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Article information:

To cite this document:

Manpreet Kaur Paramjeet Kaur Walia , (2016), "Collection development of electronic resources in management libraries of India", Collection Building, Vol. 35 Iss 3 pp. 73 - 83

Permanent link to this document:

<http://dx.doi.org/10.1108/CB-04-2016-0007>

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Collection development of electronic resources in management libraries of India

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Abstract

Purpose – The main purpose of this paper is to examine the current practices related to e-resource collection development in management libraries of India with special reference to the National Capital Region (NCR) of Delhi with some constructive suggestions for improvement in this area.

Design/methodology/approach – A well-structured questionnaire was administered to the librarians of the nine management libraries under study.

Findings – The management libraries are actively involved in building e-resource collection. The budget allocation for purchase of e-resources has increased progressively over the years in majority of the libraries. The factors that, to a great extent, affect selection of e-resources include quality, subject coverage, license agreements and vendor support. The study found that libraries associated with management institutions such as ABS, DMS-IITD, FMS, BIMECH and FSM need to add more management-related databases.

Research limitations/implications – The paper restricts the study exclusively to e-resources as the type of material and the librarians of nine major management institutions of NCR of Delhi as the respondents in its scope of discussion.

Practical implications – The study is of great importance to information professionals of similar management institutions in India. The recommendations made could also help solve some of the challenges that are being faced.

Originality/value – Very little is known about the electronic resource collection development practices followed in management institutes' libraries of India owing to lack of significant research undertaken on the topic. This study is, therefore, significant because its findings fill up the existing knowledge gap in this area.

Keywords India, Electronic resources, Collection development, Management institutions, Management libraries, NCR

Paper type Research paper

Introduction

The widespread use of information and communication technologies, especially the internet and Web, has brought significant changes in the way information is generated, stored and accessed. With the rapid development and use of the internet and Web-based technologies, the major development that is taking place in libraries and information centers is extensive availability and use of various kinds of electronic resources such as CD-ROM databases, on-line databases, e-journals, e-books, OPACs and other networked information resources. The focus of collection development of academic libraries at college and university levels has shifted from printed materials to electronic resources. For example, experimental data collected by ARL libraries indicated that the portion of the library materials budget that is spent on electronic resources is indeed growing rapidly. Since the ARL Supplementary Statistics were first reported, the percentage of the average library budget that is spent on electronic materials

has increased more than eightfold, from an estimated 3.6 per cent in 1992-1993 to 25 per cent in 2002-2003. In total, 111 ARL university libraries reported spending more than \$228m on electronic resources in 2002-2003. The vast majority of that was spent on electronic serials and subscription services, expenditures for which have increased sharply: from just \$11m when first reported on this survey in 1994-95 to more than \$205m in 2002-2003. Also, 49 ARL libraries reported another \$21.47m expended on their behalf through centrally funded consortia (Association for Research Libraries, 2004, p. 7).

In 2009, ARL Supplementary Statistics (2007-2008) highlighted that a huge amount of budget was spent on e-resources; it reported that 109 ARL libraries purchased 32,329,187 electronic books and 98 ARL libraries reported spending as total of \$30,563,758 for electronic books; 75 ARL libraries reported 184,481,145 log-ins to institutional networked e-resources; 69 ARL libraries noted 180,009,988 virtual visits to the library catalog; and 131,792 total digital collections were reported, containing 50,393,720 items, which were accessed 876,787,949 times (Association for Research Libraries, 2009, p. 5). These data clearly show a clear trend that electronic resources have become an increasingly

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Collection Building
35/3 (2016) 73-83
© Emerald Group Publishing Limited [ISSN 0160-4953]
[DOI 10.1108/CB-04-2016-0007]

Received 26 April 2016
Revised 30 July 2016
Accepted 3 August 2016

important component of the collection-building activities of libraries.

The term collection development encompasses several activities related to the development of library collections, including selection, determination and coordination of selection policy, assessment of the needs of users and potential users, collection use studies, collection analysis, budget management, identification of collection needs, community and user outreach and liaison and planning for resource sharing (Johnson, 2004, pp. 1-2). Today, collection development operates in a complex environment with new challenges to the traditional long-term view. There is less time provided for the usual consideration and deliberation in decisions. A typical bibliographer or selector is now confronted with the need to select traditional formats and new electronic forms of information, some of which are experimental in nature (Rowley and Black, 1996, p. 25). E-resources present a number of challenges not encountered with the selection and acquisition of traditional analog materials, and it is advisable for the library to develop clear policies and processes for the selection of e-resources. This will provide clarity to staff and ensure that e-resources within the library are developed with due consideration of cost, technical feasibility, functionality and reliability, licensing, access and preservation requirements and constraints. The IFLA Acquisition and Collection Development Section also, in its report, pointed out that there should be a supplementary policy for e-resources and it should be used in conjunction with the more traditional collection development policy and not in isolation (Johnson *et al.*, 2012, pp. 3-4).

Scope of the study

India is the seventh largest country in the world. Delhi is the capital of India, and Uttar Pradesh, Haryana and Rajasthan are adjoining states to Delhi. According to the National Capital Region Planning Board Act 1985, a total of 23 districts from the adjoining states of Uttar Pradesh, Haryana and Rajasthan, as well as the National Capital Territory of Delhi comprise the National Capital Region (NCR) of Delhi (Delhi NCR Map, 2016). In the past few years, the education system prevalent in the NCR has undergone major developments and the management education is not lagging behind. Numerous MBA colleges have emerged in the NCR, and some of them impart quality education and are equipped with eminent faculty members and state-of-the-art infrastructure. Thus, the researchers were of the opinion that a survey of management libraries located in the NCR would be sufficient to highlight the current trends related to collection development of e-resources in management libraries of India. Table I gives the details of management institutions and libraries covered under the present study.

