COMPUTERS .in LIBRARIES

LIB TECH ON A GLOBAL SCALE
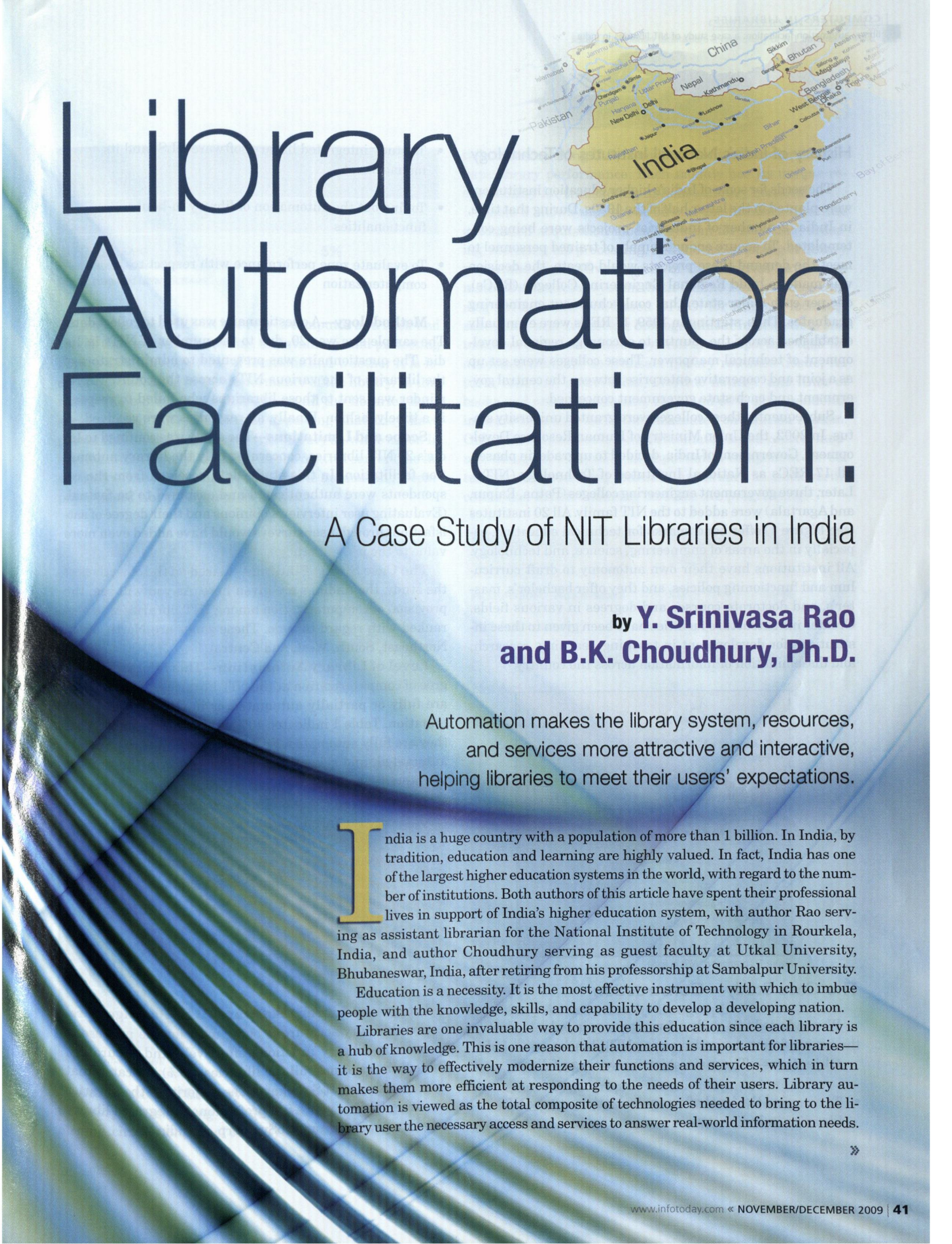
To Do:

Library Automation Facilitation:

A Case Study of NIT Libraries in India

by **Y. Srinivasa Rao**
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Automation makes the library system, resources,
and services more attractive and interactive,
helping libraries to meet their users' expectations.

India is a huge country with a population of more than 1 billion. In India, by tradition, education and learning are highly valued. In fact, India has one of the largest higher education systems in the world, with regard to the number of institutions. Both authors of this article have spent their professional lives in support of India's higher education system, with author Rao serving as assistant librarian for the National Institute of Technology in Rourkela, India, and author Choudhury serving as guest faculty at Utkal University, Bhubaneswar, India, after retiring from his professorship at Sambalpur University.

Education is a necessity. It is the most effective instrument with which to imbue people with the knowledge, skills, and capability to develop a developing nation.

