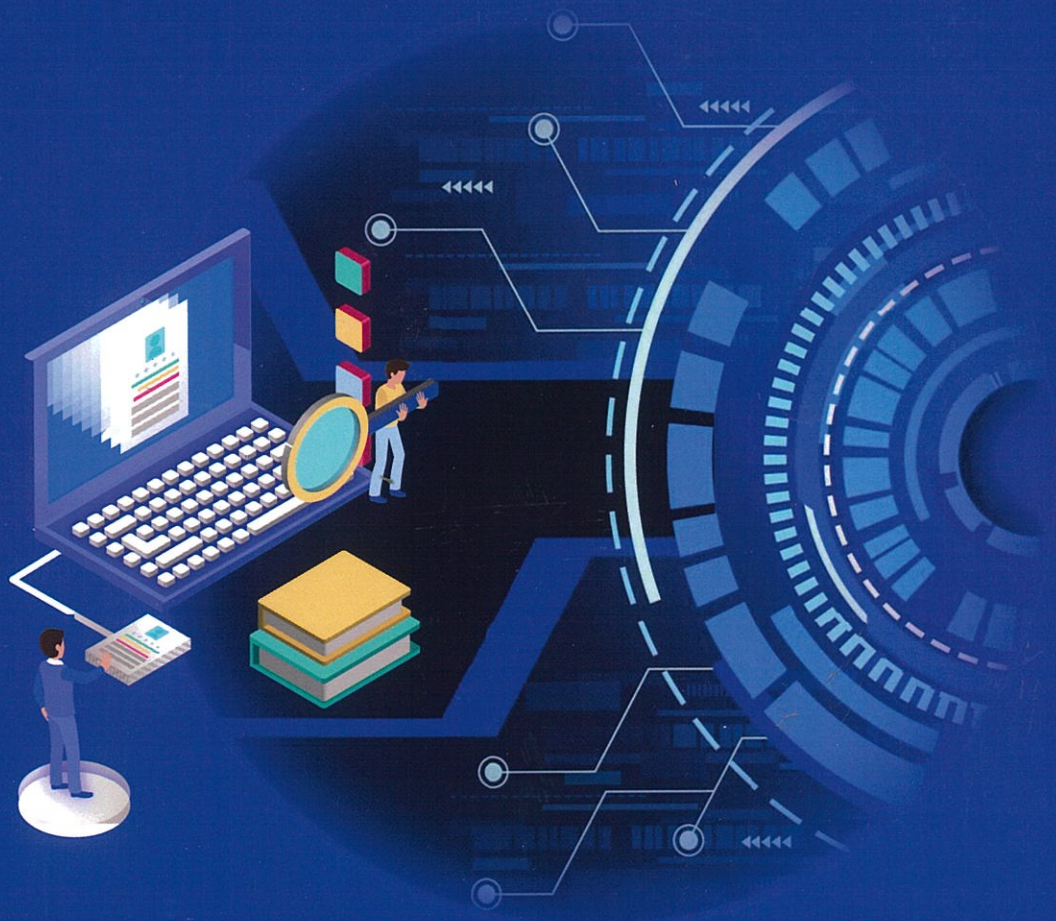
Management of Digital Information Resources

A Festschrift in Honour of *Dr K Nageswara Rao*



Sudhanshu Bhushan || Dr V Senthil || Dipti Arora

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(A Festschrift in Honour of Dr K Nageswara Rao)

Editors

Sudhanshu Bhushan

Dr V Senthil

Dipti Arora

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Impact of Ranganathan's Five Laws in the Libraries of Department of Biotechnology

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ABSTRACT

Ranganathan's Five Laws are widely recognized as fundamental principles for library science and have had a significant impact on Department of Biotechnology (DBT) research organizations and libraries in India. These regulations, encompassing the concepts of books as tools for learning and investigation, each reader engaging with their book, each book interacting with its reader, and the library evolving into a larger entity, have influenced the growth and operation of DBT research groups and libraries across India.The implementation of Ranganathan's Five Laws in DBT research organizations and libraries in India has resulted in several positive impacts. Firstly, these laws have emphasized the importance of providing relevant and accessible resources to researchers. The study discuss DBT research ogranisation, their technological innovations for library materials and the impact of Ranganathan laws on DBT libraries.

