Modeling a Consortium for Medical College Libraries in Bangladesh: A Proposal

Md. Sakib Biswas
Lecturer, Institute of Information Sciences
Noakhali Science and Technology University,
Noakhali-3814, Bangladesh
Email: sakib@nstu.edu.bd

Afrin Sultana
Assistant Librarian, East West University,
Dhaka, Bangladesh, Email: afrin@ewubd.edu

Wares-Ul-Matin
PhD Researcher
Centre for Higher Studies and Researcher (CHSR)
Bangladesh University of Professionals (BUP),
Dhaka, Bangladesh, Email:wares.rnr@gmail.com

Abstract

The study aimed to assess the feasibility of a consortium for medical college libraries in Dhaka, Bangladesh. A semi-structured questionnaire was developed based on a literature review, and ten libraries were selected as research sites. Data was analyzed using SPSS 25th Version. The study found that the current state of medical college libraries is underprivileged, and there are major issues such as institutional barriers, lack of ICT infrastructure, budget constraints, poorly trained staff, lack of cooperation, and legislative measures. More educational programs, refresher courses, and professional communication sessions should be organized to address these. The study proposed a model plan for resource sharing, technology transfer, and service innovation.

Keywords
Library Consortium, Medical College, Library, Dhaka, Bangladesh
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Introduction

Library is the heart of an academic institution for education and research. Likewise, medical college libraries support medical education, including teaching, research, and enhancing students' academic achievement (Ata et al., 2020). As with other academic libraries, medical college libraries are continually innovating their services to adapt to the changes in access and dissemination of medical information. A paradigm shift has been noticeable in the changing library service philosophy' library consortium' pattern. The phrase library consortium can be synonymized as "library cooperation", "library networking", "library resource sharing" "library collaboration", "library linkages", "interlibrary loan", "document supply", "document delivery", and "access services" is frequently used in library and information science (LIS) literature and scholarly work (Ali et al., 2010; Bouazza, 1986; Mannan and Bose, 1998; Martey, 2002). Establishing networks among libraries has provided the means for libraries to meet the challenges of the fourth industrial revolution, address sustainable development goals and, according to Kaul (1999), bridge the digital divide.

Collaboration and cooperative actions of the library and information center are identical to library collaboration, networking, and resource sharing (Govardhan and Rao, 2022). Resource sharing is how organizations exchange and share their limited resources (Ogba and Ikeazota, 2021). It is considered an umbrella term that covers consortia, interlibrary loans, remote access and circulation, document delivery, shared in-house services, and so on (Ameen, 2008). Since individual libraries can no longer provide the breadth and depth of information resources they formerly could, resource sharing in the sense of distributing printed publications is mostly driven by a lack of funding (Bakker, 1998). A library can't possess all sorts of resources but a cooperative collection can be made easily to avoid the problems to share resources with member libraries (Kalbande, 2018). As library is a growing organism, resource sharing meets the 4th law of library science by S. R. Ranganathan (Muthu, 2013). Several studies have been conducted worldwide on different patterns, scenario and issues related to resource sharing among academic libraries. In Bangladesh, a number of studies have been conducted on networking and resources sharing, and several efforts to organize formal networks for resource sharing (Rahman et al., 2006; Jahan et al., 2013; Zabed, 2014; Raju, 2015). Librarians in Bangladesh are fully aware of the

benefits and significance of library consortiums perceive the idea better such as UDL and LiCOB. However, no study has yet been conducted on the possibility of setting up a medical college library consortium in Bangladesh, particularly in Dhaka city, where most medical colleges are located. It is in this backdrop this study was formulated to examine the prospects of a medical college library consortium in Dhaka city. As a way forward, the study also proposed a conceptual model plan for implanting a library consortium among medical college libraries in Dhaka.

A Brief Overview of Library Network/Consortia in Bangladesh

Bangladesh's National Education Policy 2010 places great emphasis on ICT-equipped libraries (Hossain et al., 2019) enabling libraries to collaborate and share resources. National LIS professional organizations such as Library Association of Bangladesh (LAB), Bangladesh Association of Librarians, Information Scientists and Documentalists (BALID),Library Consortium of Bangladesh (LiCOB), UGC Digital Library (UDL), Medical Library Association of Bangladesh (MeDLAB), and other government and private-based associations and sub-associations have established networks of universities, colleges, medical and dental colleges, schools, and other institutions of higher education. The member libraries of these library networks have developed a variety of bibliographic databases and holdings resources to facilitate information exchange and sharing. Library networks are separated into three categories: general networks, educational networks, and specialized networks. The latter can be divided into Dhaka city networks and nation-wide networks, and the medical college library network is one of them. Lack of proper planning and insufficient funding have slowed the network of medical college libraries. An institutional agreement signed by participating medical libraries is also essential to the success of the network.
In practical terms, catalog data must be in standard, machine-readable format for sharing and exchanging. A complete and continuous flow of external support and medical associations is critical to the network's existence.

