
UNIT 6 CURRENT AWARENESS SERVICES

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6.0 OBJECTIVES

In Unit 3, you learnt that modern libraries have started offering a number of new documentation and information services. In this Unit, we introduce you to two important information services offered by libraries and information centres : Current Awareness Service and Selective Dissemination of Information service.

After reading this Unit, you will be able to:

- explain the need and purpose of current awareness services (CAS);
- describe the different types of CAS;
- explain the concept and objectives of Selective Dissemination of Information (SDI) Service;
- list the components of SDI and describe them; and
- explain the functional aspects of SDI.

6.1 INTRODUCTION

Modern libraries and information centres offer a variety of new documentation and information services to provide support to research and development, industrial productivity, management, marketing and trade, all programmes of development of governments and institutions, etc. There has been a tremendous increase in the volume and variety of publications coming out from all corners of the world, in different languages and forms that carry results of current research, industrial and technological advances, economic develop-

ments, etc. This proliferation of publications has posed serious problems for those involved in these activities to keep themselves abreast of current developments. It has, therefore, become necessary for libraries and information centres to design and develop new and innovative information services. Two such services are Current Awareness Service (CAS) and Selective Dissemination of Information (SDI).

Four types of current awareness services are described in this Unit with their characteristic features. These types of services are : Contents-by-journal, Documentation bulletins. Research-in-progress bulletins and Newspaper clipping service.

Selective Dissemination of Information (SDI) can be regarded as an off-shoot of CAS, which not only serves current information but is also totally user-oriented. The components of SDI are: a database of documents, a set of user profiles, a mechanism to match document profiles with user profiles, user SDI interface and communication. The functional phases of SDI include selection of database(s), preparation of user profiles, notification of current references to participants (users), feedback and modifications to tune the system to obtain best results.

With the advent of computers and telecommunication facilities, SDI is provided centrally by online vendors at low cost, ensuring easier accessibility to world's output of current information with greater speed and efficiency.

All these aspects of CAS and SDI are discussed in greater details with examples and illustrations in this Unit.

6 . APPROACHES TO INFORMATION

A user's information need often depends upon the purpose for which he is seeking information. For instance, a user may be looking for data on property of a given substance or material. The purpose may be to use the property value (e.g., boiling point) in a calculation or experiment. This kind of an approach to information may be termed as 'Everyday Approach' to information. On the contrary, a user may want to look up all the information that has been published on a given topic, e.g., use of synthetic pesticides to control pests of groundnut. The purpose may be to evaluate useful pesticides or to identify a probable research area or to formulate a research proposal. This kind of Approach to information is termed as the Comprehensive or Exhaustive Approach to information. Another approach to information is called the 'Current Approach'. In this, the user wishes to keep himself abreast or up to date on what is being published in his area of specialisation and closely related areas. The current approach to information is a browsing approach, i.e., the user likes to browse through a range of current information. By doing so, the user — a scientist, an engineer, a manager, a teacher, etc. — comes to know of recent advances or new developments. This helps him to update his knowledge and can be useful to him in various ways. For instance, by keeping himself informed of recent literature he becomes aware of new methodologies, interpretations, theories, or models developed, new results achieved, new products introduced, etc., which he can use for his professional advancement. The current approach to information is an ongoing approach, i.e., it is a regular feature of every active professional, and is in fact considered essential to avoid obsolescence and duplication of effort. There is another approach to information, called 'Catching up or Brushing up' Approach. In this, a user may be interested to have a birds-eye-view of a subject in which he may not have been interested so long, but developed interest of late for various reasons such as taking up new projects/research or changing the field of his work.

The Problem of Keeping Abreast

Published scientific and technical information has grown rapidly during this century particularly after the Second World War on account of large expenditures on research, and development by government and industry. As a consequence of the growth in the volume of scientific and technical information, scientists, engineers, technologists, and managers face several problems in accessing information, and in keeping themselves abreast of new developments. Let us examine a few of them.

Firstly, the rate at which new information is being generated, even in narrow subject areas makes it difficult for a researcher to keep himself abreast of new developments in his area of specialisation.

Secondly, the increasingly interdisciplinary nature of research i.e., the fact that research and development is no longer done by individuals but by **teams** of researchers belonging to different disciplines has resulted in the scattering of information. It means that information **relevant** to a given discipline is also found in journals of other disciplines. For instance, information relevant to an electronics engineer may appear in journals dealing with solid state physics, optics, materials science and electrical engineering, apart from journals in electronics.