There are different types of management institutions in India such as department of management studies affiliated to central universities, autonomous public management institutions, autonomous private self-financed management institutions, department of management studies affiliated to private universities, etc. Thus, from Table I, it can be seen that various types of management institutes' libraries from different regions of NCR have been covered under the present study. The e-resource collection development in management

institutions affiliated to a university setup were done by their respective central libraries. In such institutions' libraries, users can access e-resources both from their central libraries and from their departmental libraries.

Review of related literature

A concise review of literature pertinent to e-resource collection development in libraries is presented below and based thereupon, a research gap has been identified.

Rowley and Black (1996), in their paper, have discussed the changes that have impacted collection development and suggest an approach for the future based on a view of libraries as developers, designers and managers of knowledge. They suggested integrating proliferating electronic information into libraries' existing collection development routines. Further they stated that existing committees or councils may be given an expanded charge to include e-resources. New review bodies may be created with the belief that they will combine the appropriate perspectives for evaluating and selecting electronic information products. Andrade and Vergueiro (1996) discussed collection development in academic libraries, using the practices of a Brazilian academic library as an example. They highlighted several theoretical models for collection development provided by professional literature and choose Evans's model as a tool for their study. The study concluded that Evans' model is adequate for use in libraries in developing countries. White and Crawford (1997) addressed the development of an electronic information resources collection development policy to guide the librarians at Penn State, Harrisburg, in the selection of electronic reference resources. The authors stated that the general collection development guidelines for electronic information resources includes relevance and potential use of the information, redundancy of the information contained in the product, demand for the information, ease of use of the product, availability of the information to multiple users, stability of the coverage of the resource, longevity of the information, cost of the product, predictability of pricing, equipment needed to provide access to the information, technical support and availability of the physical space needed to house and store the information or equipment. The paper by Kovacs and Elkordy (2000) offers a practical discussion on developing and implementing a collection plan for building Web-based e-libraries with a focus on Web-based information resources rather than other electronic information resources such as CD-ROM or fee-based databases. They discussed some guidelines and practical strategies on where and how to find, identify, evaluate and select appropriate Web-based information resources. Roberts (2001) has critically examined financial models for collection development. He stated that digital library collections and hybrid library developments are the key influences on the future shape of financial models and suggested a need to move toward user access funding models and away from the traditional collection grant allocation model. Bazin *et al.* (2006) described Providence College's experience in organizing, creating and implementing the library's collection management system and provided the librarians with information required to integrate the periodicals' collection. Little (2011) conducted a survey of library and information science (LIS) selectors at ARL

Table I Details of management institutions/libraries in NCR, Delhi (India)

Sr. no.	Institution/Library	Year	Governing body	Type of institution
1	Amity Business School, Central Library	1995	Amity University, Noida	Department of Management Studies affiliated to non-profit Private University
2	BIMTECH, BIMTECH Knowledge Centre	1988	Birla Academy of Art and Culture (Trust), Kolkata	Private–Self-financed
3	DMS, IIT Central Library	1976	Indian Institute of Technology, Delhi	Department of Management Studies affiliated to Institute of National Importance
4	FMS, FMS Library	1954	University of Delhi, Delhi	Department of Management Studies affiliated to Central University
5	FORE School of Management, FSM Library	1981	Foundation for Organisational Research and Education Society, Delhi	Private–Self-financed institute
6	IIFT, Foreign Trade Library	1963	Indian Institute of Foreign Trade (Self governing body), Delhi	Autonomous public management institution/Deemed University
7	IMI, IMI Knowledge Resources Centre	1981	International Management Institute Society, New Delhi	Private–Self-financed
8	IMT, IMT Library	1980	Lajpat Rai Educational Society, Ghaziabad (UP)	Private–Self-financed
9	MDI, MDI Library	1973	Management Development Institute Society, Gurgaon	Private–Self-financed

Notes: FMS, DU = Faculty of Management Studies, University of Delhi; IIFT = Indian Institute of Foreign Trade; MDI = Management Development Institute; DMS, IIT = Department of Management Studies, Indian Institute of Technology; IMT = Institute of Management Technology; FORE = Foundation for Organizational Research and Education; IMI = International Management Institute; BIMTECH = Birla Institute of Management Technology

institutions/libraries that do not support an American library association (ALA) – accredited program to learn how and why LIS materials are collected at these institutions. The results of the survey indicated that LIS collections primarily support librarians and staff in their daily work and ongoing professional development. However, most libraries' LIS collection budgets are comparatively small, selectors receive few requests for new materials and collecting parameters vary by institution, but are limited in terms of subject, publisher and audience. The paper by [Walia and Momeni \(2011\)](#) reports the results of a survey carried out in public libraries of Tehran, the capital of Iran. The study highlighted how public libraries in Tehran are providing access to information resources and whether the book collections of the libraries are adequate as per IFLA/UNESCO Guidelines. [Chaputula \(2014\)](#) studied the collection development practices in some selected private university libraries in Malawi with special focus on University of Livingstonia and Adventist University Libraries. The findings of the study indicated that funding of these private universities is not adequate as is the case with public university libraries in the country which thus had adversely affected collection development practices that include purchase of materials and staff training. [Kaur and Walia \(2015\)](#) have described the collection development and management in public libraries governed by the government or its agencies in Delhi and compared them with the international standards for public libraries. The study also assessed the impact of information and communication technology (ICT) on collection building at public libraries. The study by [Khan \(2010, 2016\)](#) has described collection development and its organizational pattern of university libraries in Uttar Pradesh, India. The survey revealed that the

