

E-LIBRARIES IN THE GOVERNMENT SECTOR

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Abstract

This study provides an overview of how the Philippine government agencies provide access to information through e-libraries in their website in terms of content, content format, services provided, and structure. It was found that out of the 205 government websites, only 24 or 11.70% have e-libraries. Strengthening librarians' capacities to develop and/or design e-libraries with appropriate structure, services, content and format could help in maximizing the use of the internet in providing access to information. Additionally, a guideline in creating and designing e-libraries could be drafted for agencies to have an ideal, uniform, and functional platform in providing information.

Keywords: e-libraries, government libraries, Philippine libraries

Introduction

Electronic libraries, or e-libraries are becoming prominent with the advancement of information and communication technology (ICT). Numerous websites have an e-library feature in which users can access a collection of electronic copies of literature or other similar resources. Some e-libraries operate through open source integrated library system (ILS) such as Koha and OpenBiblio, while some use content management systems like WordPress, Joomla or Drupal. E-libraries can also be created using plain hypertext markup language (HTML) pages, making them easier to incorporate in website structures, such that storage and retrieval of electronic resources becomes easier.

Kozlova (2017) defined *e-library* as an information system, database and organization. E-libraries are essentially a virtual version of physical libraries accessed through the internet/intranet. These e-

libraries may provide services and capabilities similar to physical libraries (Zare-Farashbandi, Najafi, & Atashpour, 2014). Some e-libraries offer cataloging, circulation and reference services, among others. Others provide digital copies of multi-media materials such as books, music files, video files and online applications for easy reading and listening. In the review of Joint and Law (2000), they emphasized that e-libraries do not only provide digitized materials to clients, but also provide listing services, electronic service delivery, archiving, searching, consortiums and create network spaces to name a few. More importantly, they mentioned that e-library technology is a promising platform as it gives librarians some freedom to design and innovate information service systems given the many possibilities of the digital realm that hosts it.

Most academic institutions have e-libraries through which students can access materials remotely, do an

inquiry with the librarian through chat, or request a material online. Some special libraries also have an e-library to provide the same convenience to its clients as with the academe. Likewise, some government agencies use e-libraries to bring their collection online and provide better information services to the people.

In the Philippines, Freedom of Information Program was pursued in response to the people's right to information. It promotes the idea that all offices of the executive branch of the government should make information available to the public, with the exception of materials that would jeopardize and threaten the national security. Philippine government agencies now publish materials like books, memorandums, forms, finance documents, among others online.

Some agencies have websites which have an integrated e-library feature, while others have a separate website or domain for their e-library. In 2014, the Department of Science and Technology (DOST) provided a website template to all government agencies to ensure uniformity and transparency to government documents and transactions. The template allows multi-platform embedding and linking, whereby agencies could provide links to e-libraries and redirect users to another information portal or web page. It is however not known whether this way of providing information to the public has served its purpose as an e-library or at least has been implemented in a number of government agencies in the Philippines as what Kozlovo (2016), Zare-Farashbandi et al. (2014), or Joint and Law (2000) argued, that e-libraries as an information system, must be able to provide services similar to physical libraries and other services possible through internet/virtual technology. Furthermore, most existing literature on e-libraries concentrate on evaluating e-libraries in the academe, schools, special libraries and gearing towards its accessibility, usability and impact. Whereas, only a few had evaluated government agency e-libraries and their format, structure, content, and services provided.

With the visibility of e-libraries in government websites, this study aims to show how the Philippine government provides information through the internet using e-libraries in terms of content, content format, services provided and structure. The study specifically answers the questions:

- What materials are included in e-libraries in government websites?
- What are the formats of materials found in the e-libraries in the government websites?
- What services are provided in the e-libraries in the government websites? and
- How are the e-libraries structured?

The result of this study may somehow bear significance to the Philippine government agencies for them to identify the gaps in the information that they provide. The results could also become a baseline in creating and improving the features, services and formats of their e-library. More importantly, they may realize the importance of providing a complete, accurate, accessible and relevant information through e-library. The study is also significant to librarians in order to improve the library or e-library services they provide. They may create similar e-libraries with content and features that will best fit their institutions. Additionally, this study may help researchers and students who are seeking its literature; to those who have not been exposed to studies pertaining to e-libraries in the government agencies.

Literature Review

Zare-Farashbandi et al. (2014) evaluated the services provided by Iranian National Medical Library (INML) information services through comparison with other digital libraries worldwide. Using the search term "digital library", different digital libraries worldwide were chosen in the internet to be included in their study. By directly accessing each chosen digital library website and utilizing a descriptive survey, they were able to tabulate the content of the digital libraries based on four categories: (1) digital (browse, search, retrieve electronic materials); (2) classic (loan, interlibrary loan, browse); (3) public (help, FAQs, phone inquiry); and (4) others

information services (i.e. bibliographic services, postal catalog, request for comments, etc.). With these, they have concluded that INML digital library was successful in providing library services in digital environment.

