



Use of Web Content Management Systems (WCMSs) in Library: A Study of University Libraries in Bangladesh

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Abstract

Web content management system is a platform where it helps anyone to create the web content, modify and manage and successfully access by the end-user to the published website. Internationally many university libraries used web content management system for managing their web content and for marketing themselves. The main focus of this research article is to present the current status of using web CMS in university libraries in Bangladesh. The online questionnaire was designed for the librarian of the university library in order to gather data and information. The present paper also highlight the benefits of using WCMS, availability of IT expert for managing WCMS and problems they faced while using and implementing content management system.

Keywords: Web Content Management System (WCMSs), Open Source Software (OSS), University Libraries and Bangladesh.

Introduction

Content is the precious and useful to anyone but right content in right form is the most effective to the right users. In digital environment most of the information seekers gradually more depend upon the web for digital contents but have no hint how to retrieve intended information, which led to the demand for content organization and content development. Content management system was first declared in the late 1990s. Now there are various content management systems are available and each of these has its own features, for this reason it's needed a comparative analysis of durable open source systems in order to select the most accurate assigned goals¹. A website is a speculum of any organization and it is a real way of manifesting what an organization trust by reflecting the organization's mission and vision to its user community. For managing website, most of the libraries in the worldwide and their parent institutions are progressively using Web Content Management Systems (WCMSs). A content management system (CMS) as a dynamic one helps any beginner personnel to create, modify, update and publish the content of webpage without having much of technical knowledge. Today's in the digital world it is one of the most creative and challenging work of library and information professionals for developing library website and making it up-to-date regularly. Moreover, a good IT skilled and professionalism personnel is required for maintaining web design along with performing their daily activities.

Though various web content management systems are available in this digital era, but mainly drupal, wordpress and joomla have set up themselves as the leaders for online CMS. Moreover, creating a website by using web CMS is very easy and does not need enough technical skills for managing it. Choosing which

system to use in an information institution can be difficult for information professionals but it is an important choice to make. In Bangladesh, most of the University libraries used WCMSs for managing their web content. An attempt has been made to present the current situation of using WCMSs in university libraries in Bangladesh and also presents the benefits of using WCMS. Moreover, this paper also represents the problems of using WCMSs by university libraries in Bangladesh.

Objectives of the study: The main objective of this study was to investigate the present situation of using web CMS in university libraries in Bangladesh. Other objectives include the following three: i. To find out what types of WCMS used University Libraries. ii. To notice the benefits of using WCMS. iii. To find out the problems of using WCMS by University Libraries in Bangladesh

Background of the study: In the recent years Web Content Management Systems (WCMSs) have regarded as a famous option for producing, organizing and managing web content for any information institutions. In this age software developers have created various library management software packages for library and information institutions and simultaneously it is also very difficult task to choose appropriate content management software for a library. This paper discussed present status of using WCMSs in Bangladeshi libraries including both public and private university libraries. Internationally and nationally many studies have directed concerning with the web content management systems. But in Bangladesh no empirical studies have been done and the present paper will construct the research gap. The main aptitude of this paper was on the use of Web Content Management Systems (WCMSs) in university libraries in Bangladesh. According to University Grants Commission

(UGC,2015), at present Bangladesh have 85 private and 37 public universities and for research purpose only 25 university libraries (8 public and 17 private university libraries) took part in this study. The present study is the first effort to measure empirically the use of web content management system in Bangladesh. This study may also help to do more such research on web content management system in Bangladesh and beyond.