old centralized universities are better placed in terms of all the parameters of collection development and further revealed that the centralized universities established recently are lagging behind the old centralized universities in an organizational pattern of collection development. [Khan and Bhatti \(2016\)](#) conducted a survey targeting collection development and management in university libraries of Pakistan and described the factors that influence collection development and management in academic libraries. These factors include goals of collection development, management policies and procedures, user needs, collection development policies, budgets and collection evaluation to determine the strength and weaknesses of various subjects in the collections, selection of reading materials, formats in which materials are selected, the issues of access versus ownership, cooperative collection development, resource-sharing programs and legal issues in collection development.

Research gap

From the foregoing compact review of the literature on the subject matter of collection development, it is clearly inferred that despite the massive literature available in the sphere of collection development, there is still a lack of relevant and appropriate literature pertaining to e-resource collection development in the Indian management libraries. The present study is an attempt at filling this existing gap.

Objectives of the study

The following objectives have been pursued with regard to e-resources collection development in Indian management libraries of NCR, Delhi:

- to identify various types of e-resources available in management libraries;
- to examine budget allocated for e-resources;
- to know the factors affecting selection of e-resources;
- to know different modes of procurement of e-resources;
- to find out current pricing models in use for acquisition of e-resources;
- to examine authentication and accessibility issues related to e-resources; and
- to identify problems faced by libraries while building e-resource collection

Methodology

The survey method was used to carry out the present study. The data were collected with the help of structured questionnaire consisted of both open- and close-ended questions related to the objectives of the study followed by interviews. Only 13 questions were included in the questionnaire, but while interviewing librarians of referred institutions, fuller explanations and additional comments on any given question were encouraged. The content validity of the measurement instrument was assessed by asking experts to examine it and provide feedback for revision. As per the recommendations of experts, some changes were made to clarify and eliminate ambiguous questions from the questionnaire. Then, the researcher personally administered questionnaire to all the referred management libraries to ensure prompt returns and to have personal contact and observations. The researcher also got the opportunity of personal interviews with the librarians and interaction with other senior library staff members. The data collected were then grouped and tabulated to present comparative analyses of all the management libraries. The data collected and interpretations made are presented under the following headings for the ease of analysis and interpretation.

Year of e-resource subscription and collection development policy

It was evident from Table I that management libraries were established during 1954 to 1995 and from late 1990s started subscribing to e-resources (Table II). IMT Library was the first to start subscription of e-resources followed by FSM,

Table II Year in which libraries started subscribing to e-resources

Library	Year	CDP for e-resources
IMT	1999	✓
FSM	2000	✓
IIFT	2000	×
MDI	2000	✓
IMI	2002	×
DMS-IITD	2003	✓
ABS	2004	×
FMS/CL	2004	✓
BIMTECH	2009	✓

Note: Data arranged in a chronological order

Source: Questionnaire

IIFT and MDI in 2000. The IMI Library started subscribing e-resources in the year 2002 followed by DMS-IITD in 2003. The oldest management library, i.e. FMS Library, was established in 1954 and it started subscription of e-resources in 2004. The ABS Central Library also started subscription of e-resources in 2004. The BIMTECH Library has just started subscribing to e-resources seven years back in 2009. Further it was observed that out of nine libraries, only six libraries have collection development policy or written guidelines for developing e-resource collection. Developing e-resource collection in Indian management libraries has taken shape from the past decade.

Responsibility for selection of e-resources

In Indian management libraries, the prime responsibility for selection and subscription of e-resources generally rests with the library committee or sometimes with the joint committees (Table III). The librarian is advised by a committee of experts in different disciplines regarding purchase of library material and in formulation of library policies and procedures. The library committee usually consisted of the director of the institution as chairman of the committee, heads of various departments, faculty members nominated by the heads, librarian as convener or members' secretary, and, in some committees, students nominated by heads also participate in the decision-making process pertaining to e-resource collection development. With respect to ABS Central Library, it was observed that the Academic Council of the Amity University, Department of Information Technology and Library Committee that consisted of heads of various departments take decision with regard to subscription of e-resources. In BIMTECH, the library advisory committee consisted of approximately eight faculty members and the librarian has the responsibility of taking decisions regarding library matters. DMS-IITD Central Library has an advisory committee for library that consisted of approximately 32 members including four students for deciding issues related to library matters. Because the FMS library is part of Delhi University Library System (DULS) and DULS is managed and administered by its Governing Body, and thus each library in the system such as FMS as per rule shall be managed and administered by a Library Committee under the supervision and control of the Governing Body of DULS. Further rules and regulations devised by DULS are subject to approval by

Table III Responsibility for collection development of e-resources

Library	Responsible body
ABS	Academic Council, Department of IT and Library Committee
BIMTECH	Library Advisory Committee
DMS-IITD	Advisory Committee for Library
FMS	Governing Body of DULS and Library Committee
FSM	Library Advisory Committee
IIFT	Library Committee
IMI	Library Committee
IMT	Library Committee and Purchase Committee
MDI	Library Committee

Source: Questionnaire

the Academic Council and Executive Council of the University of Delhi.