Chowdhury, Landoni, and Gibb (2010) reviewed several studies on the impact and usability of digital libraries. They enumerated and explained the different evaluation methods and models, usability studies and usability factors. The researchers stated that there are no standard criteria for the evaluation methods and models that can be used in digital libraries. Moreover, usability studies centered on user assessment of digital libraries that include interfaces of the content and their information seeking and access behaviors.

Alipur-Hafazi and Amanillahi Nick (2015) evaluated eight digital libraries in Iran using DigiQUAL, an evaluation tool used for web content. With DigiQUAL, they evaluated the digital libraries with 11 criteria. These criteria cover the design format, search functions, browsability, data collection, organization accessibility, security, intellectual property rights, sharing and collaboration and formation of user communities considered. Series of interviews and surveys were conducted in 2011-2012, and results showed that digital libraries in Iran must improve their equipment and increase development infrastructure to meet the global standards.

Vinagre, Leonor, and Ochoa (2011), using the Digital Library Service Quality Model and a devised multiple-item scale dlQUAL (a tool used to identify the discrepancy between the minimum and desired expectation in a service perceived by users), evaluated digital libraries. The researchers selected five service quality dimensions for digital libraries including: (1) control of information; (2) efficiency; (3) competitive advantage; (4) adequacy of information; and (5) waiting time and used dlQUAL to evaluate the digital library services provided. They surveyed users, LIS professionals and library managers of consortium members to determine the gaps between 5 dimensions. They found out that among the five dimensions, users acknowledge competitive

advantage dimension (i.e. search results, electronic services, searching digital content) as the most desired services in a digital library.

Different methods in evaluating electronic libraries can be observed. According to Chowdhury et al. (2006), evaluation methods and models can be used depending on the situation. Different approaches/methodologies in gathering data were also presented. They ranged from web-surveys, interviews, surveys and web-content analysis. Criteria in evaluating e-library contents and services were also mentioned. In relation to this study, combinations of criteria/dimensions presented can be used to explore e-libraries in the government websites in the Philippines.

Besides directly comparing the INML e-library to other e-libraries worldwide through the internet, Zare-Farashbandi et al.'s (2014) manner of gathering data and the criteria used in evaluating e-library made it more appropriate and feasible to replicate the method they used, given the main problem and amount of time needed to complete this study. They specifically used the term, "digital library", in selecting and limiting the number of institutions to include in their study and they provided an extensive list of e-library services which could be also be used in this study.

Methods

A survey of e-libraries of Philippine government agencies was conducted to assess the services, content, structure and format of these e-libraries. The presence of an e-library was determined by going through the websites of a national government agency listed on the directory published by the Official Gazette of the Philippines and by looking into the web pages for the presence of the string "*Library*" in tabs and links. The study excludes the websites of state universities and colleges, as well as local government's municipal, city and provincial websites.

Four aspects of e-library were described and analysed, including: (1) content; (2) format; (3) services; and (4) structure, using a survey based on

the study of Zare-Farashbandi et al.'s (2014). The survey questionnaire was divided into four parts that assessed the following: (1) structure; (2) content; (3) format of the digital materials retrieved; and (4) services offered in the e-library.

The description of each part used for the explanation and assessment of the e-libraries are as follows:

1. Structure refers to the manner of how information and materials in the e-library and the e-library's main page can be accessed. For structure, we looked at ways by which e-libraries were promoted for use and given importance or by which access to e-libraries were made easier.
 2. Content refers to the materials uploaded or posted online, and whether these materials were produced solely by the hosting agency or in partnership with other agencies, produced by other government agencies or produced by non-government agencies or individuals.
 3. Format refers to the type of media files uploaded.
 4. Services include the services offered in the e-library which were categorized into four, namely (a) digital, (b) classic, (c) public and (d) others.
- The data gathered were tabulated and analysed quantitatively. Frequency and percentage were derived. Tables are provided to present the results and findings from the collected data.

Results and Discussion

Two hundred five (205) government websites were reviewed in this study. However, based on the survey, only 24 (11.70%) were identified to have an e-library/library link in their website.

