

# ROLE OF ICT IN KNOWLEDGE MANAGEMENT PROCESS WITH REFERENCE TO RESEARCH LIBRARIES: A CASE STUDY

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## Abstract:

In the digital era, knowledge management is a crucial tool for managing the information system implemented in academic, special and research libraries. Information and Communication Technologies (ICT) are closely associated with the knowledge management process. Library professional is managing the information resources in the library and accurately processed and distributed to the needy. This study finds that the Research Libraries under the government of the Indian organization in Chennai district are competent enough to influence indirectly in the knowledge management process and development of library activities.

**Keywords:** *Knowledge Management, Information Communication Technology, Research Libraries.*

## Introduction:

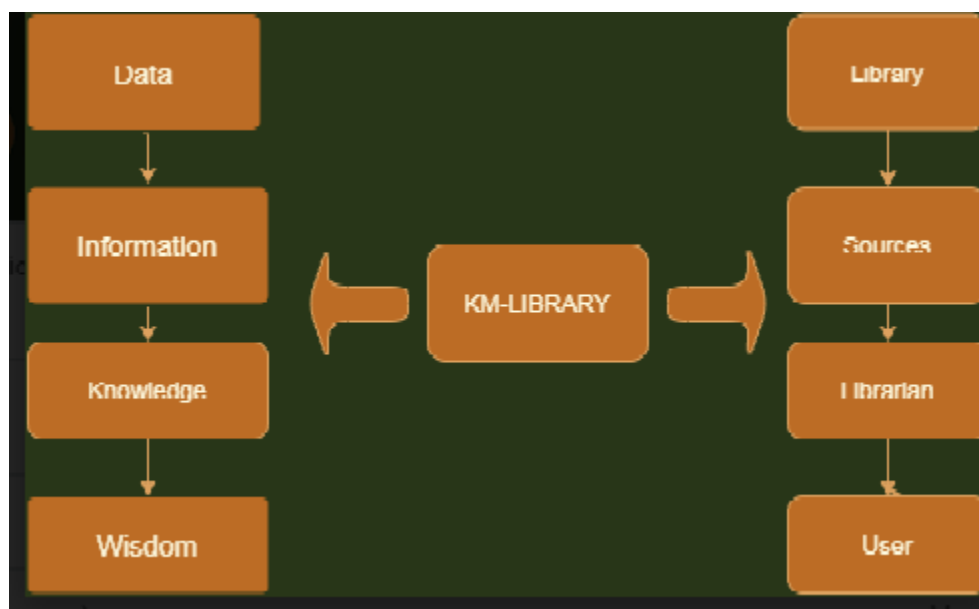
Knowledge Management(KM) is a multi-disciplined approach to achieve organizational objectives by making the best use of knowledge. KM focuses on processes such as identifying, acquiring, organizing and sharing knowledge and the teaching learning process that support them. Knowledge Management is a concept which gathers, organizes, shares, and analyzes its expertise in terms of resources, documents, and people skills. KM systems can analyze the relationships between content, people, topics and activity and produce a knowledge map report or a Knowledge Management dashboard. The KM process on Research libraries can provide adequate information and dissemination of research resources and promote the R&D Department.

Scientific research → Dissemination → Use of changing theory → continuing scientific research

## Concept of KM in Research Library:

The following chart indicates how the knowledge transferred as a Wisdom and how-to knowledge management assigned to Library user.

Data→ Information→Knowledge→ Wisdom = Library→Sources→Librarian→User



**Figure.1.Knowledge Management Chart**

### Sample of the study:

The following five research libraries under the government of Indian organizations in the Chennai district are taken as a sample for this study.

1. Institute of Mathematical Science (IMSc), Chennai
2. Central Institute of Brackishwater Aquaculture (ICAR-CIBA), Chennai
3. MS Swaminathan Research Foundation (MSSRF), Chennai
4. Ramanujan Institute for Advanced Study in Mathematics (RIASM), Chennai
5. National Institute for Research in Tuberculosis (ICMR-NIRT), Chennai

### Objectives of the Study:

1. To access the impact of ICT in KM process in research libraries.
2. To find out research library collections, development, resources and services.
3. To identify the demanding factors and challenges ahead for library professionals in implementing the ICT on KM.

### Source of Data:

From the secondary sources, the data's are collected. The secondary data which includes recorded documents, institutional publications and authorized websites.

## Data Analysis:

In this, constructed a simple table to analyze the data.

- In 1962, under the Department of Atomic Energy of the Government of India, **Institute of Mathematical Science** was started. The purpose of this institution is to support the academic program. The potential use of this library is student, faculty members, research scholars and scientist.
- **Central Institute of Brackishwater Aquaculture** started in 1987 under the Ministry of Agriculture, Government of India. The purpose of an institution is to act as a repository of information on brackish water fishery resources with a systematic database. The user of the ICAR-CIBA library is CIBA scientists, research scholars and students.
- **The MS Swaminathan Research Foundation** established in 1988 under the government of India. This Foundation aims to accelerate the use of modern science and technology for agricultural and rural development to improve the livelihoods of communities. The potential use of this library is a student, faculty members, research scholars and scientist.
- **In 1950 Ramanujan Institute for Advanced Study in Mathematics** was set up as a memorial to Srinivasa Ramanujam. The objective of this institution has promoted research on mathematics. The potential use of this library is a student, faculty members, research scholars and scientist.
- In 1965, under the Indian Council of Medical Research (ICMR) **National Institute for Research in Tuberculosis** was established. The aim of this Centre is to provide information on the mass domiciliary application of chemotherapy in the treatment of pulmonary TB. The potential use of this library is a student, faculty members, research scholars and scientist.