Source of funds for management libraries in India

With respect to sources of funds (Table IV), six libraries, namely, ABS Central Library, BIMTECH, FSM, IMI, IMT and MDI, were receiving grants from their respective institutions, i.e. also called institutional funding, as all of these are private self-financed institutions. DMS-IITD, FMS and IIFT Library were receiving funds from the Government of India for meeting the library expenses. No library was found to be receiving funds from any other sources such as special grants during the period of study.

Allocation of budget for e-resource collection

It is quite evident from the analysis of data that the percentage of library budget spent of subscription of e-resources has been gradually increasing. It was revealed that in some of the libraries such as MDI Library, IIFT Library, DMS-IITD Library and IMI Library, more than 50 per cent of the library budget is being spent on e-resource collection. Thus, it can be inferred that e-resource collection has been gaining popularity among users in India (Table V).

Factors affecting selection of e-resources

The analysis of the data has revealed that out of 15 factors, the four factors that, to a great extent, affect selection of e-resources in management libraries include quality, subject coverage, license agreements and vendor support followed by factors that also to a some extent affect selection of e-resources such as archiving policy/perpetual access, accessibility, authentication and cost, search and retrieval functionality, user-friendly interface, exporting and download and hardware and software compatibility. The factors that least affected the selection of e-resources include content format and integration with other online e-resources (Table VI).

Modes of procurement of e-resources

The researchers sought to know which modes of procurement were followed by the Indian management libraries for procurement of e-resources. Table VII shows that majority of

Table IV Source of funds for libraries

Library	Government grant	Institutional grant	Any other
ABS	×	✓	✓
BIMTECH	×	✓	×
DMS-IITD	✓	×	×
FMS	✓	×	×
FSM	×	✓	×
IIFT	✓	×	×
IMI	×	✓	×
IMT	×	✓	×
MDI	×	✓	×

Source: Questionnaire

the management libraries preferred to procure e-resources through direct subscription, followed by acquiring e-resources through agents/vendors. The study found that five out of nine libraries also provide access to e-resources by becoming members of consortia. But, it was revealed that there is no special consortium of management libraries for subscription of e-resources. Four out of nine libraries are also found providing access to e-resources through open access mode. Further, it can be noted here that none of the library preferred to acquire e-resources through exchange mode.

Availability of various types e-resources

Table VIII clearly shows that all the selected management libraries have e-resources like e-journals, e-books, online databases, e-magazines, e-newspapers, e-reports, online case studies and collection of CDs/DVDs. Only two libraries, namely, DMS-IITD Library and FMS Library, has collection of e-patents and standards. Similarly, e-reference sources were also found in only four libraries. None of the library has collection of microfilms or microfiches. The richest library in terms of availability of various types of e-resources was IMT Library followed by DMS-IITD, FMS Library and MDI Library.

E-resources collection

Table VIII revealed that all the libraries covered in the study had collection of e-journals, e-books, e-newspapers, e-magazines, online case studies, e-reports, etc. But, from Table IX, it can be observed that majority of these libraries were unable to provide the exact number for various categories of e-resources available in their library. The reason for this was that various types of e-resources such as e-reports, online case studies, e-newspapers, e-magazines, etc. are available to them as a part of databases that are aggregated by vendors. The figures with regard to various categories of e-resources provided by the respective libraries are given the Table IX.

The e-resources collection figures displayed in Table IX are discussed library wise in the following sections.

ABS Central Library

ABS Central Library subscribes to more than 17,000 e-journals and 15 online databases such as Cambridge University Press (223), ACM Digital Library (377), ISI Emerging Markets-Asia Service, Oxford University Press, Prowess, Springer, Taylor and Francis, etc. Under EBSCOhost, they have access to Business Source Complete, Research Starters Business, Entrepreneurial studies source, LISTA, Regional Business News, Green File, Newspaper Source Plus, Newswires, WebNews, e-book collection and audio book collection. The library also has collection of 2,000 CDs/DVDs. The collection of e-books, e-newspapers, e-magazines, e-reports and online case studies were available in library via EBSCO Databases such as Business Source Complete, Regional business News and Newspaper Source Plus. The library does not have collection of e-patents and standards, audio tapes, video tapes or microforms. But the library provides access to video recordings of classroom lectures (66), conferences, seminars (23), management-related videos (729), IT- and Telecommunication-related videos (238), etc.

Table V Allocation of budget for e-resource collection

Library	Year 2010-2011			Year 2011-2012			Year 2012-2013		
	Total library budget (Rs.)	Budget for e-resources (Rs.)	% of budget allocated to purchase of E-resources	Total library budget (Rs.)	Budget for e-resources (Rs.)	% of Budget allocated to purchase of E-resources	Total library budget (Rs.)	Budget for e-resources (Rs.)	% of Budget allocated to purchase of E-resources
ABS	NP	NP	–	NP	NP	–	NP	NP	–
BIMTECH	58,00,000	13,00,000	22.41	68,00,000	15,00,000	22.06	75,00,000	18,00,000	24.00
DMS-IITD	7,50,00,000	7,00,00,000	93.33	8,00,00,000	7,50,00,000	93.75	9,50,00,000	8,50,00,000	89.47
FMS ^a	32,61,000	NA	–	35,86,009	NA	–	35,86,000	NA	–
CL	2,69,77,000	1,05,00,000	38.92	2,86,26,000	1,13,00,000	39.47	2,95,87,000	1,46,50,000	49.51
FSM	42,00,000	6,50,000	15.48	45,29,344	10,00,000	22.08	57,49,600	10,50,000	18.26
IIFT	89,85,000	45,00,000	50.08	1,22,44,000	37,00,000	30.22	1,87,96,000	1,52,00,000	80.87
IMI	75,00,000	50,00,000	66.67	75,00,000	50,00,000	66.67	80,00,000	60,00,000	75.00
IMT	NP	NP	–	NP	NP	–	1,18,47,000	NP	–
MDI	1,50,00,000	90,00,000	60.00	1,70,00,000	1,00,00,000	58.82	1,82,00,000	1,50,00,000	82.42