As in other developing countries, Bangladesh has seen a paradigm shift in the development of library consortiums. Initially, library cooperation led to library networking and resource sharing and finally reformed to library consortia. In 2007, the Bangladesh-INASP-PERI Consortium popularly known as BIPC started subscribing e-resources but failed to build cooperative acquisition. It should be highlighted that numerous steps were done by various types of institutions in Bangladesh to establish the cooperative forum (Bangladesh Academy of Sciences, 2011). The following are a few of these networks:

"National Agricultural Information System (NAIS)"
"Social Science Research Network (SSRN)"
"Heath Literature, Library and Information Science Network (HELLIS)"
"Development Information Network on South Asia (DEVINSA)"
"National Science and Technology Information Policy (NASTIP)"
"Bangladesh University Libraries Network (BULN)"
"Bangladesh National Scientific and Library Information Network (BANSLINK)"
"Population Information Network (POPIN)"
Due to numerous issues, these networks mentioned above are inactive (Rahman et al., 2006; also Raju, 2015).

Problem Statement
Jahan et al. (2013) conducted a study on networking and resource-sharing patterns among Bangladesh's special libraries. The study found that the present networking and resource sharing scenario is still in the infant stage. They proposed a model plan to strengthen networking and resource sharing culture among the special libraries in Bangladesh. Zabed (2014) investigated public university libraries with regard to the resources and services that are available. He found that there are scanty of library resources, IT equipment and access to online resources. He suggested rigorous training programs for library personnel to render better online services. He proposed a network model for building electronic library to ensure better access to online resources and services. Raju (2015) studied health science libraries in Dhaka city addressing problems and prospects. He mentioned that "information networks could create and improve co-operation among health libraries in Dhaka city and with other health libraries elsewhere". He found that there some problems at health libraries in Bangladesh. He proposed a model plan, "Health Science Research Information Systems (HSRIS)".
At present there are four 4 public and 26 private medical colleges in Dhaka city of Bangladesh (as of December 2022). Prior to the advent of information and communication technology (ICT) and the digital revolution, most of the medical college libraries in

Bangladesh failed to meet the standard of resource exchange. However, a few progressive medical college libraries recently began sharing resources on a small scale. Library networks have linked libraries via the internet to transmit information and share resources. The majority of medical college libraries use customized software. The resource materials at medical college libraries have yet to take shape. Therefore, this study attempted to examine the prospects for a medical college libraries consortium in Dhaka, Bangladesh.

Objectives of the Study

The study's main purpose is to examine the prospect of library consortium for medical college libraries in Dhaka city of Bangladesh. Specifically, the study aims to:

1. understand the present status of medical college libraries in terms of available resources, services and ICT infrastructure
2. identify the attitude of the library staffs of medical college libraries towards library consortium
3. find out the barriers in implementing library consortium among medical college libraries
4. propose a model plan and recommend necessary initiatives to implement a library consortium among medical college libraries in Dhaka, Bangladesh

Literature Review

Libraries are flourishing due to resource sharing, which is facilitated by technological innovations. Academic libraries play a significant role in planning and managing user needs, and cooperative enterprises encourage resource sharing worldwide. Studies have shown that library consortiums can improve academic education quality, increase customer satisfaction, and facilitate efficient transfer of resources. Library consortiums also bridge the geo-gap among connected libraries by expanding and exchanging resources and services. Prakash and Reddy (2020) investigated Management College Libraries' Digital Resource Sharing and Networking in India, highlighting libraries' innovative role in serving the academic community. The Medical Library Center of New York (MLCNY) in New York provided a model for co-operative, democratic, and practical solutions to storage and resource-sharing issues. Sridhar (2002) surveyed ISRO libraries in India regarding resource sharing, detailing a practical strategy to reduce acquisition costs and share creative resources among a network of libraries operating under a focal point or an apex body. Mensah and Dadzie (2022) encourage resource sharing worldwide, where finance is not a barrier to access global library resources. Ogba and Ikeazota (2021) surveyed resource sharing culture in law libraries in Nigeria, finding that resource sharing among participating law libraries was not a formal practice. University libraries and other organizations provide financial support for law libraries, but none of the libraries participated in the survey had a formal policy on sharing resources.

