# Information Transfer Chain in LIS Professionals

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## Abstract

*Every scientist forms a link in information chain. On one side, he receives information on scientific advances in his field and allied fields for which he has an interest. On the other side, he processes results of his own experiments and put into circulation for the benefit of other scientists. New scientific ideas create a chain reaction among scientists. They test the validity; try to identify the potential areas of application; and conduct research for furtherance of the theory or principle. The results of testing, exploitation and elaboration by fellow scientists are received by the generator of the idea with interest and eagerness. On assimilation, he may come out with new hypothesis of new deduced laws. Thus, the chain continues in a spiral fashion. Mr. D.J. Maltha is of the opinion that the information transfer chain in the past is different from the present one in many ways. In the same way the future chain will have many distinct and differentiating features with that of the present one.*

*Keywords: Information chain, generators of information, storage of information, dissemination of information*

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## INTRODUCTION
## THE INFORMATION CHAIN IN THE PAST

In the past the information transfer chain received little attention since the information raised no problems.

### Characteristics of This Chain

a)  Scientists were known to each other personally or from correspondence;
b)  Scientists kept themselves abreast with latest developments by reading few journals and by exchanging reprints;
c)  They could keep all the information in their mind;
d)  Reference works provided additional information what they could not get from the normal channels;
e)  Each scientist had his own personal library. Only occasionally did he need to visit an academic or special library;
f)  Personal contacts with colleagues helped them to enrich their knowledge and get clarification; and
g)  Simple author-title catalogue could help them in retrieving the literature.

Thus, the chain in the past was simple and direct. The flow of information did not warrant any systematic means of retrieving. It was an interaction between men and printed material with library acting as an interface between them [1].

## INFORMATION CHAIN IN THE RECENT PAST

Since then the situation has changed radically. It has become more complicated, yet, more organized. Scientific research has now become a 'mission' as against the research in 'isolation' in the past. Scientist of various intellectual recourses are involved in research. New document products are evolved to communicate research findings quickly and precisely to the target groups [2]. Some of the scientists have come forward to organize the literature for the benefit of their community at large.
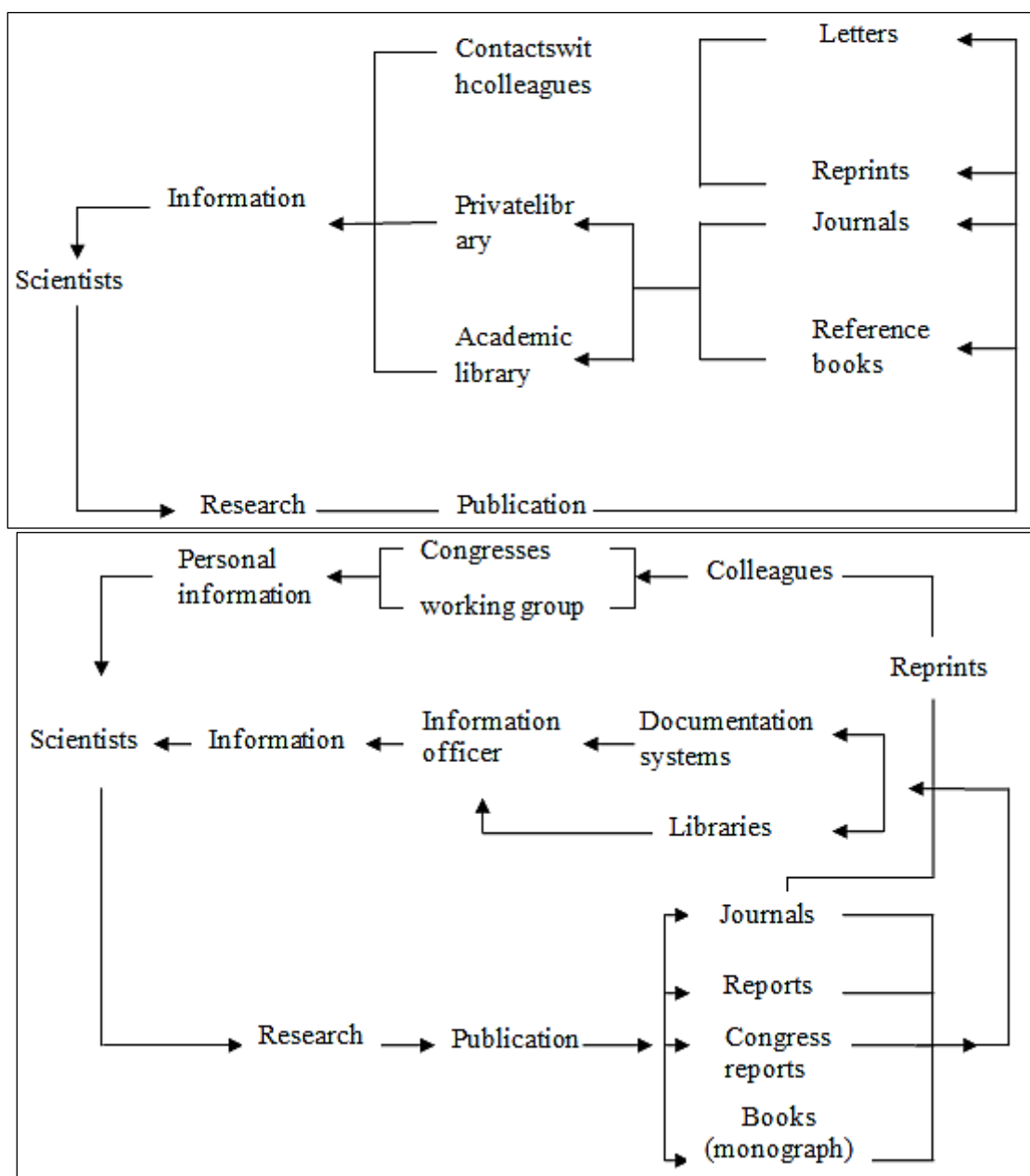
Library profession has evolved new techniques and developed new tools for rapid and efficient dissemination of information.