Notes: NP = Not Provided; ^aNot applicable; FMS Library is connected to the University of Delhi network and thus it gets access to those databases that are being subscribed by Central Library (CL), University of Delhi. FMS does not separately subscribe to any of the e-resources. Thus, to know the average budget spent on e-resources, the researcher collected data regarding budget from the CL

Source: Questionnaire

Table VI Factors affecting selection of e-resources

Factors	ABS	BIMTECH	DMS-IITD	FMS	FSM	IIFT	IMI	IMT	MDI	WM	Rank
Quality	2	2	2	2	2	2	2	2	2	2.00	I
Subject coverage	2	2	2	2	2	2	2	2	2	2.00	I
Accessibility	1	2	2	2	2	2	2	1	2	1.78	III
Authentication	2	2	2	2	2	2	1	1	2	1.78	III
Cost	2	2	2	2	2	2	1	1	2	1.78	III
Hardware and software compatibility	2	1	2	1	2	1	1	1	2	1.44	VI
Content format	1	1	0	1	2	0	0	1	2	0.89	VIII
Search and retrieval functionality	1	2	1	2	2	1	2	2	2	1.67	IV
Exporting and downloading	2	2	1	1	2	1	2	1	2	1.56	V
User friendly interface	2	2	1	2	2	1	2	1	2	1.67	IV
Integration with other online resources	2	0	1	1	0	0	1	0	1	0.67	IX
Storage and maintenance	2	1	1	2	0	0	2	1	2	1.22	VII
License agreements	2	2	2	2	2	2	2	2	2	2.00	I
Archiving policy/ perpetual access	2	2	2	2	1	2	2	2	2	1.89	II
Vendor support	2	2	2	2	2	2	2	2	2	2.00	I

Notes: 2 = To a great extent, 1 = to some extent, 0 = not at all, WM = weighted mean; the Italics data highlights the weighted mean and ranking of the factors

Source: Questionnaire

Table VII Modes for procurement of e-resources

Library	Direct subscription	Consortia	Agent/vendor	Open access	Through exchange
ABS	×	✓	✓	✓	×
BIMTECH	×	×	✓	×	×
DMS-IITD	✓	✓	✓	✓	×
FMS	✓	✓	✓	✓	×
FSM	✓	×	✓	×	×
IIFT	✓	×	✓	×	×
IMI	✓	✓	×	×	×
IMT	✓	✓	×	×	×
MDI	✓	×	✓	✓	×

Source: Questionnaire

BIMTECH Library

BIMTECH Library subscribes to 7,107 e-journals and 7 prominent online databases. The library provides access to 23,000+ full-text dissertations, 6,000+ case studies, 8,000+ annual reports, 1,75,000 Economist Intelligence Units (EIU) views wires reports from 195 countries without any embargoes, 15,000+ SSRN (Social Science Research Network) Research papers and 130,000 Author Profiles, etc. from ProQuest only. Through EBSCO library provides access to 7,064 full-text publications, 6,000 online case studies, 1,307 full-text peer-reviewed periodicals and magazines, 147 full-text books and monographs, 25 full-text country economic reports and profiles, 1,250 full-text e-newspapers, 19,504 full-text company profiles, 9,13,000 full-text television and radio news transcripts, etc.

Table VIII Availability of various types e-resources

E-resources	ABS	BIMTECH	DMS-IITD	FMS	FSM	IIFT	IMI	IMT	MDI
E-journals	✓	✓	✓	✓	✓	✓	✓	✓	✓
E-books	✓	✓	✓	✓	✓	✓	✓	✓	✓
E-reference sources	✓	×	×	✓	×	×	×	✓	✓
Online databases	✓	✓	✓	✓	✓	✓	✓	✓	✓
CD-ROM databases	×	×	✓	×	×	×	✓	✓	×
E-theses and dissertations	×	✓	✓	✓	✓	×	×	✓	✓
E-magazines	✓	✓	✓	✓	✓	✓	✓	✓	✓
E-newspapers	✓	✓	✓	✓	✓	✓	✓	✓	✓
E-patents and standards	×	×	✓	✓	×	×	×	×	×
E-reports	✓	✓	✓	✓	✓	✓	✓	✓	✓
Online case studies	✓	✓	✓	✓	✓	✓	✓	✓	✓
Audio tapes	×	×	×	×	×	×	✓	✓	✓
Video tapes	×	×	✓	✓	✓	✓	✓	✓	✓
Microfilms	×	×	×	×	×	×	×	×	×
Microfiches	×	×	×	×	×	×	×	×	×
CDs/DVDs	✓	✓	✓	✓	✓	✓	✓	✓	✓