Research Methodology

A methodology used for collecting data was questionnaire based. We selected 8 public and 17 private university libraries in Bangladesh. We conducted a survey with a well structured questionnaire. All the questions were specifically prepared and closely related with the Web Content Management System (WCMSs) in the University Libraries in Bangladesh. The questionnaire was designed for the librarian of the university library in order to gather data and information regarding their WCMSs usage, benefits, their level of satisfaction about WCMSs use and valuable suggestions with a view to improving WCMSs in the University Library. We create online Google drive questionnaire and send its link to the librarian through mail or Face book message, moreover over telephone we requested them to fill-up the questionnaire. There for, the response rate was 100%. Findings of the data were analyzed by SPSS. The survey questionnaires have the following elements: i. Personal information such as gender, designation, and type of library of the library professional, ii. Types of WCMSs used by university libraries and years of using WCMS in the Libraries in Bangladesh, iii. Benefits of using WCMSs, iv. Library professionals' perception on problems of using WCMS by University Libraries in Bangladesh.

For the category (2) above, library professionals were asked about what types of WCMS including drupal, joomla and wordpress they used in their library and from which months and years by using nominal scale such as “Yes” or “No”.

For the category (3 and 4) above, library professionals were requested to assess each questions item regarding benefits and problems of using WCMS from 1 – “lowest” to 5 – “highest”, similar to a 5-point Likert scale.

Literature review: There have been a number of research conducted worldwide regarding the use of web CMS in library. But no in- depth study has been done on the web content management system in Bangladesh. The present study is an attempt to clearly establish the present status of using WCMS in libraries in Bangladesh. Content means the knowledge of anything and everything contained as information in conventional as well as non conventional form. Generating, Organizing, Digitizing, and making the contents easily accessible to the users are known as content management².

A content management system is a database where all types of digital files including images, graphics, animation, sound, video or text are systematizes and make easy access. At the time of amelioration of e-resources, content management system generally used to handle digital assets, such as website or any other technological invention. CMS can be integrated with the eventual e-resource in order to enable access to digital asset. Content management system at a glance:

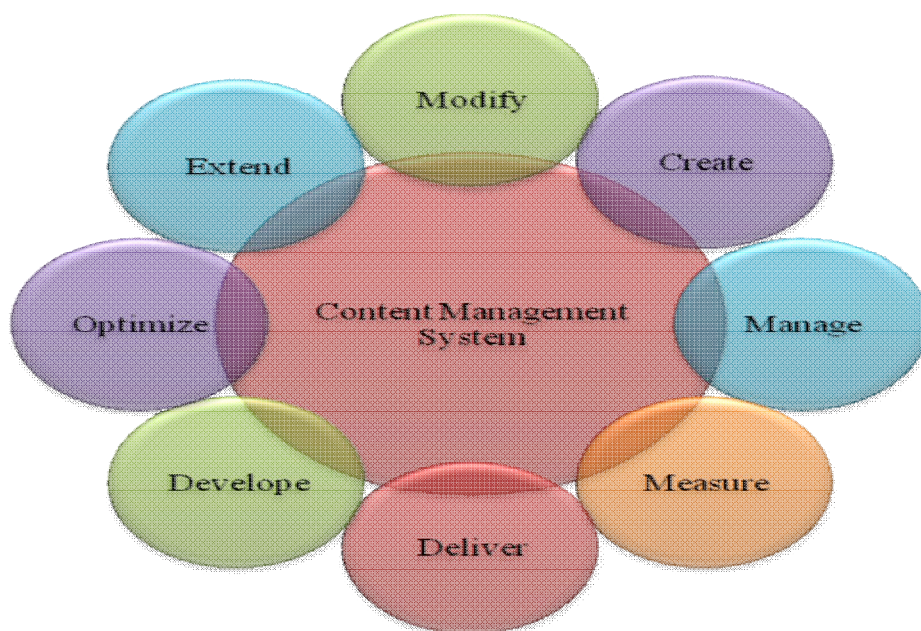


Figure-1
Content Management system at a glance

Farooq and others conducted a study where they argued that features and advantages of web CMS are many and these features are also made them unique from one CMS to others. In their paper, they selected only three web CMS (i.e. drupal, Joomla and Wordpress) because these three CMS has gained popularity than other CMSs and have importance in several cases and situations. Hence, which content management system is going to be used is completely based on the web application tasks. Moreover, they didn't give any suggestions about selection of web CMS for library but the features they were analyzed in their paper, library professionals can compare them, can choose them and can install them in their institutions³.