Libraries are one invaluable way to provide this education since each library is a hub of knowledge. This is one reason that automation is important for libraries—it is the way to effectively modernize their functions and services, which in turn makes them more efficient at responding to the needs of their users. Library automation is viewed as the total composite of technologies needed to bring to the library user the necessary access and services to answer real-world information needs.
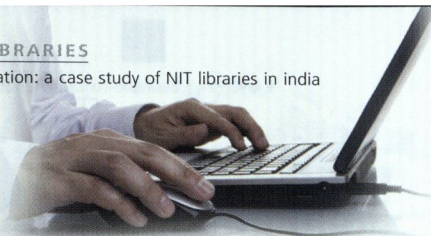
History of India's National Institutes of Technology

The seeds for some of India's higher education institutions were planted in the latter half of the 1950s. During that time, in India, a number of industrial projects were being contemplated. To ensure enough supply of trained personnel to meet the demand these projects would create, the decision was made to build Regional Engineering Colleges (RECs), one per each major state, that could churn out engineering graduates. Thus, starting in 1959, 17 RECs were eventually established across the country to encourage regional development of technical manpower. These colleges were set up as a joint and cooperative enterprise between the central government and each state government concerned.

Subsequently, these colleges were granted university status. In 2002, the Union Ministry of Human Resource Development, Government of India, decided to upgrade, in phases, all 17 RECs as National Institutes of Technology (NITs). Later, three government engineering colleges (Patna, Raipur, and Agartala) were added to the NIT family. All 20 institutes (see Figure 1) offer benchmarks for technical education, especially in the areas of engineering, science, and technology. All institutions have their own autonomy to draft curriculum and functioning policies, and they offer bachelor's, master's, and doctorate courses and degrees in various fields. Greater infrastructure facilities have been given to these institutions for development in teaching, learning, research, and dissemination of information across the country.
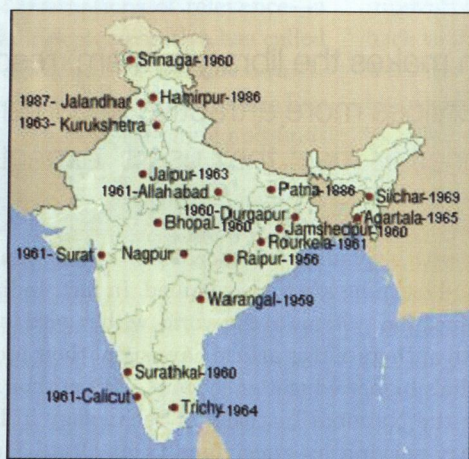

Figure 1: Locations of NITs in India

The Case Study—Construction

We conducted this study a few years ago in order to identify the extent of computerization among NIT libraries across India.

Objectives—The main objectives were as follows:

- To examine the level of computerization among NIT libraries in India

- To study integrated library software (ILS) and its management

- To find out the automation of library in-house functionalities

- To evaluate zone performance with respect to computerization

Methodology—A questionnaire was used to collect data. The sample size was 20, due to the number of NITs in India. The questionnaire was presented to administrators of the libraries of the various NITs across the country. A reminder was sent to those librarians who failed to respond in a timely fashion. Finally, all responses were received.

Scope and Limitations—The study was confined to India's 20 NIT libraries, concerning only the library automation facilitation. In this study, data received from the respondents were authenticated and assumed to be factual. (Evaluating user interviews/opinions and their degree of satisfaction through user surveys would have added even more value to the present study.)

The Case Study: Findings—Based on the objectives of the study, the findings are given here. As you will see, the provision of computerization among NIT libraries was also ranked with regard to zone. These zones are North, East, Northeast, South, West, and Central.

Level of Library Automation—This refers to the degree of computerization at the NIT libraries, whether they are fully or partially automated or in the process of automation. Table 1 indicates 40% of libraries reported that they are fully automated. Five libraries (25%) are partially automated, and seven libraries (35%) are in the process of automation.

Level of Automation	Frequency (N=20)	Percentage
Fully	8	40%
Partially	5	25%
In the Process	7	35%

Table 1: Level of library automation

Integrated Library Software (ILS) Package—Professional library software is being used for the purpose of transacting library functions effectively and accurately. Table 2 shows almost all the libraries (95%) indicated that they are using an ILS package. The majority of the libraries are using LibSys, which is a professional integrated library software package from LibSys Corp. in India.

Integrated Library Software	Frequency (N=20)	Percentage
ILS Used	19	95%
ILS Not Used	1	5%

Table 2: Integrated Library Software

Installation of ILS on a server (a computer as a back-end server that is used for storing, maintaining, and protecting library data), irrespective of locations and whether it is local or central, adds to the performance of the library. In this study, Table 3 indicates that almost all the libraries have servers, with 60% of libraries reporting that they have placed ILS on the local server (the library's), while seven libraries (35%) have placed ILS on the central server (the institute's). One library has yet to initiate automating a computer-based library system at its end.