Dhanavandan (2012) studied the ICT revolutionized human activities, including libraries and information fields. Libraries are modernizing operations to provide fast, integrated, interactive services. The concept of digital libraries has emerged, with universities and research institutions setting up these libraries to meet the increased information thrust and enhance access to information. Ejedafiru and Emokiniovo (2012) stated that medical education in the twenty-first century increasingly relies on connecting all libraries. Library consortiums among medical college libraries face challenges such as lack of proper planning, insufficient funds, and the use of customized software that does not support MARC format. In Bangladesh, while several studies have been conducted on networking and resources sharing, no study has been done on medical library consortiums. Librarians in Bangladesh are fully aware of the benefits and blessings of library consortiums and are working to organize formal networks for resource sharing.

Methodology

This exploratory research used a mixed-method approach, collecting data from both primary and secondary sources. Primary data was collected through questionnaires and interviews, while secondary data was gathered from various publications and web-based e-resources. A semi-structured questionnaire was designed to assess the current status of medical college libraries in terms of available resources and ICT infrastructure for networking and resource sharing. The questionnaire included demographic profiles, library staff, library collections, ICT infrastructure facilities, services, internet, LAN facility, and individual websites. The researchers selected two public medical colleges and eight private medical colleges in Dhaka City, including Ad-din Women Medical College, Anwer Khan Modern Medical College, Bangladesh Medical

College, Delta Medical College, Dhaka National Medical College, Ibn Sina Medical College, Ibrahim Medical College, Shaheed Suhrawardi Medical College, Sir Salimullah Medical College, and Uttara Adhunik Medical College. The selected medical college library professionals were the respondents and interview participants. The data was analyzed using the Statistical Package for Social Sciences (SPSS) software version 25.0 to show descriptive statistics.

Data Analysis and Interpretation

Academic and Demographic profile of respondents

Table-1: Academic and demographic profile of respondents

Status		Frequency and Percentage	
		(f)	%
Gender (Librarian)	Male	6	60.0
	Female	4	40.0
	Total	10	100.0
Education Level	PGDLIS	4	40.0
	MA/MSS	6	60.0
	MPhil	0	0.0
	PhD	0	0.0
	Total	10	100.0
Age Group	25-30 years	0	0.0
	31-35 years	1	10.0
	36-40 years	2	20.0
	41-45 years	4	40.0
	46-50 years	3	30.0
	Above 50	0	0.0
	Total	10	100.0
Working Experiences	1-10 years	2	20.0
	11-20 years	5	50.0
	21-30 years	3	30.0
	Total	10	100.0

The above table shows the demographic profile of the respondents. In terms of gender wise distribution the majority of the respondents (6) are male, with the remaining (4)are female. Regarding educational qualification, most of respondents (6) have an MA/MSS in ISLM and (4)have a PGDLIS and none have MPhil or PhD. With regard to age-wise distribution, (1) respondents is from the age group of 31-35 years, (2)respondents are between the ages of 36-40 years, (4) respondents are between the ages of 41-45 years, and (3) are between the ages of 46-50 years. In the matter of working experience, (2) respondents have 1–10 years of experience, (5) respondents have 11–20 years of experience, and (3) respondents have 21–30 years of experience.

Library Staff

Table 2: Library staff

Library staff					
Medical College	**Professional**	**Semi-Professional**	**Non-Professional**	**Total**	**%**
DeMC	02	00	02	04	11.76
DNMC	01	00	01	02	5.88
ISMC	00	01	02	03	8.82
IMC	01	00	02	03	8.82
UAMC	00	01	02	03	8.82
SSMC	01	03	02	06	17.65
ShSMC	01	00	02	03	8.82
AWMC	01	00	02	03	8.82
AKMC	01	00	01	02	5.88
BMC	02	02	01	05	14.71
Total	**10**	**07**	**17**	**34**	**100**

Table-5 shows that there are 34 library staff members in selected medical colleges. Three categories were considered to identify current library staffs. They are professional, semi-professional and non-professional. The data from the table depict that there area total of 10 professional, 7 semi-professional and 17 non-professional library staffs. At DeMC, there are total of 4 library staffs (2 professional and 2 non-professional) followed by 2 library staffs(1 professional and 1 non-professional) at DNMC, 3 library staffs(1 semi-professional and 2 non-professional) at ISMC, 3 library staffs (1 professional and 2 non-professional) at IMC, 3 library staffs (1 semi-professional and 2 non-professional) at UAMC, 6 library staffs (1 professional, 3 semi-professional, and 2 non-professional) at SSMC, 3 library staffs (1 professional and 2 non-professional) at ShSMC, 3 library staffs (1 professional and 2 non-professional) at AWMC, 2 library staffs (1 professional and 1 non-professional) at AKMC, and 5 library staffs (2 professional, 2 semi-professional and 1 non-professional) at BMC.