Giri and Nirgude presented a comparative analysis between drupal and Joomla, according to their diverse features they found the better content management system (i.e. drupal). They also focused that, although drupal has some limitations (such as, it fails to offer in some categories, its' not enough user friendly but its' developer friendly and it delivers what users and information managers requirement in the more important categories) but it is evidenced that drupal is the best CMS than Joomla. Moreover, drupal offers a very easy and friendly user interface with easy accessibility, faster installer, better user management tools and better documentation than Joomla⁴. Similarly, Black surveyed a study at Ohio State university libraries, where author describes how university libraries selected better content management software for maintaining their contents. This study also describes the necessities for content management system in a library, what types of system requirements needed to support a massive allotted content model and also shares the CMS trial method used. The author further argued that now a day there are a number of possibilities of 2nd generation CMS, but still now libraries does not subsist the accurate content management system, though there are many excellent, sturdy open source CMS available. For this purpose, the author surveyed this study and suggested that any library should practice in- depth trail method for selecting a better CMS in their information centres⁵.

Lakshmi conducted a study where he presents an overview of the content management, its need and advantages. This study further explained that Content management is a set of rules, roles, and processes that organize the content or document life cycle and delivers exact information. The main focus of the paper is on the use and application of content management system in libraries influenced by network environment⁶. A study by Islam, N. and others stated that a Content Management System (CMS) as a dynamic one helps any novice to create, modify, update and publish the content of webpage without having much of IT knowledge. Moreover, the purpose of this study was to discuss the significance/application of CMS/Joomla in that-day's digital library environment. This study also revealed that library and Information Science professionals can take the advantages of using various open source CMS.

This study recommended that Joomla is being broadly used CMS all over the world to manage the content of the website⁷. A very recent study conducted by Sharma, D. and others where they conducted a pilot project on the development of dynamic website at University Institute of Information Technology, H.P. University, Shimla using Joomla an open source web content management system. The main objective of this study was to analyze the adaptability of an open source web CMS. In their study, authors suggested that Joomla as a web CMS has many features that explored to develop the charismatic website of any information organizations. Moreover, they also revealed that, any non- specialized staff or library professionals can use both this static and dynamic web CMS in their libraries or organizations⁸. Another study was conducted by Wiersma where he suggested about with drupal online community and also explained, drupal is one such types of web based CMS which is unique, because its use a bottom-up strategy for web designing and helps to detached the content of the site from the formatting. This study also explained drupal appeals to many libraries because it is free open source software, and because it allows individuals and communities to easily contribute content to the library's Web site⁹.

Amin and Navik suggested that many of the organizations, including the information centres or libraries in the world are started to use Open Source CMS (content management system) to manage their web resources. They explained the benefits of using Joomla that are low cost of installations, its supports various operating system platforms. In their study they suggested that, for maintaining Joomla CMS, library professionals need not to know high quality IT skills. It has many highly developed customized features and in this case required some technical support such as MYSQL backup, local host installation folder and PHP coding. Authors also suggested that, library professionals should update their resources on Joomla websites regularly¹⁰.

It is clear that there is insufficient research on web content management systems in Bangladesh. In addition, there are no empirical studies conducted on these three web CMSs (drupal, Wordpress and Joomla). This is the first time an effort has been made to study the current situation of using web CMS in Bangladesh. This study will also help to know about the benefits of using WCMSs and also presents the epidemics that are faced by library professionals while implementing and using WCMSs.