**Table-1**  
**Distribution of Library Collection and ICT on KM**

Name of the Institution	Book & Back Volumes	Periodicals, Print/online	Non - book materials	Created Electronic data storage
IMSC	75,000	3500+	Yes	Yes
ICAR-CIBA	22,000	85+	Yes	Yes
MSSRF	19560	3265+	Yes	Yes
RIASM	11250	438+	Yes	Yes
ICMR-NIRT	17000	4000+	Yes	Yes

Table -1 shows the collection policy of libraries and implementation of ICT in KM of individual, organizational library resources. It shows that all the libraries are having rich

collection of library resources. Knowledge management in these collections with the help of ICT has been successfully implemented such as online periodicals, documentation and non-book materials on CD-ROM.

**Table-2**  
**Distribution of Library Professional Literacy**

<b>Name of The Institution</b>	<b>Number of Library Professional</b>	<b>Literacy of ICT Skill</b>	<b>Competent in Library Automation</b>
<b>IMSC</b>	11	Yes	Yes
<b>ICAR-CIBA</b>	1	Yes	Yes
<b>MSSRF</b>	1	Yes	Yes
<b>RIASM</b>	1	Yes	Yes
<b>ICMR-NIRT</b>	1	Yes	Yes

Table-2 observed that the literacy ratio of library professionals. The literacy rate of all library professionals is high and includes the supporting the library staff much enough of IMSC institute. Also, the competency of library professionals is good enough at handling information technologies in the processing of knowledge management on library resource.

**Table-3**  
**Distribution of Application of ICT in Five Research Libraries**

<b>Library Services</b>	<b>Name of the Institution</b>				
	<b>IMSC</b>	<b>ICAR-CIBA</b>	<b>MSSRF</b>	<b>RIASM</b>	<b>ICMR-NIRT</b>
<b>Library Software</b>	ILMS with RFID	Libsys	AUTOLIB	In-house Software	In-house Software
<b>Internet And Intranet</b>	Yes	Yes	Yes	Yes	Yes
<b>Reprographic Service</b>	Yes	Yes	Yes	Yes	Yes
<b>Subscription of Database</b>	MathSciNet zbMATH INSPIRE CiteSeerX	No	Jstor Indiastat	Science Direct MathSciNet Jstor	JGate@ERMD JGate@ICMR

<b>Documentation</b>	Yes	Yes	Yes	Yes	Yes
<b>Web OPAC</b>	Yes	Yes	Yes	Yes	No
<b>Digital Repository</b>	Yes (DSpace)	Yes	Yes (Drupal)	No	No
<b>Institutional Membership</b>	Yes	Yes	Yes	No	Yes
<b>Publication</b>	Annual report	Annual Reports, Bulletins, Training Manuals,	Annual Report Newsletter	Newsletter	Annual Reports News Bulletin Monograph

The table-3 shows that implementation of ICT Library software in organizing Knowledge Management among all libraries taken for study. IMSC Library is implementing commercial software for library automation with RFID Technology. The ICAR- CIBA and MSSRF are using modern software library automation. Then RIASM and ICMR-NIRT are using In-house software for library automation. It is observed that all libraries provide internet/intranet facilities, Documentation service, Reprographic services. It shows that all the libraries subscribed online database except ICAR- CIBA library. Libraries access the resource in Web OPAC except for ICMR-NIRT library. All libraries carried on Institutional repository except RIASM library. All libraries provide institutional membership to access the resources except RIASM library. It reveals that all libraries published research publication such as an Annual Report, Newsletter, Bulletin, Manuals etc.

### Findings and Recommendations:

The study raises a few recommendations for ICT use in Knowledge Management at on five research libraries under the government of India organizations in the Chennai district:

- All the five research libraries, implemented ICT for organizing information and created an electronic data storage.
- All the libraries are an institution under the Government of India the uniform implementation of library software automation is not found. The budget allocation for the libraries depends upon the objectives and policy of the institutional goals.
- It shows that there is no uniformity in a collection of library resources.

- All the Research libraries taken for the study are managed by a single qualified library professional except IMSC library. It is due to government recruitment policy.
- There should be adequate provision of ICT facilities and tools for use in the libraries.
- Last, Research Libraries should intermittently organize training programs to educate staff on the use of ICT in Knowledge Management.

### Conclusion:

The newly emerging field of Knowledge Management offers research libraries the opportunity to create knowledge to improve ICT organizational effectiveness, for both themselves and their institutions. Research libraries provide information services for research scholars and scientists and promote the research output. R & D department in the Nation offers a conceptual framework for using ICT tools and enhance KM in Research Libraries.

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