Library Collections

Table 3: Library Collections

Medical College	Library Collections							
	Printed Books	**Reference Books**	**e-Books**	**Printed Journals**	**e-Journals/ Databases**	**Theses /Dissertations**	**MARC Format Databases**	**CD/ DVD**
DeMC	2000	0	0	60	1200	0	0	0
DNMC	6222	0	0	43	869	0	0	0
ISMC	4826	0	0	482	836	0	0	0
IMC	9466	0	0	361	432	0	0	0
UAMC	3371	0	0	155	247	0	0	0
SSMC	9505	298	0	600	783	0	0	0
ShSMC	35000	467	0	150	642	0	0	0
AWMC	5000	0	0	42	332	0	0	0
AKMC	1165	0	0	156	565	0	0	0
BMC	7000	164	0	78	754	0	0	0

In terms of library collection, Table-3 shows that 2000 printed textbooks, 60 printed journals, and 1200 e-journals/databases are available at the DeMC library.There are 6222 printed textbooks,43 printed journals, 869 e-journals/databases available at DNMC library. There are 4826 printed textbooks,482 printed journals, 836 e-journals/databases available at ISMC library. There are 9466 printed textbooks, 361 printed journals, 432 e-journals/databases available at IMC library. There are 3371 printed textbooks,155 printed journals, 247 e-journals/databases available at UAMC library. There are 9505 printed textbooks, 298 reference books, 600 printed journals, 783 e-journals/databases available at SSMC library.There are 35000 printed textbooks, 467 reference books,150 printed journals, 642 e-journals/databases available at ShSMC library.5000 printed textbooks, 42 printed journals, and 332 e-journals/databases are available at AWMC library.There are 1165 printed textbooks, 156 printed journals, 565 e-journals/databases available at AKMC library. No e-books, theses/dissertations, MARC format databases, or CD/DVDs are available at the selected medical college libraries.

Availability of ICT Infrastructure

Table 4: Availability of ICT Infrastructure

ICT Infrastructure	DeMC	DNMC	ISMC	IMC	UAMC	SSMC	ShSMC	AWMC	AKMC	BMC	Total
Computers	3	5	4	5	4	5	6	6	5	4	47
Printer	1	1	1	1	1	1	1	1	1	1	10
Server	1	0	0	0	0	0	0	0	0	0	1
RFID	0	0	0	0	0	0	0	0	0	0	0
Telephone	2	2	1	1	1	1	1	1	1	1	12
E-book reader	0	1	0	0	0	0	0	0	0	0	1
UPS	3	5	4	5	4	5	6	6	5	4	47
Barcode Printer	0	0	0	0	0	0	0	0	0	0	0
Barcode scanner	0	0	0	0	0	0	0	0	0	0	0
CC cameras	1	2	0	0	0	0	0	2	2	1	8

Scanner	1	1	1	1	1	1	1	1	1	1	10
LCD projector	1	0	0	0	0	0	0	0	0	0	1
Modem	1	1	1	1	1	1	1	1	1	1	10
Consortia Membership	1	1	0	0	1	0	0	0	1	0	4
Photocopier	1	1	0	0	0	0	0	1	1	1	5
Total	16	20	12	14	13	14	16	19	18	14	156
Percentage	10.26	12.82	7.69	8.97	8.33	8.97	10.26	12.18	11.54	8.97	100

Table 4 depicts the availability of ICT infrastructure at medical college libraries. There are 3 computers at DeMC library, 4 computers at ISMC library, UAMC library, and BMC library, 5 computers at DNMC library, IMC library, SSMC library and AKMC library, 6 computers at ShSMC library and AWMC library respectively. All medical libraries have printer, scanner and modem. Only DeMC library has 1 server but other medical libraries don't have any server. There is no RFID at the selected medical college libraries. There are 2 telephones at DeMC library and DNMC library and 1 telephone at ISMC library, IMC library, UAMC library, SSMC library, ShSMC library, AWMC library, AKMC library and BMC library respectively. Only DNMC library has 1 E-book reader on the contrary, the rest of the libraries don't have any E-book reader.There are 3 UPS at DeMC library, 4 UPS at ISMC library, UAMC library and BMC library, 5 UPS at DNMC library, IMC library, SSMC library, and AKMC library, 6 UPS at ShSMC library and AWMC library respectively. The selected medical college libraries have no barcode printer and barcode scanner. There are 1 CC camera at DeMC library and BMC library, 2 CC cameras at DNMC library, AWMC library and AKMC library, but ISMC library, IMC library, UAMC library, SSMC library, and ShSMC library don't have any CC camera. All but DeMC library has LCD projector. Only DeMC library, DNMC library, UAMC library and BMC library have consortia membership. Only DeMC library, DNMC library, AWMC library, AKMC library and BMC library have 1 photocopier whereas ISMC library, IMC library, UAMC library, SSMC library, and ShSMC library don't have any photocopier.