Source: Questionnaire

Table IX E-resources collection in the libraries

E-resources	ABS	BIMTECH	DMS-IITD	FMS	FSM	IIFT	IMI	IMT	MDI
E-journals	17,000+	7,107	12,000+	43,209	7,000+	4,000+	5,375	9,234	10,000+
E-books	NP	NP	24,226+	NP	NP	NP	100	126,000+	NP
Online databases	15	7	40	54	7	33	12	22	29
CD-ROM databases	NA	NA	2	NA	NA	NA	2	1	NA
E-theses and dissertations	NA	NP	4,500+	8,311	NP	NA	NA	NP	NP
E-patents and standards	NA	NA	NP	NP	NA	NA	NA	NA	NA
Audio tapes	NA	NA	NA	NA	NA	NA	22	60	320
Video tapes	NA	NA	1,800	22	168	20	78	150	300
Microfilms	NA	NA	NA	NA	NA	NA	NA	NA	NA
Microfiches	NA	NA	NA	NA	NA	NA	NA	NA	NA
CD/DVDs	2,000	3,034	5,550	400	608	2,000	395	300	2,000

Note: NA = Not available; NP= Not provided; DB = Databases

Source: Questionnaire

DMS-IITD Central Library

DMS-IITD Central Library subscribes to 12,000+ e-journals, provides access to 40 full-text online databases including databases accessible through INDEST-AICTE. The prominent online databases specifically available for management studies include ABI/INFORM complete, Capitaline, EBSCO, Emerald, EPW, Euromonitor, INFORMS Current journals, INSIGHT, ISI emerging markets, JSTOR, ScienceDirect, SpringerLink Press Display, etc. In addition to e-resources accessible through these databases, the library also provides access to more than 24,226 e-books, 4,500+ e-thesis and dissertations, 2 CD-ROM based databases, 1,800 video collection and 5,550 CD/DVDs. The library also provides network (intranet)-based CD-ROM search service, and under this service, any user on campus can access complete collection of Indian Standards, ASTM Standards and IEC Standards on the campus network.

FMS Library

FMS Library does not subscribe e-resources on its own; it is connected to the Delhi University network, and because of this, users of FMS can access databases subscribed by the Central Library, University of Delhi. The library provides access to 43,209 e-journals, 54 online databases including reference-based online databases, as well as bibliographic online databases. The prominent online databases specifically available for management studies include Academic Search Premier, Business Source Premier, Capitaline Plus, Economic and Political Weekly, Emerald Management Xtra, IMF elibrary, Indiatat.com, ISI Emerging Markets, Omni File Full Text Select Edition (H.W Wilson) which includes Business Abstract full-text, Regional Business news, World Bank Online Resources, etc. These databases contain comprehensive collection of online case studies, e-reports related to field of management. Through Regional Business News, the library provides comprehensive full-text coverage for regional business publications such as business journals,

newspapers and newswires from all metropolitan and rural areas within the USA. The Library also provides access to 8,311 e-thesis and dissertations. The FMS library has collection of 22 video tapes and 400 CD/DVDs.

FSM Library

FSM Library subscribes to 7,000+ e-journals and 7 prominent online databases. The library provides access 3,800+ full-text journals, exclusive 29,000 full-text dissertations, SSRN working papers, business cases, EIU Viewswire, 680+ country-focused industry reports, publishers like Emerald, MIT, Cambridge, Springer, key newspapers such as *The Wall Street Journal* and *The Financial Times*, as well as country- and industry-focused reports and data via ABI/INFORM Complete. Through its EBSCO Business Source and Business Source Elite, the library provides full text for over 1,000 business publications including e-books. The ProWess (CMIE) database at FSM Library contains detailed information on over 25,346 firms, and through Pressdisplay, the library gets access to 1,880 publishers from 95 countries. FSM Library also has a collection of 800 research project reports in the form of soft copy for the users' consultation. The library has signed an agreement with Harvard Business School Publishing for procurement of cases and simulations for making class rooms lively. The Library has collection of 168 video tapes and 608 CD/DVDs.

IIFT Library

IIFT Library subscribes to 4,000+ e-journals and has subscribed to 33 trade-related e-databases like Blackwell Synergy (21 E-Journals), Capitaline Plus, CMIE Databases (ProWess, India Trade and Industry Analysis Service), Commodity Price Bulletin, EBSCO, Emerald Management Extra, IndiaStat.com, Inside Trade.com, ISI Emerging Market (World Services), JSTOR, NextLinx, ProQuest, Suns Database, Trade Map, World Bank Online Databases, World Trade Atlas, WITS, etc. These databases provide valuable information in the electronic format on countries' studies; statistical data, market forecast and market reports; annual data of companies; stock market; world trade organization (WTO)-related disputes; cases and day-to-day development in WTO; indicators of different countries; data for Indian states; foreign trade; regional integration of India with different countries, etc. In addition to these databases, the library has a meagre collection of 20 video tapes and 2,000 CD/DVDs.

IMI Library

IMI Library subscribes to 5,375 e-journals, 100 e-books, 12 e-databases and 2 CD-ROM-based databases. Some of the prominent databases at IMI library include Business Source Complete (EBSCO), Emerald Management XTRA, J-Gate Social Management Sciences (JSMS), JSTOR, etc. The library has a collection of 22 audio tapes, 78 video tapes and 395 CD/DVDs. The library does not have collection of e-reference sources, e-theses and dissertations, e-patents and standards and microforms.

IMT Library

IMT Library subscribes to 9,234 e-journals, 1,26,000 e-books, 2 online databases of e-reference sources, 22

e-databases, 25 e-magazines and 8 e-newspapers. Further comprehensive collection of e-thesis and e-dissertations, e-magazines, e-reports, e-newspapers, etc. is available through databases such as ABI/INFORMS Complete, EBSCO Business Source Complete, etc. Various country research and information databases available at IMT library include Indiastat.com, World Bank E-Library, IMD World Competitiveness Online, etc. Further, the IMT library has a license agreement with Harvard Business School Publishing for using case studies, articles, simulations, videos and multimedia cases for classroom teaching. The library also has collection of 60 audio tapes, 150 video tapes and 300 CD/DVDs.