Results and Discussions

Respondent's background information: The respondents' background variables used in this study are gender, types of library and designation. The respondents' demographic information is shown in Table-1. A total of 25 libraries and their staffs took part as a sample in this study. Based on the personal background information found, a majority of the respondents were male (56.0%) and (44.0%) were female. Out of 25 library professionals, the majority were tenured either as an assistant

librarian (9, 36.0 %) or library officer (8, 32.0 %) or deputy librarian (5, 20.0 %). Most of the library professionals were working in private university libraries (68.0%) and other library professional were working in public university libraries (32.0%).

Table-1
Respondent’s demographic information

| Variable | Classification | Frequency | Percentage |
|-----------------|----------------------------|-----------|------------|
| Type of library | Public university library | 8 | 32.0 |
| | Private university library | 17 | 68.0 |
| Gender | Male | 14 | 56.0 |
| | Female | 11 | 44.0 |
| Designation | Librarian | 3 | 12.0 |
| | Deputy librarian | 5 | 20.0 |
| | Assistant librarian | 9 | 36.0 |
| | Library officer | 8 | 32.0 |

Use of content management system in your institution: The content management is a prerequisite for any organization, be it educational, medical, transportation, legal, Government, business etc. Moreover, the libraries are also used Web content

Management System for maintaining their web content. In Bangladesh some of the library uses WCMS. In the present study, the respondents were asked about use of content management system in your Institution, the figure-1 revealed that, most of the university library 11(44.0%) used their own university’s content management system and 8 (32.0%) university libraries use their own library web content management system. Moreover, it is also reported that 4(16.0%) university libraries have under process and 2(8.0%) university libraries has no WCMS.

CMS software used by your University Library: In Bangladesh, most of the University libraries used WCMS for managing their web content. The table-2 reported that, out of the 25 libraries, majority of university libraries both public and private used drupal WCMSs 9(36.0%) and customized 9(36.0%) and followed by joomla 4(16.0%), wordpress 3(12.0%). It indicates that the majority of the libraries mainly used drupal for managing their web content. Furthermore, in the present time there are many or it may be hundreds of content management systems are used in the world wide that are easily searchable on the internet but from the findings of the study it is reported that the libraries in Bangladesh also use custom CMS. The Figure-3 also shows some University Library Websites using WCMS.