Availability of Services at Medical College Libraries

Table 5: Availability of Services at Medical College Libraries

Sl.No.	Services	Frequency	%
1	Abstracting services offered	3	4.11
2	Bibliographic services offered	7	9.59
3	CD-ROM access	2	2.74
4	Circulation of books and journals	10	13.70
5	Current awareness services offered	6	8.22
6	Inter-library loan/document delivery	7	9.59
7	Internet browsing	10	13.70
8	Online databases	4	5.48
9	Reference services offered	7	9.59
10	Reprographic services offered	5	6.85
11	Online SDI service offered	1	1.37
12	Wi-Fi	10	13.70
13	Other	1	1.37
	Total	73	100

Table 5 shows the availability of services among the medical college libraries of Dhaka, Bangladesh. Out of ten, 3 medical college libraries offer abstracting services, 7 medical college libraries provide bibliographic services, 2 medical college libraries provide CD-ROM access, 10 medical college libraries offer circulation of books and journals, 6 medical college libraries provide current awareness service, 7 medical college libraries allow inter-library loan/document delivery, 10 medical college libraries allow internet browsing, 4 medical college libraries have online databases, 7 medical college libraries provide reference service, 5 medical college libraries provide reprographic services, 1 medical college library offer online SDI service, 10 medical college libraries provide Wi-Fi facilities.

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Internet Accessibility, LAN Facility and Individual Website

Table 6: Internet, LAN Facility and Separate Website

Status	DeMC	DNMC	ISMC	IMC	UAMC	SSMC	ShSMC	AWMC	AKMC	BMC
Internet accessibility	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
LAN facilities	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Individual website	No	No	No	No	No	No	No	No	Yes	No

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It is evident from Table 6 that almost all the medical college libraries have internet accessibility and LAN facilities. Only the AKMC library has an individual website others don't have any individual website.

Software Used for Library Automation

Table 7: Software Used for Library Automation

Software Used for Library Automation										
Status	**DeMC**	**DNMC**	**ISMC**	**IMC**	**UAMC**	**SSMC**	**ShSMC**	**AWMC**	**AKMC**	**BMC**
Koha-ILS	No	No	No	No	No	No	No	No	No	No
SLiMS	No	No	No	No	No	No	No	No	No	No
Green Stone	No	No	No	No	No	No	No	No	No	No
LIBSYS	No	No	No	No	No	No	No	No	No	No
NewGenLib	No	No	No	No	No	No	No	No	No	No
Customized	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes

Table 7 shows the library automation software used. No medical college libraries use Koha-ILS, SLiMS, Green Stone, LIBSYS and NewGenLib. All medical college libraries except SSMC library, ShSMC library and AWMC library use customized automation software for their libraries.

Status of Library Automation

Table 8: Status of Library Automation

Sl.No.	Areas of Automation	Complete	Partial
1	Initial stage	No	Yes
2	Acquisitions	No	No
3	Cataloguing	No	Yes
4	Circulation	No	Yes
5	Serial Control	No	No
6	OPAC	No	Yes
7	Administration	No	No

Table-8 shows the status of library automation. In terms of automation, the initial stage, cataloguing, circulation and OPAC are partially automated whereas acquisition, serial control and administration are not automated and run manually.

Attitude towards Library Consortium

Table 9: Attitude towards Library Consortium

Parameter	Agree	Disagree	Neutral
It offers latest information to the users	10	0	0
It renders enormous facilities and services for users	10	0	0
It enhances the maximum use of library materials	9	1	0
It improves existing library services	9	1	0
It maximizes the scholarly works in the medical colleges	7	3	0
It requires a competent workforce in the library	0	7	3
It increases the work pressure of library staffs	0	10	0
It fulfillsthe demand of the stakeholders	10	0	0
It makes positive vive towards library consortium	9	1	0
It is difficult to design and	0	7	3

implement			
It impacts on work schedule	0	3	7
It increases ICT tools infirmary	1	1	8

Table 9 demonstrates the attitude towards library consortium. 10 out 10 respondents agreed that it offers the latest information to the users, renders enormous facilities and services for users, and fulfills the demands of the stakeholders. 9 out of 10 respondents agreed and 1 respondent disagreed that it enhances the maximum use of library materials, improves existing library services, and makes positive vive towards library consortium. 7 out of 10 respondents agreed and 3 respondents disagreed that it maximizes the scholarly works in the medical colleges and 1out of 10 agreed, 1 respondent disagreed and 8 respondents remained neutral that it increases ICT tools infirmary.10 out of 10 respondents opposed increasing the work pressure of library staffs, 7 out of 10 respondents opposed and 3 respondents remained neutral that it requires competent workforce in the library, and it isn't easy to design and implement. 3 of the polled respondents disagreed and 7 remained neutral that it impacts work schedule.