MDI Library

MDI Library subscribes to 10,000+ e-journals, 2 online databases of e-reference sources, 29 prominent online databases such as ABI/INFORM (Proquest), Business Source Complete (EBSCO), Elsevier's Online Journals Collection, JSTOR, Proquest's Dissertations & Theses, Crisil Research Database, ISI Emerging Markets-Global, etc. For online case studies, the library has subscribed to Harvard Business School Case Collection. In addition to e-resources available by online databases, the MDI Library subscribes to 7 e-magazines and 18 e-newspapers. The library also has a collection of 320 audio tapes, 300 video tapes and 2,000 CD/DVDs. The library provides access to 2,300+ reference books, 155+ journals, encyclopedias, teaching cases, proceedings and databases through IGI Global Database.

Pricing models in use

It is quite evident from the analysis (Table X) that multiple methods are used for purchasing of e-resources in Indian management libraries. The most preferred pricing model among management libraries is found to be electronic-only fixed subscription rate model which is based on a fixed annual subscription cost for the subscription of online databases. Other methods used by management libraries for purchasing of e-resources include print subscription with free online model, consortia purchasing and site license-based model, etc.

E-resource authentication and accessibility

The two major issues related to subscription of e-resources include the method of authentication and accessibility to be adopted for providing access to e-resources to ensure their maximum utilization. Authentication basically ensures that the individual is who he or she claims to be, but establishment of identity does not necessarily result in access to services. Decisions concerning what level of access is permitted, and to which services, are made by an authorization process. It can be observed from Table XI that all the libraries preferred authentication by IP filtering the most. IP authentication is simple to implement, and it also provides simultaneous access for multiple users. The seven out of nine libraries also preferred authentication of few databases based on log-in ID and passwords. Remote access to subscribed e-resources is provided by only few management libraries such as DMS-IITD Library-adopted Virtual Private Network method and the IMT Library adopted EZproxy method for authentication of remote users, i.e. who want to access

Table X Pricing models used by management libraries

Pricing models	ABS	BIMTECH	DMS-IITD	FMS	FSM	IIFT	IMI	IMT	MDI
Fixed subscription rate (for electronic only)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Subscribe to title's print version and pays surcharge for electronic version (DDP)	✓	×	×	×	×	×	×	×	×
Subscribe to title's electronic version and pays extra for the print version	✓	×	×	×	×	×	×	×	×
Print subscription with free online	✓	✓	✓	✓	✓	✓	✓	✓	×
Pay per-use access model	×	×	×	×	×	×	×	×	×
Pay per-connect time	×	×	×	×	×	×	×	×	×
Subscription to core titles–Rest Pay per View	×	×	×	×	×	×	×	×	×
Site license-based pricing	×	×	×	×	✓	✓	✓	✓	×
Pricing based on full-time equivalents (potential users' population)	✓	×	✓	✓	✓	✓	×	×	×
Consortia purchasing	✓	×	✓	✓	×	×	✓	×	×
Bundling or packaging a group of titles	×	×	×	×	×	×	×	×	×
Multi-year agreements	×	×	×	×	×	×	×	×	×

Source: Questionnaire

Table XI Method of authentication

Library	IP filtering	Login and password	Federated access	Any other
ABS	✓	×	×	×
BIMTECH	✓	×	×	×
DMS-IITD	✓	✓	×	VPN
FMS	✓	✓	×	×
FSM	✓	✓	×	×
IIFT	✓	✓	×	×
IMI	✓	✓	×	×
IMT	✓	✓	×	EZproxy
MDI	✓	✓	×	×

Source: Questionnaire

Table XII Approaches adopted for providing access to e-resources

Library	A to Z title list	Integration into OPAC	Database approach	Any other
ABS	×	×	×	✓
BIMTECH	×	×	×	✓
DMS-IITD	✓	✓	×	✓
FMS	✓	×	×	✓
FSM	×	×	×	✓
IIFT	✓	×	×	✓
IMI	×	×	×	✓
IMT	×	×	×	✓
MDI	✓	✓	×	✓

Source: Questionnaire

Table XIII Measures taken for promoting e-resources subscribed by libraries

Promotion of E-resources	ABS	BIMTECH	DMS-IITD	FMS	FSM	IIFT	IMI	IMT	MDI
Provide links from library home page	✓	✓	✓	✓	✓	✓	✓	✓	✓
Conduct information literacy program for users	✓	✓	✓	✓	✓	×	✓	✓	✓
Send alerts via e-mails/ internet mailing lists	×	✓	✓	✓	×	✓	✓	✓	✓
Organize tutorials	✓	×	✓	✓	×	✓	×	✓	✓
Put guides and posters	×	×	✓	✓	×	×	×	✓	✓

Source: Questionnaire

licensed e-resources outside the physical network of an institution. Further it can be seen that none of the libraries adopted advanced discovery systems for providing access to e-resources.

With regard to the array of approaches that have been undertaken by librarians of Indian management libraries for providing access to subscribed e-resources (Table XII), it was revealed that only four libraries, namely, DMS-IITD, FMS, IIFT and MDI, have created an A to Z title list of e-resources for providing easy access to users. Only two libraries, namely, DMS-IITD and MDI Library, so far have adopted integration with OPAC approach and none of the management libraries have adopted the database approach for providing access to e-resources. All the management libraries follow other approaches for providing access to e-resources such as these libraries have listed and have provided links to all subscribed e-resources on the library homepage. The management libraries such as IMT Library, FSM Library and MDI Library have also provided links to users' guide to e-resources subscribed by them to make users aware about how to access and search these e-resources.

