consist of ten countries: Indonesia, the Philippines, Singapore, Malaysia, Brunei Darussalam, Vietnam, Lao, Myanmar, Cambodia and Thailand. The main objective of ASEAN is to accelerate economic, socio-cultural, technological and administrative cooperation of all member states, promote peace and security in the ASEAN region and enhance cooperation between ASEAN and other international organization. Comprising three pillars: ASEAN Security Community (ASC) aims to ensure that all member states in the ASEAN Community share the same values, ASEAN Economic Community (AEC) enable ASEAN to activity compete with other regions in terms of economics, and ASEAN Socio-Cultural Community (ASCC) aims to build stable and caring societies where ASEAN people live in good conditions. The slogan of ASEAN was One Vision, One Identity, One Community (Ministry of Education, 2011; The Government of Public Relations Department, 2011).

Thailand firmly believes that investment in education represents an investment in a better future. Education is a key to achieve an ASEAN caring and sharing community, and role to play in restoring regional unity, harmony, peace and democratic ways of life and for stimulating the global economy (Ministry of Education, 2011). Therefore, higher education in Thailand must adapt to changed after the ASEAN (Sarawanawong and Thungkawe, 2013). Mobilizing higher educational cooperation in the ASEAN Community between the nations in the region on the basis of mutual benefit.

The university library is a part of university set up. Every library program must support university's total program and used by students, teachers, researchers, administrative staff etc. of the university. (Sarawanawong and Thungkawe, 2013; Premsamith 2014; Gupta, 2012). But the current changes to adapt to the ASEAN in 2015, university libraries in ASEAN countries must be adapted to forward ASEAN university libraries of ASEAN region. To drive learning support of students enrolled in higher education of ASEAN region, and includes a network of university libraries in the region and advance to the world. Therefore, this work aims to synthesize the status of management and standard of university library in Thailand to ASEAN community and study the status of management for preparation of university library in Thailand to ASEAN community in terms of management, servicing, personnel, information resource, information resources management and knowledge warehouse, learning environment used for maximum benefit and create a network of cooperation between libraries in the region. So, there are a great needs to finding the

university library model to support ASEAN community. The objectives of this study were: 1) to study and synthesize the status of management and standard of university library in Thailand to ASEAN community, 2) to study the status of management for preparation of university library in Thailand to ASEAN community, 3) to develop university library in Thailand to ASEAN community model and 4) to propose the university library in Thailand to ASEAN community model. To guide development of university library to move towards the ASEAN community, the uses of learning service university libraries get maximum benefit. Promote the library as resources for lifelong learning and including the strengthening of the ASEAN Community.

## METHODOLOGY

### Subject selection and criterions

- 1). The samples consisted of 5 directors or experts of university library to study the first phase.
- 2). The samples were 238 staff and 942 users of the university libraries from twenty university libraries in Thailand to study the second phase.
- 3). 14 experts in the field of university libraries and information sciences, divided by 7 experts to evaluate Item Objective Congruence form (IOC) and 7 experts to focus group to study the third phase.
- 4). 5 experts to propose the university library in Thailand to ASEAN community model to study the fourth phase.

The research instruments were as follows:

- 1). The interview question form.
- 2). The questionnaire for libraries staff with 6 level performance that perform highest, high, medium, few, least level and no action and the questionnaire for libraries user with 5 level opinion that perform highest, high, medium few and least level.
- 3). Item Objective Congruence form (IOC).
- 4). The questionnaire to propose the university library in Thailand to ASEAN community model.

### Research design

The mixed research method, both qualitative and quantitative methods were research design.

## METHODS

- 1). The first phase, to interview 5 directors or experts of university library from five universities by interview question form. Content analysis and synthesize the status of management for university library in Thailand to ASEAN community (Table 1).
- 2). The second phase, the study was quantitative research methods. Data was collected using a questionnaire concerning

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**Table 1.** The status of management for preparation of university library to ASEAN community.