Keyword: Ranganathan laws, DBT, Five laws

1. INTRODUCTION

Following their liberation from the monarchy, which had previously ruled the world, and the assumption of library management by progressive intellectuals known as librarians, the public began using libraries more regularly in the 1900s. This Renaissance has seen numerous investigations and developments in the fields of librarianship standards, library administration systems, and the organization and dissemination of the information. The ground breaking developments under the field

of information and library science was greatly influenced by them. The American Library Association has been involved in developing standards and frameworks that are appropriate for libraries in today's era. People who are directly affected to reach the field's organizational objectives. The industrial revolution brought forth techniques and technology which advanced printing and publishing, significantly contributing to the evolution of LIS disciplines. The telecommunications industry experienced a substantial shift in the 1960s due to the occurrence of data communication via cables such as ARPANET. This technological advancement replaced the need for the Internet and World Wide Web. The LIS field's capacity to both store and swiftly share information upon request was influenced by this technology, enabling rapid data transfer between locations as packet data.

Ranganathan's Five Laws exert influence on specialized research institutions, like the Department of Biotechnology research groups, and their libraries in India, as well as in regular library settings. The significance of Ranganathan's 5 Laws in enhancing the effectiveness and efficiency of libraries has been recognized in recent years by Indian research institutions, particularly those focused on the biotechnology sector. Ranganathan's Five Laws have played a crucial role in shaping the management and service approach of DBT research firms in India. The organizations prioritize the needs and experiences of researchers and scholars who utilize their library resources. They have embraced the user-centric ideas advocated by Ranganathan. DBT research organizations have sought to optimize resource use, facilitate information access, and foster a collaborative and academic climate by structuring their libraries in accordance with Ranganathan's laws.

2. THE DEPARTMENT OF BIOTECHNOLOGY

India became one of the 1st nations to establish a department specifically focused on this field of science and technology as a result of this choice. Negotiations to establish a department, however, started much earlier. To determine priority areas and create a long-term vision for biotechnology in India, the Government of India established the National Board for Biotechnology (NBTB) in 1982 following lengthy discussions with the scientific community and in response to a recommendation made to the Cabinet by the Scientific Advisory Committee at the time. Additionally, he was in charge of creating the curriculum and enhancing Indigenous knowledge in this brand-new field. Professor MGK Menon, a distinguished

scientist and former Member (Science) of the Planning Commission of India, led the NBTB. Members of this council were chosen by the chief secretaries of a number of government organizations with a scientific focus. In February 1986, a distinct Department of Biotechnology was established, and Dr. S. Ramachandran was chosen by the NBTB to serve as the department's first secretary. To safeguard the safety of the ministry and to offer information on biotechnology developments worldwide, DBT has formed a seven-member North American Standing Advisory Committee (SAC (0)) and a ten-member Scientific Advisory Committee (SAC), which includes the leaders of many scientific institutes. Prime Minister Mr. Rajiv Gandhi reportedly realized that biological sciences were advancing so quickly worldwide that "if we do not take a leap ahead, we would never be able to catch-up with the rest of the world." Ramachandran.

At the time, relatively few people were employed in the bioscience sector in the country. Therefore, the Ministry's priorities had to be:

- Developing human resources
- Building the necessary infrastructure
- Conducting research and development and Establishing a regulatory framework.

The Agency started operations shortly after it was founded in spite of these obstacles. In 1981, the National Institute of Immunology—the first independent institute—was moved to DBT. The National Centre for Animal Tissue and Cell Culture, Pune, which was established in 1986 and subsequently changed its name to the National Centre for Cell Sciences, soon joined it. Other institutes, including the National Brain Research Center (NBRC), the Life Sciences Institute, the Bioresources and Sustainability Institute, the Center for DNA Fingerprinting and Diagnostics, and the National Institute for Plant Genome Research (NIPGR), started to emerge in the late 1990s and early 2000s.The numerous grants, money, and awards, along with the DBT's pledge to restructure the financing procedure to facilitate a speedier evaluation of project values and the distribution of research funding, demonstrate the renewed emphasis on Young India.

3. LIBRARY & INFORMATION SCIENCES

Librarians serve as a link between people, technology, and information. Librarians and information professionals are accountable for developing knowledge organization systems, developing resources for readers to help

young students cultivate a lifelong love of reading and learning, assisting scholars in locating archival and other resources desired for their work, assisting doctors in finding health information more quickly in emergency situations, and providing resources for support during personal and family crises. Both new products and procedures as well as major technological modifications to pre-existing ones are considered technological innovations. Without a question, libraries have been meaningfully impacted by technology. In today's tech-driven environment, libraries that were previously thought to be dying out like physical businesses have recovered and are thriving. Libraries are adopting new technologies and developing into vibrant, dynamic community hubs with the aid of creativity, ingenuity, and vision.