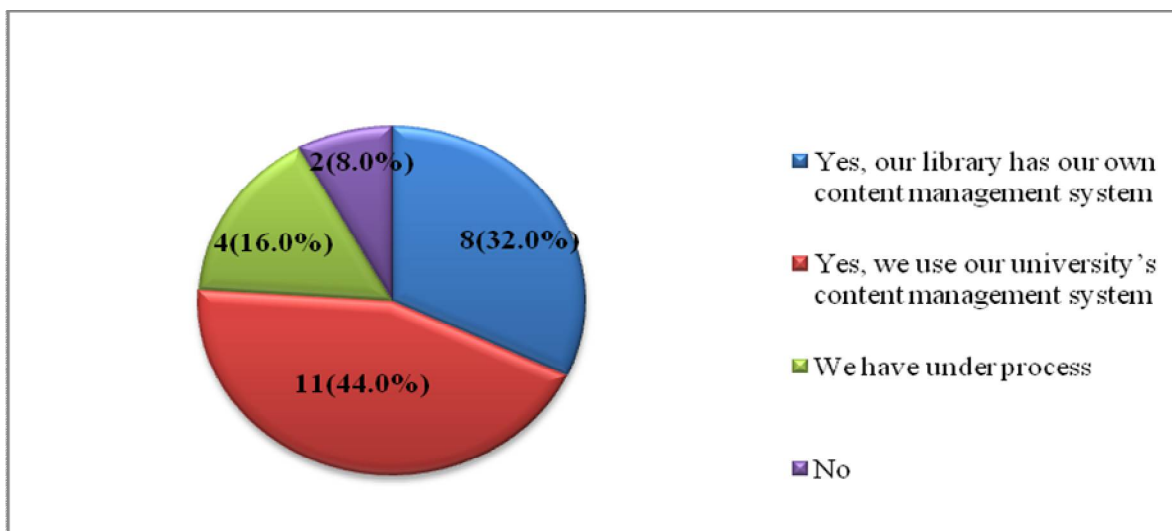


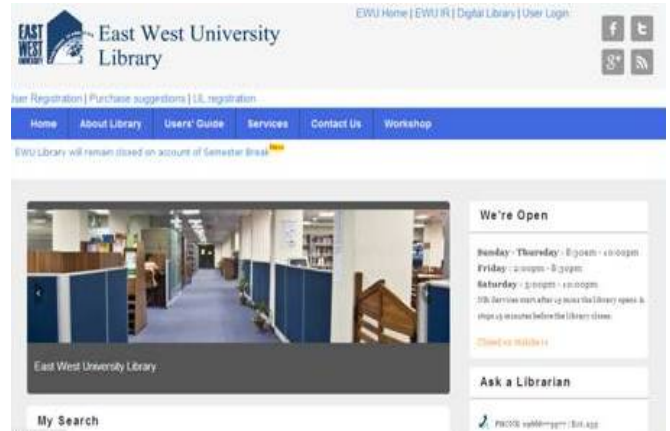
Figure-2
Use of WCMS in Your Institution

Table-2
Use of WCMS in Your Institution

| Variables | Web Content Management System (WCMS) | | | | Total |
|----------------------------|--------------------------------------|----------|-----------|------------|------------|
| | Drupal | Joomla | Wordpress | Customized | |
| Public university Library | 2 | 3 | 1 | 2 | 8 |
| Private university Library | 7 | 1 | 2 | 7 | 17 |
| Total | 9(36.0%) | 4(16.0%) | 3(12.0%) | 9(36.0%) | 25(100.0%) |



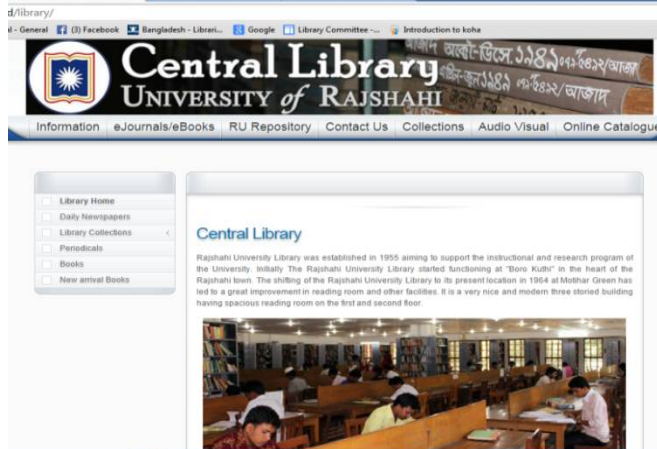
Eastern University Library,



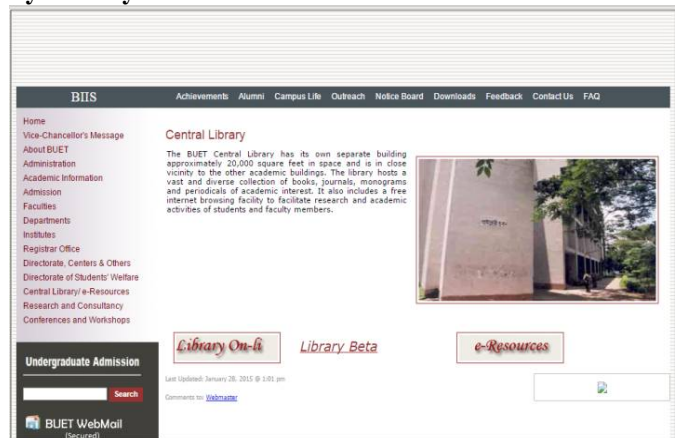
East West University Library



Dhaka University Library



Rajshahi University Library website are prepared by Joomla 1.5



Bangladesh University of Engineering and Technology used Wordpress 3.5

Figure-3
Some University Library Websites Using WCMS⁷

Does your university library have any IT expert for managing CMS?: Web content management is not just about publishing Web pages any more, for developing a library website and making it up-to-date at regular interval is one of the most creative and challenging work, for this reasons an IT

expert is needed for doing such job. The present study reveals that, In Bangladesh there are not enough much IT expert in their library for managing their CMS, such as only 11(44.0%) libraries have IT expert in their library and rest of the 14(56.0%) libraries have not an IT expert figure-4.