Barriers to Implement Library Consortium

Table 10: Barriers to Implement Library Consortium

Parameter	Yes	No
Conventional/institutional barriers	10 (100%)	0 (0%)
Physical and geographical barriers	7 (70%)	3 (30%)
Apathy from previous experience	2 (20%)	8 (80%)
Lack of ICT infrastructure	10 (100%)	0 (0%)
Lack of budget	10 (100%)	0 (0%)
Lack of trained manpower	9 (90%)	1 (10%)
Lack of management support	9 (90%)	1 (10%)
Lack of ICT applications training	8 (80%)	2 (20%)
Lack of awareness of the networking program	6 (60%)	4 (40%)
Lack of co-operation & co-ordination	10 (100%)	0 (0%)
Lack of legislative measures	10 (100%)	0 (0%)

Table 10 explains the barriers to implementing a consortium for medical college libraries. 10 out of 10 respondents affirmed that there are conventional/institutional barriers to implement a library consortium, 7 respondents affirmed and 3 respondents said no on physical and geographical barriersto implementing a library consortium, 2 respondents affirmed and 8 respondents said no on apathy from previous experience to implement a library consortium, 10 out of 10 respondents affirmed on lack of ICT infrastructure, lack of budget, lack of co-operation & co-ordination and lack of legislative measures to implement a library consortium, 9 respondents affirmed and 1 respondent negatively remarked on lack of trained human resources and lack of management supportto implement a library consortium, 8 respondents affirmed and 2 respondents negatively stated on lack of ICT applications training to implement a library consortium, 6 respondents affirmed and 4 respondents said no on lack of awareness of the networking programto implement a library consortium.

Major Findings

The demographic composition of the respondents in this study is primarily male, with 40% being female. They hold an MA/MSS in ISLM and a PGDLIS. The age distribution is diverse, with 50% having 11-20 years of experience. The staffing composition across medical college libraries is also diverse, with 29.4% being professionals, 20.6% semi-professionals, and 50% non-professionals. DeMC contributes 11.76% of the staff, while ISMC, IMC, UAMC, ShSMC, and AWMC collectively represent 8.82% each. DNMC and AKMC contribute 5.88% of the library staff.

The collections of medical college libraries are diverse, with the ShSMC library having the most extensive collection of printed textbooks, the SSMC library having the most modest collection of reference books, and the AWMC library holding a more limited selection of printed journals. Nearly all libraries have access to e-journals/databases, suggesting that more initiatives should be taken to expand the collection to implement a library consortium.

ICT infrastructure facilities are present in 10 selected private medical colleges in Dhaka city, with DNMC having the highest proportion at 12.18%. The majority of medical college libraries offer circulation of books, journals, internet browsing, Wi-Fi services, bibliographic services, interlibrary loan/document delivery, reference services, current awareness services, reprographic services, online databases, abstracting services, and online SDI services.

Internet accessibility, LAN facilities, and individual websites of medical college libraries are almost all available, but only one library has its own website. More necessary infrastructure should be set up to network and share resources. Library automation software is customized, and no open-source library management software is used. Attitude towards library consortium is positive, with 90% agreeing on parameters 1, 2, 3, 4, and 9. Barriers to implementation include eradicating impediments to library consortium implementation. The study highlights the need for improved library infrastructure and automation in medical college libraries to facilitate resource sharing and networking.

BMCLC: A proposed model plan for implanting a library consortium among medical college libraries in Dhaka, Bangladesh

Information is a crucial resource for information institutions, facilitating societal and economic development. Libraries and information centers play a crucial role in providing resources and services to users on demand. A comprehensive infrastructural development is needed to build a network and resource-sharing culture among medical college libraries. A model plan aims to propose a functional system for connected libraries to render services and share resources. Building a library consortium among medical college libraries is necessary for various reasons, including exponential growth of medical resources, increasing costs of information, technological fusion, avoiding redundant resources, coordination and communication, collection development, faster service delivery, comprehensive database preparation, inter-lending activities, maintaining standards, education and training, facilitating quick information retrieval, promoting medical research, offering innovation, proper assessment and monitoring, diversity, and ever-changing information needs.