4. FIVE LAWS OF DR. S.R. RANGANATHAN

A number of LIS issues are covered by Dr. Shiyali Ramamrita Ranganathan, who is considered as the father of library science in India. He taught library science and served as a university librarian at Banaras Hindu University from 1945 to 1947. From 1947 to 1955, he most recently served as the director of the first higher degree-granting Indian school of librarianship. From 1944 until 1953, he served as the Indian Library Association's president.

He also produced many LIS textbooks and developed the Colon Classification system. Most of his colleagues considered the five guidelines he proposed to LIS in 1931 to be the cornerstones of the library management system. The following is a list of these statutes:

- The purpose of books is to be used
- Every reader has a unique book
- There are readers for every book
- Be mindful of the time of the reader
- The library is a growing establishment

One of the most important ideas in the area is the 5 Laws of Library Science. These 5 laws have remained the cornerstone of the professional principles of LIS professionals and the mission of all libraries since its first publication in 1931.

5. INNOVATIONS IN TECHNOLOGY UNDER LIBRARY SERVICES

The most advanced technology component of LIS at the moment is

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he internet. It has already significantly impacted the library's ability to grow and provide new services.. Libraries can now provide email alert nformation services (CAS), Current Awareness Services, and Selective Dissemination of Information (SDI) in addition to book loans. Libraries re becoming smaller while services and information storage are increasing s a result of the massive shift of the LIS business. Ranganathan's fifth law—hat "libraries are a growing organism"—is starting to take shape as a result f new technologies. The most cutting-edge innovations in LIS are online ask a librarian" research services, e-reading, and e-borrowing. Nowadays, a ot of librarians interact with their patrons online to meet their information eeds. One of the main features of the LIS is the ability to save readers' time. his prerequisite has been noted by Ranganathan in his 5th Law.

Before developing their product or service, many LIS technology nventors used to base their ideas on this law. Time savings are the oundation of library classification systems, indexing and abstracting ervices, and other strategies for sharing specific information. because the rimary factor influencing how satisfied all types of consumers are with roducts and services is time savings.

The primary goal of librarians' reference abilities is to save patrons me. Examples of LIS technical advances that align with Ranganathan's ourth Law include cataloging technologies, online public assessment atalogs (OPAC), and library cross-reference services. As the expanding ntity, libraries help its patrons obtain information in a timely and accurate anner. The library is a growing organism in accordance with the fifth w of library science, which states that a library should be a dynamic rganization with a constantly shifting perspective. Modernizing the actual brary, its employees, its collection, and its procedures is crucial throughout me. He believed that libraries should be growing, if only in terms of staff, nding, and users.

IMPORTANT PRESUMPTIONS AND SIGNIFICANT EFFECTS

The practices of LIS around the world, especially in India, have en significantly impacted by Ranganathan's 5 Laws of Library Science. garding their impact on DBT research institutions and their libraries, a mber of significant assumptions can be made.

1 Service and Organization

Ranganathan's 1st law, "Books are for use," highlights how library services

the internet. It has already significantly impacted the library's ability to grow and provide new services.. Libraries can now provide email alert information services (CAS), Current Awareness Services, and Selective Dissemination of Information (SDI) in addition to book loans. Libraries are becoming smaller while services and information storage are increasing as a result of the massive shift of the LIS business. Ranganathan's fifth law—that "libraries are a growing organism"—is starting to take shape as a result of new technologies. The most cutting-edge innovations in LIS are online "ask a librarian" research services, e-reading, and e-borrowing. Nowadays, a lot of librarians interact with their patrons online to meet their information needs. One of the main features of the LIS is the ability to save readers' time. This prerequisite has been noted by Ranganathan in his 5th Law.

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The primary goal of librarians' reference abilities is to save patrons time. Examples of LIS technical advances that align with Ranganathan's Fourth Law include cataloging technologies, online public assessment catalogs (OPAC), and library cross-reference services. As the expanding entity, libraries help its patrons obtain information in a timely and accurate manner. The library is a growing organism in accordance with the fifth law of library science, which states that a library should be a dynamic organization with a constantly shifting perspective. Modernizing the actual library, its employees, its collection, and its procedures is crucial throughout time. He believed that libraries should be growing, if only in terms of staff, funding, and users.