The following government agencies were included:

1. Department of Environment and Natural Resources
2. Foreign-Assisted and Special Projects Service DENR
3. Climate Change Service – DENR
4. River Basin Control Office
5. Biodiversity Management Bureau
6. Environmental Management Bureau
7. Mines and Geosciences Bureau
8. The National Library of the Philippines

9. Foreign Service Institute
10. Pasig River Rehabilitation Commission
11. Philippine Council for Industry, Energy and Emerging Technology Research and Development (PCIEERD)
12. Intellectual Property Office of the Philippines
13. Energy Regulatory Commission (ERC)
14. Department of Trade and Industry
15. Komisyon sa Wikang Filipino
16. Philippine Center for Postharvest Development and Mechanization
17. Palawan Council for Sustainable Development
18. Laguna Lake Development Authority
19. Philippine Commission on Women
20. Office of the Presidential Adviser on the Peace Process
21. Philippine Textile Research Institute
22. Philippine Statistical Research Institute
23. National Children's Hospital
24. Ecosystems Research and Development Bureau

Based on the data gathered from the conducted survey, the following e-library characteristics were identified:

Structure

In evaluating the structure, the manner of how information and materials in the e-library and how e-library's main page can be accessed were noted. Table 1 shows some categories or physical attributes that contribute to the overall structure of the e-libraries. Majority of e-libraries are seen on navigation tabs or near the top header of the website rather than links within tabs, corners or another page of the website. These imply that government agencies give importance to e-libraries as they include it to the main parts of their website. It also brings promotion to e-library and the materials it contains since tabs can be easily seen on the home page of agency website. Moreover, upon accessing the e-libraries, most of it redirects users to a new page and most of these pages are integrated in the main website. However, six e-libraries provide online public access catalog (OPAC) links that redirect in a new different page. It may imply that more e-libraries are now

Table 1
Structure of e-library

E-library Physical Attributes	Freq.	%
On Tabs	16	66.67
On Links	8	33.33
With an OPAC	6	25
Integrated in the Main Website	13	54.17
Redirected to a New Page	19	79.17

using modules or applications of the content management system that can be used to integrate e-libraries in the website rather than separating another page for the library.

Content

The contents of e-library were categorized into three:

- (1) content produced by the agency with/without collaboration with other agency/ies;
- (2) content produced by other government agency/ies, they may also serve as the author or creator of the material; and
- (3) content produced by

non-government agency/ies or individuals.

Table 2 shows that content produced by the agency with/without collaboration with other agency/ies ranks first with 95.83% of the 23 government e-libraries. Materials included in this category are laws, issuances and policies, maps, posters, primers, brochures and other information materials, infographics, newsletters, master plans, news and archives, plans, cases, decisions, resolutions, guidelines, forms, and list. These show that they are using the e-

Table 2
Content of e-library

Content Category	Freq.	%	Rank
Content produced by the agency with/without collaboration with other agency/ies	23	95.83	1
Content produced by other government agency/ies, they may also serve as the author or creator of the material	12	50	2
Content produced by non-government agency/ies or individuals	12	50	3
N/A*	1	4.17	4

**Note: E-library not responsive during survey proper.*

library to disseminate the materials that are being produced by the agency, given that government documents are public documents. Also, publishing materials online may be part of their campaign on

Table 3
Format of Digital Content

Digital Content Format	Freq.	%	Rank
Document files (pdf, xls, doc, etc. files)	20	83.33	1
Images	12	50	2
Sounds	2	8.33	5
Videos	8	33.33	3
Others	3	12.5	4

transparency and freedom of information program.

Format of Digital Content

Table 3 shows the format of the digital materials retrieved from the websites. It clearly shows that majority of e-libraries provide digital content of documents in Microsoft Word, Microsoft Excel or PDF format with 20 (83.33%) e-libraries. However, two e-libraries provided digital content of sound recordings but they ranked last. This may imply that most government agencies are now gearing toward paperless production of materials and or storing digital copies of reports or publications for easier access through e-libraries.

Services Provided

Table 4 shows the services provided by the government e-libraries. For the digital services, browsing digital content materials rank first with the 22 e-libraries out of 24 (91.67 %). However, in the classic category, browsing service ranks first but less than half of the population provide this kind of service. Moreover, in the public service, contacting the system administrator ranks first, while in other services category, a full access to digital content ranks

first. Overall, browsing digital content ranks first in all categories for the e-library service, while ordering documents and exhibitions ranks the lowest with 1 out of 24 e-libraries (4.17%). This shows that while the digital category had the most number of e-libraries that provide browsing services, it also contains the service which are provided with the least number of e-libraries which is ordering digital documents. Out of the four categories, majority of the e-libraries did not have classic services such as loan and browsing, among others. This may imply that e-libraries had not utilized all possible services that can be done under this category, otherwise, they have provided all their contents online.

Conclusions

Going back to the questions of this study, with the visibility of e-libraries in government websites,

- (1) What materials are included in e-libraries in government websites?
- (2) What are the formats of materials found in the e-libraries in the government websites?
- (3) What services are provided in the e-libraries in the government websites? and
- (4) How are the e-libraries structured?