**REASONS FOR CHANGE**
Some of the important reasons for this change are:
a)  Rapid progress of scientific knowledge has been coupled with considerable specification. Coupling has occurred between branches of science resulting in increased inter-disciplinary research.
b)  Enormous increase in literature made it impossible for anyone, however gifted he or she is, to keep up-to-date even in a limited field.

c)  There came tens and thousands of journals, innumerable series, conference proceedings, annual reviews, technical reports, and a large number of monographs.
d)  New techniques of documentation were developed. These are evident in depth classification, card files and indexes, publishing indexing and abstracting services, compilation of special bibliographies, providing translation service, making available reprographic and micrographic services, and other current awareness services.

e) Because of the increase in the volume of literature, large number of publishers in numerous languages, private library of the scientists has become less important as a source of information. He is forced more and more to use large academic and special libraries.

As the amount of literature increased, as specification went further and as documentation systems become more complicated, a new category of specialists arose to assist the scientist in tracing literature or to do the whole task for him [3]. These 'Documentalists' generally have the knowledge of their special field and specialized training as to:

(i). Translate scientist's question into a form suitable for tracing the literature in the documentation systems.
(ii). Handle available documentation systems.
(iii). Select relevant information from the crude information obtained.
(iv). Convert this information into a form that the scientist can use.

Thus, the scientist no longer needs to know everything about all the systems that can provide him with information.

## THE PRESENT INFORMATION CHAIN

Increase in the volume of literature made it humanly impossible to have bibliographic control. The document lists started experimenting in mechanization of information storage and retrieval. It all started with the use of punch cards and sorting machines [4]. Advent of computer made it possible to mechanise all routines in documentation and information work. This is true for instance, of the following operations:

a) Systematic storage of information in the computer memory;
b) Preparation of indexes from the stored information;
c) Printing of these indexes; and
d) Alerting the clients to information (through CAS including SDI).
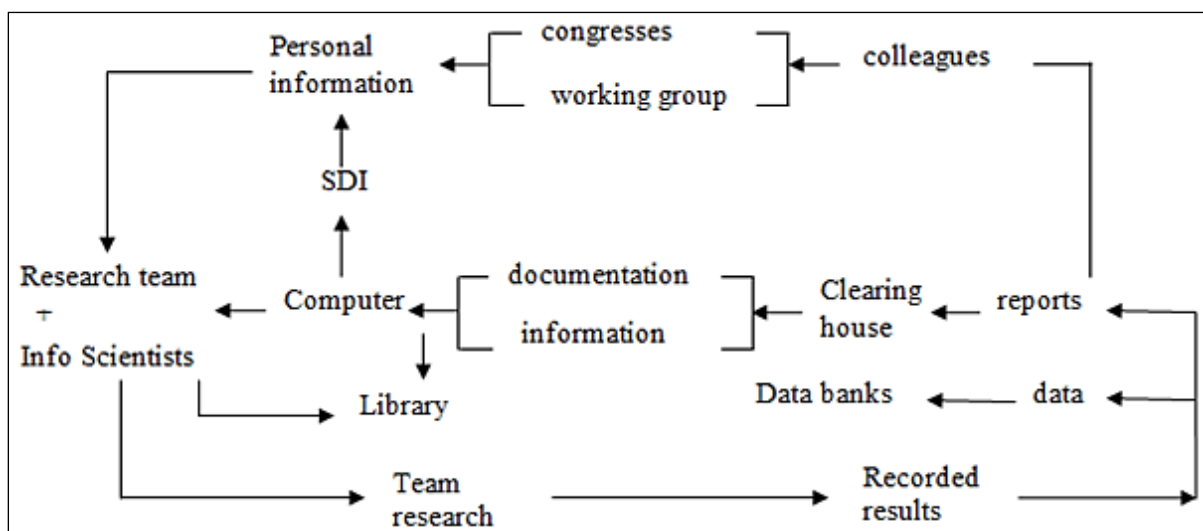