ILS Installation on Server	Frequency (N=20)	Percentage
Local (Library's)	12	60%
Central (Institute's)	7	35%
None	1	5%

Table 3: ILS installation on server

Management of ILS on Server—The professional expertise and the technical competency of the professional librarians with respect to the handling and management of server software are clear, according to the next table. Table 4 shows that 14 respondents (70%) reported that the ILS on the server is being managed by the library professionals, whereas only 5 libraries (25%) indicate that it is being managed by the computer professionals.

ILS Management	Frequency (N=20)	Percentage
Library Professionals	14	70%
Computer Professionals	5	25%
None	1	5%

Table 4: ILS management

Automation of Library Operations—The automation of library housekeeping functions, such as acquisition, cataloging, circulation, serial control, stock verification, and ar-

ticle indexing using ILS, is an important parameter to evaluate library performance. Each module has its unique responsibility for transacting in-house library material.

Table 5 shows that about 50% of the libraries have the automated acquisition module system for selecting, ordering, receiving bill processing, and the accessioning of library materials. Eighty-five percent of the libraries have automated their catalog system (both Online Public Access Catalog [OPAC] and web-based OPAC) for finding, locating, searching, and retrieving bibliographical information. Automation of the circulation system is an important task for academic libraries to transact library routines (issue, return, renewal, reservation, overdue notices, and fines of books and other documents, etc.), and 50% of respondents indicate that they have the automated circulation system. Only 45% of libraries have an automated serial control module, though it is equally as important a component for obtaining and processing journals. Areas such as stock verification and article indexing modules are progressing.

Modules Automated	Frequency (N=20)	Percentage
Acquisition: Automated	10	50%
Not Automated	10	50%
Cataloging: Automated	17	85%
Not Automated	3	15%
Circulation: Automated	10	50%
Not Automated	10	50%
Serial Control: Automated	9	45%
Not Automated	11	55%
Stock Verification: Automated	2	10%
Not Automated	18	90%
Article Indexing: Automated	2	10%
Not Automated	18	90%

Table 5: Automation of library software modules

Library Automation by Geographic Zone—Measuring performance is one piece of evidence that needs a continuous process of evaluation to give any kind of activity prediction. With reference to library automation facilitation, performance by geographic zones is presented in Table 6. As you can see, the South zone (91%) libraries have shown substantial development, whereas the West zone, with 71%, is

a distant second. The North, East, and Northeast zones are more or less similar in nature in implementing automation practices in their libraries, while the Central zone is at 25% level of development.

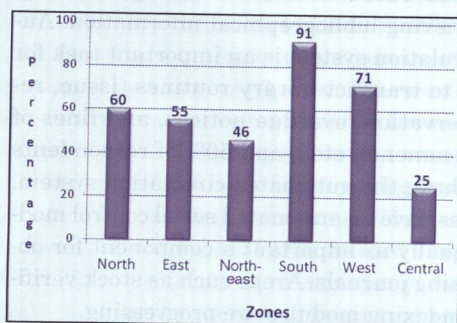Figure 2 provides a summary of the information presented in Table 6:

Figure 2: Library automation by zone

Conclusion

Automation makes the library system, resources, and services more attractive and interactive, helping libraries to meet their users' expectations. In order to see the true picture of the provision of automation facilities among NIT libraries, this study has been conducted. There certainly was hopeful news provided by the study—almost all the NIT libraries have acquired ILS, and the majority of the libraries have automated their cataloging systems. However, the study makes it clear that automation facilitation among NIT libraries is still in the developmental stages due to various technical, professional, and administrative reasons. Despite this, the NIT libraries will continue to manage their library systems, functions, and services both manually and electronically with limited resource facilities, as they always have.

School No.	Zone	Name of the Library	School Score	Total Score in Zone	Percentage
1	**North**	Motilal Nehru NIT–Allahabad	12	42	60%
2		NIT–Hamirpur	5		
3		NIT–Jalandhar	7		
4		NIT–Kurukshetra	10		
5		NIT–Srinagar	8		
6	**East**	NIT–Durgapur	10	31	55%
7		NIT–Jamshedpur	6		
8		NIT–Patna	4		
9		NIT–Rourkela	11		
10	**Northeast**	NIT–Agartala	4	13	46%
11		NIT–Silchar	9		
12	**South**	NIT–Calicut	14	51	91%
13		NIT–Surathkal	14		
14		NIT–Tiruchirapalli	11		
15		NIT–Warangal	12		
16	**West**	Malaviya NIT–Jaipur	7	30	71%
17		Visvesvaraya NIT–Nagpur	11		
18		Sardar Vallabhbhai NIT–Surat	12		
19	**Central**	Maulana Azad NIT–Bhopal	6	7	25%
20		NIT–Raipur	1		

Table 6: Library automation among the NIT libraries by zone

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