The results showed that while there are 205 government websites, only 24 (11.70%) had an e-library page/link. It may seem that less than half of all government websites have e-libraries, but it was also observed that some websites provide other modes to retrieve information or digital content by providing links such as Publications, References, Resources rather than e-library alone, which is the limitation of this study. Majority of the e-libraries provide access to materials that they have produced, and most of them can be accessed digitally. Government e-libraries concentrate on providing materials that they produced rather than materials outsourced from other organizations/individuals. Most e-libraries provide full access to their digital content without worrying on the copyright issues since these are public documents.

Similar to the study conducted by Zare-Farashbandi et al. (2014), digital services were provided by most of the e-libraries. However, awareness on the use of

Table 4
Services provided by e-libraries

Category	Service Provided	Freq.	%	Rank per Category	Overall Rank
Digital	Browse	22	91.67	1	1
	Electronic Information Retrieval	20	83.33	2	2
	Search	13	54.17	3	5
	System Log-in	5	20.83	4	11
	Ordering documents	1	4.17	5	14
Classic	Browse	9	37.50	1	7
	Searching in classic resources	6	25.00	2	10
	System Log-in	5	20.83	3	11
	Interlibrary loan	3	12.50	4	12
	Reservation	2	8.33	5	13
	Loan	2	8.33	5	13
Public	Contacting the System	16	66.67	1	3
	Website search	14	58.33	2	4
	Publications	12	50.00	3	6
	FAQ	5	20.83	4	11
	Site map	5	20.83	5	11
	Help	3	12.50	6	12
	Library news	3	12.50	7	12
	Reading room	2	8.33	8	13
	Exhibitions	1	4.17	9	14
Others	Full text/image/sound/video access	16	66.67	1	3
	Providing bibliographic information	9	37.50	2	7
	About the library	8	33.33	3	8
	Special collection	8	33.33	4	8
	Ability to share resources	7	29.17	5	9
	Partial full text access	5	20.83	6	11
	Searching in other libraries and list	3	12.50	7	12
	Quick Links	2	8.33	8	13

library applications such as OPAC may have to be introduced to properly process digital content, and enable easier searching and processing. Moreover, digital services, specifically electronic information retrieval, were specifically provided by the e-libraries based on the needs of their clients. This may be due to compliance to transparency and Freedom of Information Program.

In terms of structure, most e-libraries provide tabs in their homepage for people to easily access the information and materials in their collection. Also, government websites provide a dedicated page for the e-library but still integrated it in their website. The structure of e-libraries was harmonized to the look and feel of the main website of the agency.

With the results obtained from the survey, we can conclude that the identified e-libraries successfully provide access to information through e-libraries. However, the percentage of government agencies with e-libraries is very low, and introducing the advantages of having an e-library in their website would increase its number.

Recommendations

Only a small number of government agencies have e-libraries, and introducing the advantages of having an e-library in their website would increase its number. Also, strengthening the librarians' capacities to develop and/or design e-libraries could maximize the use of the internet in providing access to information. It would also be appropriate to create a guideline on the design and creation of an e-library. At the minimum, an e-library should have the following features:

- 1.) A separate page or portal and database to differentiate its content to the website
- 2.) About page to discuss the content, services and policy of the e-library
- 3.) A master list / OPAC for offline and digital collection (search mechanism)
- 4.) Retrieval service
- 5.) Contact details.

Given the advancement of web development, the

following are some optional features of an e-library:

- 1.) Log-in system to tract the e-library user
- 2.) Featured collection
- 3.) Help/Ask a Librarian
- 4.) Library news
- 5.) Controlled vocabulary / Subject list
- 6.) Quick links (link to other materials, page, featured collection etc.)
- 7.) Sharing capabilities
- 8.) Forum page
- 9.) Interlibrary loan, reservation, loan capabilities
- 10.) Ordering documents/materials
- 11.) FAQs
- 12.) Client feedback.

For future studies, a correlation study could be conducted to identify relationships between e-libraries and the physical library, that may provide insights on why classic services are not prominent in e-libraries in government websites. While the study limits to "e-libraries", it was observed that some websites provide other modes to retrieve information or digital content in other links such as Publications, References, Resources, among others. However, examining these links provides just a list and links to retrieve the material specified. Moreover, a broader term aside from "e-library" can be done in order to assess how information is disseminated to the public. Lastly, this study could be replicated to e-libraries in other settings to know if there would be significant similarities and/or differences in the findings.

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**Note: During the literary search, the articles have been retrieved using the key words “e-libraries” and “electronic library”, it is common that electronic library are used interchangeably with “digital library” however there are some literatures that differentiate both terminology.*