6. IMPORTANT PRESUMPTIONS AND SIGNIFICANT EFFECTS

The practices of LIS around the world, especially in India, have been significantly impacted by Ranganathan's 5 Laws of Library Science. Regarding their impact on DBT research institutions and their libraries, a number of significant assumptions can be made.

6.1 Service and Organization

Ranganathan's 1st law, "Books are for use," highlights how library services

are user-centric. To serve the research needs of scientists and academics in DBT research organizations, this means ensuring that library resources are readily available and effectively organized. To support the development of biotechnology research in India, libraries should concentrate on offering prompt access to scientific books, databases, and research instruments.

6.2 Information Access

The second law, "Every reader his/her book," emphasizes how crucial it is that all users have fair access to information. In the context of DBT research organizations, this means ensuring that researchers, students, and instructors have access to a broad range of information relevant to biotechnological research, regardless of their field of interest or level of expertise. Libraries must put strategies in place for the acquisition and management of a comprehensive collection of resources in order to satisfy the diverse information needs of the scientific community.

6.3 Library Management

"Every book its reader," Ranganathan's third law, emphasizes the significance of effective library management techniques. To maximize the use of library resources, DBT research organizations must have efficient collection development, cataloging, and circulation practices. To improve researcher and scholar user experiences and expedite workflows, librarians must utilize contemporary library management systems and technologies.

6.4 Information Organization

"Save the time of the reader," the fourth law, highlights the importance of effective information retrieval systems. Implementing strong search mechanisms and indexing techniques is essential in DBT research organizations, where researchers frequently operate under time limitations, to provide rapid and precise access to pertinent scientific literature and research findings. Librarians should employ advanced information retrieval strategies and metadata standards to improve the discoverability of library content and cut down on the time spent searching for information.

6.5 Continuous Improvement

Ranganathan's fifth law, "The library is a growing organism," highlights how dynamic libraries are and how they must be continuously improved and adapted to meet changing user needs. To be effective and relevant in the setting of DBT research organizations, libraries need to keep up with

developments in information technology and biotechnology research. In order to anticipate their evolving information demands and proactively create library services and collections to assist in their research, librarians should actively interact with academics and researchers.

7. CONCLUSION

The LIS sector is constantly changing to reflect new technological advancements due to the aforementioned techniques. The main strategies they used with contemporary technological breakthroughs in this information age were Web 3.0 technology, social media engagement, online user feedback systems, e-books, e-journals, a global catalogue searching facility (World Cat), and web-based library circulations. Cloud library initiatives, 3M library gates, library access on iPhones and Kindles, and QR codes are all included.

The relevance of Dr. S.R. Ranganathan's five norms of library science is that they still apply to new developments in libraries today. These rules cover every aspect of library management since libraries are dynamic organizations that can alter their fundamental organizational structure to meet the demands of their patrons. It is considered that most of the advancements in LIS were based on the conceptual framework of R's five laws. These five laws serve as the foundation for most recent technology developments in the LIS industry.

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This festschrift is in honour of Dr K Nageswara Rao. Dr K Nageswara Rao was born on 25th December 1964 in Andhra Pradesh, and obtained his B.Sc from SV Arts College, Tirupati in 1986. He was awarded M.Sc (Physics) by SV University, Tirupati in 1988. He completed BLISc and MLIS from SV University and Annamalai University in the years 1990 and 1992, respectively. He was awarded Ph.D by the University of Mysore in 2009. In addition, he has also obtained PGDCA from Jawaharlal Nehru Technological University, Hyderabad in the year 1991.

He started his career as Scientific/Technical Assistant 'A' in National Informatics Centre, Hyderabad in 1993 and after two years of service he joined Naval Physical Oceanographic Laboratory, Kochi as Scientist 'B' in 1995. Then he moved to Defence Research & Development Laboratory (DRDL), Hyderabad in 1999. He was promoted as Scientist 'G' in 2017 and served as Technology Director in DRDL till August 2021. Later he was appointed as Director, Defence Scientific Information & Documentation Centre (DESIDOC), Delhi in September 2021 and promoted as Outstanding Scientist in October 2024.

He authored more than 20 articles in journals and conferences. Under his guidance, two candidates were awarded Ph.D Degree from Osmania University, Hyderabad. Dr K Nageswara Rao served as Editor-in-Chief of the Defence Science Journal, Defence Life Science Journal and DESIDOC Journal of Library & Information Technology and DRDO Monographs series.

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