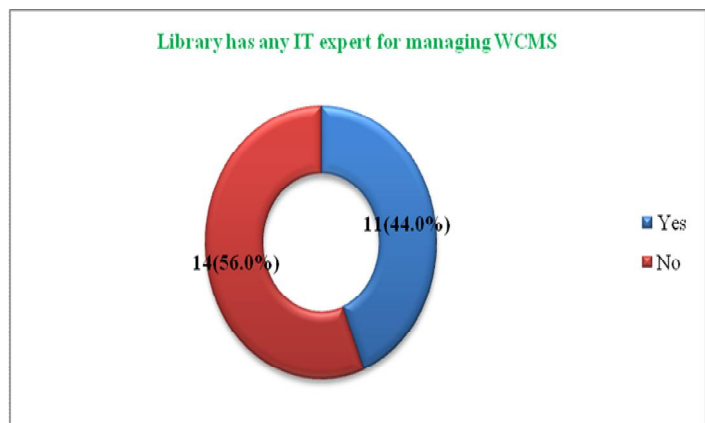


Figure-4
Library has any IT expert for managing CMS

Years of using WCMS in Your Library: The table-3 reveals that, 9(36.0%) respondents indicated that they have used WCMS from 1 - 2 years and followed by 5 (20.0%) from 0 to 6 months and 2-3 years, 3 (12.0%) from 6 to 12 months and from 4+ years. So, it indicates that the majority of the library used WCMS from 1-2 years.

Table-3
Years of using WCMS in Your Library

| Years of using WCMS in Your Library | | | | |
|-------------------------------------|-----------|------------|------------------|-----------------------|
| Variable | Frequency | Percentage | Valid Percentage | Cumulative Percentage |
| 0-6 months | 5 | 20.0 | 20.0 | 20.0 |
| 6-12 months | 3 | 12.0 | 12.0 | 32.0 |
| 1-2 years | 9 | 36.0 | 36.0 | 68.0 |
| 2-3 years | 5 | 20.0 | 20.0 | 88.0 |
| 4+ years | 3 | 12.0 | 12.0 | 100.0 |
| Total | 25 | 100.0 | 100.0 | |

Benefits: Web Content Management System (WCMS) is a system where it helps to manage any organizational contents by editing, modifying and publishing from a main interface that is visible to all the allowed users. Moreover, with the help of web CMS, the information professionals can easily update their website continuously and it also provide search engine optimization. Table-4 shows the mean and standard deviation of library professionals' perceptions on benefits of WCMS in library on five-point scale. Majority of the respondents agreed that, WCMS are easy to updates (mean-4.72), search engines are friendly (mean-4.56), remotely access is possible (mean-4.40) and WCMS are also Reducing duplication of information (mean-4.40).

Table-4
Benefits of using WCMS

| Statements | Mean | Std. Deviation |
|--|------|----------------|
| Easy Updates | 4.72 | .542 |
| Remote access | 4.40 | .707 |
| Quick and easy page management | 4.04 | .790 |
| Flexibility for developers | 3.52 | 1.085 |
| An integrated workflow process facilitates better content management | 3.76 | 1.012 |
| Design is separate from content | 4.16 | .746 |
| Website managers will have access to shared resources | 4.48 | .714 |
| Security is automatic | 4.32 | .802 |
| Search engine-friendly | 4.56 | .712 |
| Reduces duplication of information | 4.40 | .816 |