Promotion of e-resources

To ensure optimum utilization of subscribed e-resources, it has become essential for the libraries to take up several promotional measures. From Table XIII, it can be seen that all of the management libraries under study provided links of e-resources subscribed by them from their library homepage to promote use of e-resources. All the libraries except IIFT mentioned that they also conduct information literacy

programs to promote use of e-resources. Almost all libraries except ABS and FSM sends e-mail alerts to their users regarding the availability of e-resources in their respective libraries. Six out of nine libraries organize tutorials for users, and four libraries also put guides and posters related to e-resources in their respective libraries to promote their use. Thus, it was revealed that libraries used more than promotional methods.

Issues in e-resource collection development

Data analysis revealed that management libraries in India are having difficulties pertaining to the e-resource collection building. One such issue is related to inadequate funds. Libraries expressed that the cost of electronic resources appeared to be priced higher. For allocation of appropriate funds for subscription of e-resources such as online databases, e-journals, etc., governing bodies require usage statistics so that the huge amount spent on subscribing to e-resources can be justified, but these resources, to some extent, remain under-utilized because of several reasons such as lack of a proper bandwidth, lack of remote access and sometimes lack of awareness on the part of users. The other issues related to e-resource collection building include dealing with complex licensing agreements. There are several issues which needs to be taken into account while entering into license agreements such as authentication, perpetual access, post cancellation rights, users' rights, especially concerning copyright and intellectual property, legal issues related to indemnification, fair use, which states' laws are to be applied in case of dispute between library and the provider, etc. For dealing with such issues, new skills have become essential for librarians. But it has been found that there is also a lack of skilled staff in libraries which thus pose challenge in building e-resource collection. The study found that management libraries in India are also facing difficulties such as preservation or archiving of e-resources, lack of full remote access (outside physical boundaries) facility for users, lack of proper ICT infrastructure, poor computer and user ratio in libraries which thus ultimately results into under-utilization of e-resources. These issues need to be addressed carefully in Indian libraries (Table XIV).

Conclusion, suggestions and recommendations

Although e-resource collection development is a complex job, all selected management libraries are actively involved in building e-resource collection. The study revealed that in Indian management institutions, the decisions concerning collection development were taken by committees such as the

library advisory committee and purchase committee. No librarian, however, has complete control over e-resource collection development activities. There is also a lack of proper collection development policy, especially for e-resources in the management libraries. Users of management libraries need specialized subject-specific information; thus, these libraries need to remain extra cautious while building their e-resource collection. The suggestions and recommendations have been offered which are as follows:

- Libraries should prepare e-resource collection development policy for guidance of the whole e-resource collection development process.
- Management libraries are special libraries; they need to make much greater effort to enhance their collection of e-resources. The selection of e-resources in these libraries should be done by also taking into account the various specializations of the field such as financial management, marketing management, human resource management, managerial economics, organizational behavior, international trade, etc. The management libraries, namely, ABS Central Library, BIMTECH Library, DMS-IITD Library, FMS Library, FSM Library and IMI Library, need to upgrade their e-resource collection related to the field of management studies.
- All most all of the management libraries should add a variety of e-resources such as e-books, e-theses and dissertations, e-reports, e-newspapers, e-magazines, online cases studies, online audios/videos related to various specializations.
- A higher budget must be allocated in management libraries to improve the existing e-resource collection and to meet the expenditure related to upgrading of ICT infrastructure in their libraries.
- The librarians of management institutions located in the NCR should also enter into collaborative ventures by forming consortia or library network particularly of management institutions for obtaining e-resources on sharing basis.
- Overall the pricing models data revealed that that mixed pattern of pricing of e-resources is followed in the management libraries and thus the need is felt to build more standardized pricing models for such libraries.
- More promotional measures such as vendor-based training sessions, promotion via Web 2.0 tools, organization of frequent Information Literacy Programs should be adopted by libraries.
- It is also suggested that all the management libraries should provide full remote access to their databases to

Table XIV Issues in e-resource collection development

Problems	ABS	BIMTECH	DMS-IITD	FMS	FSM	IIFT	IMI	IMT	MDI
Inadequate funds	✓	✓	×	×	✓	✓	✓	×	×
Inadequate skills among staff	×	×	×	×	✓	×	×	×	×
Preservation or archival issues	×	×	✓	×	×	×	×	×	×
Licensing issues	×	×	✓	✓	×	×	×	✓	×
Price negotiation	×	×	✓	✓	×	×	×	✓	×
ICT issues	×	✓	×	✓	✓	×	×	✓	×

Source: Questionnaire

ensure optimum utilization of e-resources subscribed by them.

- Searching for diverse e-resources is a difficult task, so more approaches should be taken up by the libraries of management institutions to ensure easy searching of subscribed content. Easily searchable A to Z title lists of e-resources subscribed by libraries can be developed. The libraries may integrate the record of e-resources subscribed by them into the library OPAC. To provide systematic access and retrieval of subscribed e-resources, the libraries may broadly segregate the content under various heads keeping in account various specializations of the field.
- In addition, the management libraries may also develop a common user-friendly Web-based searching platform for easy and quick searching of e-resources subscribed by their respective libraries. More advanced discovery systems should also be adopted by management libraries.

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