## Features of the Present Information Chain

a) Users will have direct access to the information stored in the computer memory.
b) With the increased use of electronic storage media, the importance of books and journals as carriers of information is being progressively reduced. These will be less important in the direct chain of information. Very probably they will hold ground as a general source of information

to keep scientists aware of what is going on in a broad field.
c) Research findings will not be recorded primarily in journals but in separates, which will be made available systematically by clearing-houses and computers. The same sort of function can be imagined for databanks; organizations where separate numerical data can centrally stored and made available [5].

d) It will be difficult to directly process the document for machine storage unless the scientist records his results in a formalized scheme, which is seldom possible. The success of a documentation/information system will thus depend on how the information is taken from the original document. Human endeavour in information analysis appears irreplaceable and thus, the role of documentation/information officers is more challenging than before. What could be automated today is analysis of the titles of documents, which is often not enough.

e) Mental work is still necessary for analyzing and recording the information by abstracting and deep indexing a research report.

f) Even at the retrieval stage human brain can rarely be missed. User has to formulate a search strategy to avoid noise in retrieval [6].

Thus, machines can reduce the human effort in collecting and processing enormous amounts of data, store large quantity of information, narrow the time in retrieval and avoid risk of losing memory [7]. But the decision regarding the selection of items for storage, deciding the access points, sharpening the search and packaging the information to suit to the demands of the user needs, the role of human factor; the document lists or officer will be more in the future chain [8].

## LINKS IN THE CHAIN
### Generators of Information
*Scientists*
The generators of information are also consumers of information. They try to collect the reaction of the fellow scientists or their piece of research. Further, they are also interested to keep an eye on the developments in their own field of research. Thus, the generators themselves are gathers of information.

*Publishers*
The publishers have also a role in collection or gathering of information. They collect the scientific papers of the authors and publish them for the use of the scientists or other uses. Publishers have a role in the distribution of information also. Publishers can be categorized into, primary publishers and secondary publishers. Primary publishers are those; who gather, process and disseminate information of primary nature. The package may be released either in print form, as abstracts or indexes or non-print form, say as a database which enables online retrieval, or in a CD form.

### Storage of Information
*Libraries*
Libraries are described as the 'treasure houses of knowledge'. Though we have grouped them under the category of information, they have to play an important role in the collection and organization and dissemination of information. Different kinds of libraries are vested with specific responsibilities:

*Public Libraries*: These play an important role in meeting the informative, recreative and cultural needs of the local population. These are generally organized by public funds or some by voluntary organizations.

*Academic Libraries*: School, college and university libraries fall under this category. These libraries meet the curricular, extra-curricular and research needs of their readers or scholars.

*Special Libraries*: These libraries are sometimes called as documentation centre or information centre also. They provide pin-pointed information in an expeditious manner to their users.

### Documentation Centres
Documentation centres are expected to play an important role gathering micro-literature, index and/or abstract of the literature; provide awareness service and develop quick means of dissemination.

### Information Analysis Centres
These are attached to highly specialised research organizations. These centres are expected analyze the information gathered by them about the utility and communicate directly to the scientists on whose work the information has a direct bearing. Information analysis centre is to be managed by highly qualified personnel; both in the basic discipline as well as library and information

science. These centres further play a role in stimulating research by identifying fallow areas of research and try to fill-in information gaps.

### Data Consolidation and Evaluation Centres
These centres mainly organize the numerical data. They evaluate the data in terms of utility, precision and reliability.

### Databanks
Databanks gather the raw data on a broader field from various sources; arrange them in structured files so as to be ready for subsequent processing for providing right answers to user's queries. Databanks enable the various organizations to contribute their data so that they can organize the data in structured files and draw the data or information from the data centre just in a bank, hence the name 'Databanks'.

### Databanks
With the convergence of computer and communication technologies large volume databases which enables the users to directly use them. Some of these databases are full-text services which obviate the need to go in hunt for primary documents and other sources of information.

### Information Networks
The 'new technology' once again enabled the libraries and information centers to be linked together for storage, search and dissemination of information. These electronically networked libraries and information centres are at different levels; city, region, country and even transnational or international. Thus, it has become easy to search and retrieve the information.

### Dissemination of Information
Dissemination of information involves providing exact information to the users directly in a personal way; or by guiding the users to find out themselves the information they need from various sources of information. Information is presented in various forms and through various kinds of documents. The forms of dissemination are listed below:

### Forms
Carrier employed books, periodicals, taps, discs, etc., oral diffusion; AV techniques; exhibitions etc.

*Periodicity*: Occasional and regular help.

### Dissemination of Primary Products
*Library Services*: Onsite consultation, loan service, reprographic service, etc.

*Information Services*: Preprints and reprints; press cuttings; remote transmission; translation service; information analysis, consolidation, repackaging etc.

*Special Agencies*: Lending libraries; clearing houses.

### Dissemination of Secondary Products
- Reference service;
- Current awareness services (list of additions, table of contents, bibliographic bulletins, indexing and abstracting services); and
- Selective dissemination of information (SDI).

### Dissemination of Tertiary Products
Direct content; liaison service; express services or flash information service, etc.

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