Studies have shown that networking and resource sharing in special libraries in Bangladesh is still in its early stages. A model plan is proposed to strengthen this culture. Public university libraries face limited resources and services, and rigorous training programs are suggested for library personnel to improve online services. Health science libraries in Dhaka can benefit from information networks to improve cooperation and resource access.

Information practitioners, policymakers, patrons and librarians should come forward to showcase the desired implementation and development of an appropriate system for building a robust culture of sharing holdings and services with other identical libraries.

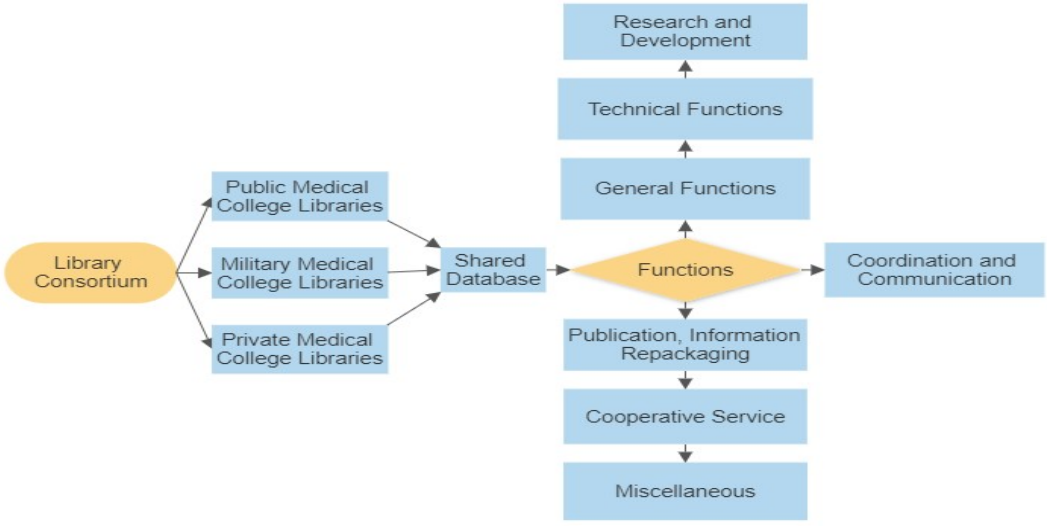


Figure 1: BMCLC-(Bangladesh Medical College Library Consortium)

Any consortium should provide access to available resources to its concerned library users irrespective of geographical location. In Figure 1, the proposed consortium will cover three types of medical college libraries in Bangladesh under a focal point or an apex

body, which basically means library consortia. They are as follows: public medical college libraries, military medical colleges, and private medical colleges. To build a strong network all medical college libraries should be brought under a common shared database so that all connected libraries can communicate to each of the library and share valuable resources across the community. The member libraries will work together to develop collection for disseminating shared services. If a union catalogue can be made, then it is easy to gain a fruitful bibliographic control over the resources. Through a network, the member libraries will be able to provide fast access to resources and cross-cultural databases. A consortium certainly helps its members be skilled through workshops, seminars, training, symposiums, conferences, etc. Through a common platform, the medical college libraries can perform the following functions:

i. **General Functions:**The general functions will cover- cooperative collection development (acquisition through purchase, gift or donation), subscription, exchange of duplicate resources and many more.
ii. **Technical Functions:** Cooperative classification and cataloguing, indexing and abstracting services, inter-lending services, preparing union catalogue for holdings, developing bibliography, sharing of catalog cards, reference services, referral services, reciprocity in membership for using materials and so on.
iii. **Research and Development:** A strong networking fosters research collaboration. Thus a holistic development can be done through scholarly work. The medical college libraries can share medical information with interested group of users in a unified manner.
iv. **Publication, Information Repackaging**: Accessioning new arrivals, reprographic services, photocopying, translations services, preparing newsletter, manuals or directories.
v. **Cooperative Service:** Delivery services, storage and retrieval, etc.
vi. **Coordination and Communication:** The member library will coordinate with each other to instantly disseminate desired service through proper communication.
vii. **Miscellaneous:** Current Awareness Service (CAS), Selective Dissemination of Information (SDI), Audio-visual service, printing service, liaison with apex bodies locally, nationally and internationally, user orientation, providing access to computer an internet, searching facility, programs, classes, providing standards etc. should be initiated.