Item	Performance libraries' staff			Opinions libraries' users		
	$\bar{X}$	S.D.	Level	$\bar{X}$	S.D.	Level
Management	3.29	0.92	medium	3.62	0.67	high
Servicing	3.40	0.80	medium	3.76	0.65	high
Personnel	3.47	0.72	medium	3.69	0.66	high
Information resources	3.23	0.85	medium	3.80	0.65	high
Information Resources Management and Knowledge Warehouse	3.26	0.91	medium	3.69	0.71	high
Learning environment	3.37	0.81	medium	3.75	0.64	high
Cooperation network	3.32	0.92	medium	3.71	0.71	high
<b>Over view</b>	<b>3.33</b>	<b>0.76</b>	<b>medium</b>	<b>3.72</b>	<b>0.61</b>	<b>high</b>

the management for the preparation of a university library to ASEAN.

The reliability of questionnaire for staff's management was 0.983. The reliability of questionnaire for user's management was 0.975. Data was collected from 238 staff and 942 users of the university libraries from 20 university libraries in Thailand. Data were analyzed with percentage, mean, standard deviation, t-test and F-test. To compare the data management for the preparation of a university library to ASEAN using t-test independent, F-test and analysis of differential pairs with LSD.

3). The third phase, to evaluate model for the university library in Thailand to ASEAN community from 7 experts in the field of university libraries and information sciences. Find mean from IOC (Item Objective Congruence). To focus group of the university library in Thailand to ASEAN community model from 7 experts in the field of university libraries and information sciences.

4). The fourth phase, to propose the university library in Thailand to ASEAN community model from 5 experts.

## RESULTS

### The status of management for University Library in Thailand to ASEAN Community

The management of the university library in Thailand began to prepare for the ASEAN community. The management policy of university library was from the policy of the university to identify the genetic activities of the library.

Operational issues focused on the development of learning resources to support education in ASEAN. The libraries must have a policy of support for the ASEAN community, budgeting for management and promotional activity/project support ASEAN community, personnel readiness, instructional services in the region, academic service and research in the region, service search and development of digital content in more than one language, the environment of libraries to learning atmosphere ASEAN, cooperation between libraries in the region and quality assurance compliance with the quality assurance support services of ASEAN community.

### The status of management for preparation of university library in Thailand to ASEAN community

1). The status of management for preparation of university library to ASEAN community from performance libraries' staffs were generally rated "medium" ( $\bar{X} = 3.33$ , S.D. = 0.76) and the opinions libraries' users were generally rated at "high" ( $\bar{X} = 3.72$ , S.D. = 0.61). The detail is shown in Figure 1.

2) The library staff' gender, age, education level, working character and working experiences had no effect on management of university library preparation for the ASEAN community whilst department of library made a differences in their performance, and the library users had no different opinions on library management for preparation of university library to ASEAN community in relations to their gender, age and education level, on the other hand, department of library was the only factor that caused different opinions on the performance of university library.

### The University Library in Thailand to ASEAN Community model

The model of the university library in Thailand to ASEAN community consisted of 7 components as followed: 1) management 2) servicing 3) personnel 4) information resources 5) information resources management and knowledge warehouse 6) learning environment and 7) cooperation network.

#### Component 1: Management

- The University has a strategy-driven ASEAN.
- The policy management libraries / vision / mission / goals to support ASEAN Community.
- Library has an action plan in line with the vision / mission / goals to support ASEAN Community.
- Analysis of internal factors and external factors to be