Problem: Though WCMS usage trends are growing rapidly all over the world, there have been a lot of problems regarding using these WCMS in Bangladesh. The respondents were asked to reveal the problems of using WCMS. Table-5 reveals the mean and standard deviation of library professionals' opinion on problems of using WCMS on five-point scale. It suggests professionals are overwhelmingly agreed with the problems in using WCMS in libraries as most ratings are negative except the statements on "Difficult to evaluate vendors and Commercial software too expensive" (mean 4.08 and 4.04). So, it is indicated that library professionals didn't agreed that they faces so much problems that the table-5 presents.

Table-5
Problems of using WCMS

| Statements | Mean | Std. Deviation |
|---|------|----------------|
| Difficult to evaluate vendors | 4.08 | .909 |
| Commercial software too expensive | 4.04 | .889 |
| Commercial software required too much time to implement | 3.76 | 1.091 |
| Required too much customization | 3.80 | 1.041 |
| Workflow didn't fit my needs | 2.88 | 1.481 |
| Poor process for migrating old content | 3.32 | .988 |
| Poor process for authoring content | 2.40 | 1.155 |
| Poor process for editing content | 2.12 | 1.054 |
| Poor process for managing content | 2.60 | 1.258 |
| Poor process for publishing content | 1.88 | 1.054 |
| Difficult to markup text | 2.28 | .792 |
| Difficult to add media files | 1.76 | .723 |
| Didn't support an important technology | 1.60 | .645 |
| Difficult to integrate with other systems | 2.00 | .764 |
| Didn't support an important feature or requirement | 1.80 | .707 |
| Overall too complex | 1.60 | .707 |

Major Findings: From the analysis of the study, it was found that most of the university library 11(44.0%) used their own university's content management system and 8 (32.0%) university libraries use their own library web content management system. Moreover, it is also reported that 4(16.0%) university libraries have under process and 2(8.0%) university libraries has no WCMS.

The present study also reveals that majority of university libraries both public and private used drupal WCMS 9(36.0%) and customized 9(36.0%) and followed by joomla 4(16.0%), wordpress 3(12.0%).

Despite the fact that in Bangladesh there are not enough much IT expert in their library for managing their CMS, such as only 11(44.0%) libraries have IT expert in their library and rest of the 14(56.0%) libraries have not an IT expert.

Respondents were asked about the years of using WCMS in their library and 9(36.0%) respondents indicated that they have used WCMS from 1 - 2 years and followed by 5 (20.0%) from 0 to 6 months and 2-3 years, 3 (12.0%) from 6 to 12 months and from 4+ years.

Majority of the respondents agreed that, WCMS are easy to updates (mean-4.72), search engines are friendly (mean-4.56), remotely access is possible (mean-4.40) and WCMS are also Reducing duplication of information (mean-4.40).

In case of problems of using WCMS, it was found that respondents were agreed with the problems such as Difficult to evaluate vendors and commercial software too expensive (mean 4.08 and 4.04).

Conclusion

Web Content management is relatively a new concept in Library and Information Centres. Now every organization tries to maintain websites either for intranet or Internet. Resources in any organization regarded as a Kaiser, where library or any other organization is his Palace and librarian or information manager is a ruler to control and administrate the content management¹¹. From the above study it has been found that majority of university libraries both public and private used drupal WCMS 9(36.0%) and customized 9(36.0%) and followed by joomla 4(16.0%), word press 3(12.0%). Moreover, it also reported that in Bangladesh there are not enough much IT expert in their library for managing their CMS, i.e. only 11(44.0%) libraries have IT expert in their library and rest of the 14(56.0%) libraries have not an IT expert. Libraries in Bangladesh should be benefited with the web content management system; should have IT skilled library personnel for controlling web content and develop their webpage regularly. Library authority also

solved their problems and staff should be trained and educated regarding web content management system for marketing themselves and their libraries in the developing countries like Bangladesh.

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