Barriers to Implement a Consortium among Medical Colleges Libraries

Bouazza (1986) and Lau (1995) highlighted the challenges in networking and resource sharing among developing countries, including human, social, cultural, economic, and political issues. Ameen (2008) surveyed chartered university libraries in Pakistan, revealing technical, psychological, procedural, and behavioural obstacles that affect resource sharing. Rifaudeen (2008) identified barriers such as lack of online union catalog, time taken for mailing or transportation, inefficient communication systems, lack of trained staff, insufficient funds, absence of formal agreement, the uncooperative attitude of librarians, lack of support by parent organizations, and legal barriers. Rita (2013) investigated cooperative sharing behaviour in Nigerian law libraries, identifying the lack of automated systems and training for law librarians as main obstacles. She argued that automating systems, setting up network centres, and training librarians are necessary steps for networking. Raju (2015) highlighted problems in sharing resources and services among health libraries in Bangladesh, including lack of ICT facilities, e-resources, training, policies, and strategies. Medical college libraries in Dhaka, Bangladesh, have no developed system for library consortium, and their services are inefficient and inefficient. They are as follows:

a) Insufficient professional expertise and development
b) Inadequate standards and national policy
c) Lack of funding and budgets
d) Inadequately equipped technology
e) No library professional training programs available.
f) Ineffective communication and resource sharing
g) Lack of regional and international networks
h) Absence of medical library consortium
i) Inapplicable Interlibrary loan policy
j) Lack of support from national coordination committees or professional associations

Recommendations

"Bangladesh Medical and Dental Council is the statutory body of the government entrusted with the responsibilities for maintaining the standard of medical education and health care services in the country" (Khan, 2012). It can act as a concerned authority to envision a library consortium among medical college libraries in Dhaka, Bangladesh. Preparing strategies and policies for library consortium among medical college libraries is a burning issue. Proper decision-making is very much crucial in this regard. All concerned bodies should walk and work together to maximize the use of holdings within the member libraries. As it is obvious from numerous research as well as the present study, coordinated efforts should be made to come up with the notion that if a healthy relationship of member libraries is not formed, everything will go in vain. To taste 4th industrial revolution, there is no alternative to make cooperative endeavors to build a consortium among the concerned medical college libraries. Mubofu and Chaula(2020) suggested that "academic libraries should formulate effective teams that will ensure library resource sharing is properly conducted in academic libraries by employing the right forms of information resources sharing for the right library customer in the right time to address the patrons' information needs on time." The following recommendations would be best suited for taking necessary initiatives to implement a consortium among medical college libraries:

a) Implement integrating library management system for making federated searching through a central database
b) Assist the establishment of distinct institutional repository
c) Initiate digitization projects
d) Subscribe numerous bibliographic databases
e) Create sufficient professional expertise and arrange training program for development
f) Formulate effective and efficient policies and standards
g) Provide adequate funding and budgets
h) Provide sufficient and well equipped technology
i) Arrange more training programs, workshops, seminars, and symposiums for library professionals.
j) Build effective communication and resource sharing culture
k) Make available regional and international networks
l) Formulate applicable interlibrary loan policy/system based on a union list of holdings.
m) Provide adequate support from national coordination committees or professional associations.
n) Take necessary legislative measures

Limitation and Future Research Direction

The main limitation of the present research is its scope. The search sites, population and sample can be expanded to get more specific or detailed scenario of existing status of medical college libraries. More studies are needed to be conducted on medical college library and library consortium in Bangladesh.

Conclusion

The study examines the current state of medical college libraries in Dhaka, Bangladesh, regarding collections, IT facilities, and services. It found that the current libraries meet user needs, but there are few good-quality ones. Efficient resources should be provided through improved management and sharing arrangements using modern ICT facilities to improve services. However, resource sharing is a fundamental obstacle in Bangladesh, with inadequate collections and underutilized resources. Lack of ICT-qualified personnel, inadequate funding, cumbersome organizational structures, and lack of basic legal support hinder resource mobilization and user education programs.Collaboration is needed to improve existing library resources qualitatively, quantitatively, or both. Programs for sharing available resources are essential. However, resource sharing is rudimentary, and it is crucial to implement an efficient consortium among medical college libraries to provide better services. This includes preparing e-journal subscriptions, employing more educated staff, maximizing library collection on demand and anticipation, and providing more sophisticated services among member communities.ICT infrastructure, in-house facilities, and updated library automation software are also needed for better services. Library users and authorities should maintain a positive attitude towards library consortium. Bangladeshi library professionals should consider consortium endeavors like developed countries for maximum resource utilization at low cost, time, and space. Government, stakeholders, patrons, legal advisers, policymakers, information professionals, and concerned authorities should work together to implement the proposed model plan for the benefit of library and user benefit.

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