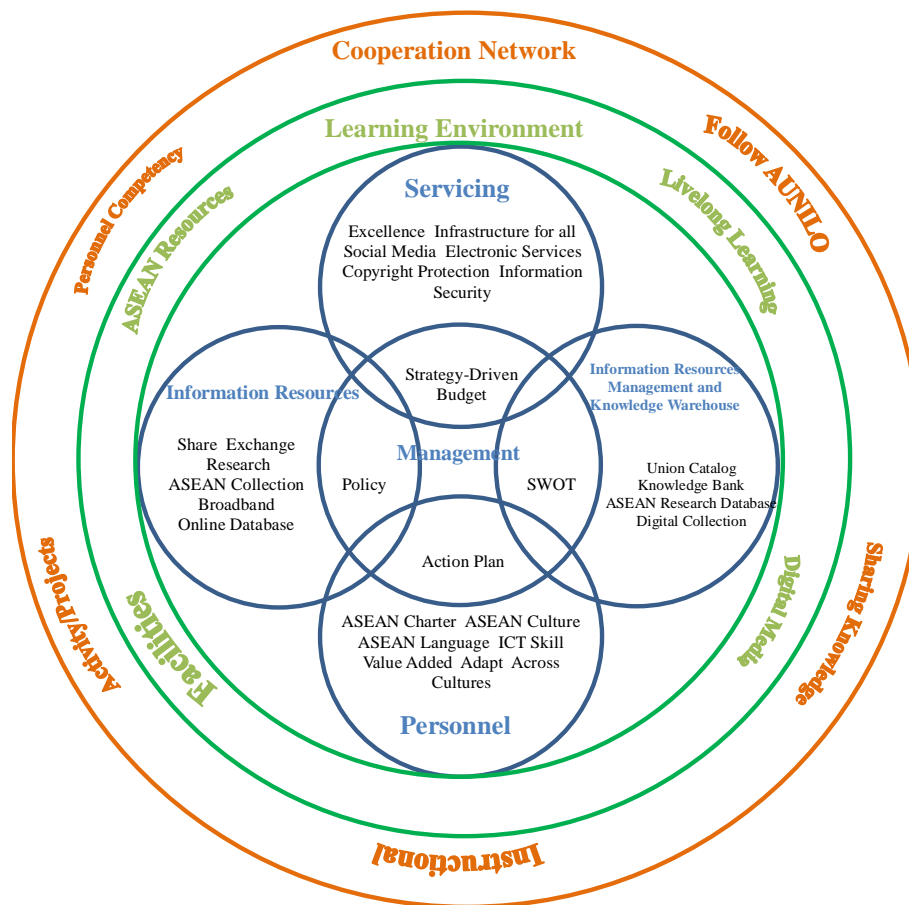


Figure 1. The university library in Thailand to ASEAN community model.

used in planning library management to prepare for the ASEAN Community.

- Library is supported mission-driven budget for the ASEAN community.

**Component 2: Servicing**

- There is a proactive service to explicit focus on service excellence and concrete from the service to other ASEAN countries.
- Development of an OPAC sites and services in more than one language, and provide access from a wide range of hardware and software support services in ASEAN countries.
- Presents environment infrastructure for all forms of electronic services.
- Use of social media services to ASEAN Relations.
- The library has a role in promoting copyright protection in ASEAN to protect intellectual property rights in creative works.
- Build awareness of information security and networking.

**Component 3: Personnel**

- Staff are knowledgeable about all aspects of ASEAN, ASEAN Charter and ASEAN Culture.
- Personnel has communication skills, English language/ ASEAN language.
- The library supports the use of ICT of personnel, ICT training for management personnel and ICT services in the ASEAN region.
- The performance management personnel in accordance with the implementation plan to support ASEAN Community.
- Raise personnel library services, support to ASEAN Community such as the languages to field questions and search, the use of information technology, value added, organization support and service mind.
- Staff has the ability to adapt any change to ASEAN and to work across cultures.

**Component 4: Information resources**

- Service information resources to share and exchange



**Table 2.** The opinions of experts in the model.

Item	$\bar{X}$	S.D.	Level
Management	5.00	0.00	highest
Servicing	5.00	0.00	highest
Personnel	5.00	0.00	highest
Information resources	5.00	0.00	highest
Information resources management and knowledge warehouse	4.40	0.55	high
Learning environment	5.00	0.00	highest
Cooperation network	5.00	0.00	highest
<b>Over view</b>	<b>4.86</b>	<b>0.16</b>	<b>highest</b>

among ASEAN countries.

- Preparation of information resources to support research needs of information about ASEAN.
- Development of Information Resources plans for build a collection which conform to needs of ASEAN Community.
- Broadband service support to network to ASEAN.
- Application to the online databases for library management in ASEAN.

**Component 5: Information resources management and knowledge warehouse**

- Development of a union catalog of the library in the ASEAN countries.
- Development of knowledge bank, IR-Institutional Repository to support the user sector in ASEAN.
- Promote the development of research databases, researchers, academics, promote lifelong learning in the ASEAN member countries.
- Development of a central database to share information about ASEAN and its member countries.
- Development of digital media contents and digital collections to be ready to exchange and share with the ASEAN countries.

**Component 6: Learning environment**

- Environment to learning common zone about the ASEAN region.
- Provide learning resources about ASEAN accessible without limits of time and place.
- Provide activities / projects about ASEAN.
- Provide space facilities for activities / projects.
- Provide the physical environment, digital media and publications to promote research on ASEAN.

**Component 7: Cooperation network**

- The university libraries must to pursue a member of AUNILO.
- Network partnership to develop personnel for building competency the ASEAN Community.
- The resource sharing among libraries in the region to

share knowledge and resources.

- Library in ASEAN's development activities / projects.
- Coordination development of teaching / research institutions in the region.
- Networking to promoting of common users in the ASEAN countries.

**Propose the university library in Thailand to ASEAN community model**

The opinions of experts in the model for the university library in Thailand to ASEAN community were generally rated "highest" ( $\bar{X} = 4.86$ , S.D = 0.16) (Table 2).

**CONCLUSION AND DISCUSSION**

The status of management and standard of university library in Thailand to ASEAN community began to prepare for the ASEAN community. The management policy of university library was from the policy of the university to identify the genetic activities of the library. It is also consistent with the research of Sarawanawong and Thungkawee (2013) where some libraries are preparing to enter the ASEAN community in a concrete and clear manner. The policy of the university library must be put into practice. The library is preparing personnel to ASEAN, especially in English because all the libraries to focus on the development of English language training is evident by the plan for academic resources and Information Technology (Office of Academic Resources Information Technology, 2014). Be specified in writing and to enhance budget allocation in foreign languages. The activities / projects to support the development of language learning, foreign language training for staff, etc. Along with teaching and research to improve library services in the region. Most libraries have developed resources in the form of digital media, database and online teaching, consistent with the concept of Tuamsuk et al. 2011). For library service to access the information by using information technology to access, research workers choose to search and use information online

first. Libraries need to provide a variety of information resources and appropriate for individual of user. It is also consistent with the 2020 Strategic Plan for the library of the National Library of Singapore which states that libraries must adapt to new technologies, access digital library resources and services to library users can access and connect to the digital service (Koh, 2011). 2020 Strategic Plan for the library of the National Library of Singapore said, library must adapt to new technologies, access digital library resources and services and library users should access and connect to digital service (Koh, 2011).

The status of management for preparation of university library in Thailand to ASEAN community from performance libraries' staffs were generally rated medium, but the management from opinions libraries' users were generally rated high. Probably, the users receives the response to the service were satisfactory, it is thought that the operation or management to prepare for the ASEAN community of libraries at the level of the action is on more level. Considering that the Service standards in order to comply with the corresponding two groups. It can be said that the university library is featured on most carriers. Consistency of the concept, the libraries play a role on the creation of a lifelong learning. The library is a resource that everyone can access equally. And continue to promote the exchange of knowledge next to each other (Koh, 2011). When comparing the library staffs' gender, age, education level, working character and working experiences had no effect on management of university library for readiness preparation to ASEAN community whilst department of library made a differences in their performance. Probably due to the policy of the university library and has allocated a budget to prepare for the ASEAN community. The policy is clearly substantial and well-written (Tuamsuk et al., 2011). Users have no different opinions on library management for preparation of university library to enter ASEAN community in relation to their gender, age and education level; on the other hand, department of library was the only factor that caused different opinions on the performance of university libraries. The reason is that users have different education levels that cause different opinions, and requirements for different services The reviews on the library services, management library to prepare for the ASEAN community is different.

The model of the university library in Thailand to ASEAN community consisted of 7 components as followed: 1) management 2) servicing 3) personnel 4) information resource 5) information resources management and knowledge warehouse 6) learning environment and 7) cooperation network. To see that the management is the first element of a university library to ASEAN model, consistent with research "University Library Management Model for Students' Learning Support" (Tuamsuk et al., 2011). Because of the different

parts of the library will operate under the policies of the university and the library. Services and personnel are important component of a university library to ASEAN model, consistent with the concept of Premsamith. [4] Library as a source of knowledge of the university community and society will prepared for a lot of the information resources and services. The librarian must develop the capacity to prepare for ASEAN community. Cooperation in personnel library ASEAN should cooperate in training and exchange of personnel between institutions to develop their own personnel (Sarawanawong and Thungkawee, 2013).

### Conflict of Interests

The author has not declared any conflict of interests.

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