Thirdly, useful information can occur in a variety of document types. Until recently the journal or periodical was the main medium for the communication of new information. While ~~this~~ is true even today, other media in the past 40 years have also **emerged** and grown. Examples of these are conference papers, technical reports, patents, theses, and standards.

Information and documentation centres have attempted to help the researcher to cope with the problems mentioned above by providing varieties of information services. One of these has come to be known as current awareness service, i.e., a service which alerts users of information that is current or of recent origin. Several forms of current awareness service have been developed. This Unit deals with the different ways of providing current awareness and with a computer-based method called Selective Dissemination of Information or SDI.

Self Check Exercise

1) Give **three** reasons for the need for current awareness services

Note : i) Write your answer in the space given ~~below~~.

ii) Check your answer with the answers ~~given~~ at the end of this Unit.

6.3 CURRENT AWARENESS SERVICES AND THEIR TYPES

A current awareness service has the following characteristics:

- The service is usually in the form of a publication, and attempts to bring information that is current or of recent origin to the attention of **its** users.
- The service does not seek to answer any specific questions that the user may have.
- The service is usually confined to a well defined subject area or topic. However, topics from related areas are also covered in the service.
- The service may sometimes confine itself to a given type of literature, **e.g.**, patents; or **may** cover different types of literature.
- The service could be bibliographical in nature, **e.g.**, a list of references with or without abstracts. The service could also be discursive, **e.g.**, a newsletter. In this type of current awareness service usually there are short contributions from professionals with the objective of highlighting recent developments or exchanging information and ideas.
- The service endeavours to alert its users of the recent development as quickly as possible.
- The service attempts to make browsing convenient and easy for the user.

Although published current awareness service is the predominant form, more recently, the service has also been using electronic means. This usually takes the form of an electronic Bulletin Board which is computer-based, and accessible to users through their terminals. The user browses through items in the electronic board just as he would do in a publication.

Types of Current Awareness Services

Having understood the need for current awareness services and main characteristics of such service, we may now proceed to examine the different types of such services.

6.3.1 Contents-by-Journal Service

In this type of service, the library or documentation centre, or a commercial publisher distribute, a publication which contains copies of contents pages of journals in a broad area, e.g., life sciences. A very good example of a Contents-by-Journal service is the publication called Current Contents published by the Institute of Scientific Information (ISI) in the USA. If a library provides the service, it normally restricts it to the journals received in the library.

The rationale behind this type of service is that the journals are the predominant medium for communicating new information. If users can be regularly informed of journal articles appearing in current journals in broad or narrow areas, they would come to know of recent articles or papers in their areas of interest. The simplest way in which this can be done is to duplicate the contents pages of journal issues and circulate them individually or in a compiled form to users.

Another rationale for this type of service is the fact that users tend to value certain journals very high and look forward to browsing through the issues of these journals as soon as they are received in their library. The contents page service enables them to quickly know the titles of articles published in journals of their interest. Once they identify interesting or useful papers, they can then go to the library and read the papers. Alternatively, they could write to the authors of those papers and obtain a reprint or a copy of the paper. This way the user builds up his personal collection of useful information.

The Contents-by-Journal service is perhaps the cheapest and quickest way of providing a degree of current awareness. This is because very little intellectual effort is expended in providing this service. However, this service also suffers from disadvantages. Some of these are :

- a A lot of effort is called for on the part of the user to locate information that is useful to him.
- a Since this type of service provides only titles of papers, it is difficult to determine the usefulness of paper, in many cases, without actually examining the full papers.

Self Check Exercise

- 2) State the merits and demerits of CAS-Contents-by-Journal service in a tabular form.

Note : i) Write your answer in the space given below

- ii) Check your answer with the answers given at the end of this Unit.

6.3.2 Documentation Bulletins or Current Awareness Lists

This is by far the most predominant form of current awareness service provided by libraries. In this kind of service the library or documentation centre scans primary journals and other sources of current information received in the library to identify potentially useful articles of interest to their users. The bibliographical details of such articles are collected, and classified or grouped into broad or narrow subject groups. At periodic intervals (fortnightly, monthly, etc.) the collected bibliographic entries are listed under the different subject headings, class numbers, or groups. The list is then duplicated and circulated to users.

It is usual for documentation bulletins to feature the entries in the list in a manner that facilitates browsing. The subject headings or classification numbers and/or sub-headings under which entries are listed make it easy for the user to browse through the list. A documentation list could have an author and a subject index, and a contents page. These devices enable a user to locate sections of the bulletin which he should browse in order to get items of information that may be useful to him.

A documentation bulletin may sometimes include abstracts of papers listed in the bulletin. The provision of abstracts greatly enhances the usefulness of the documentation bulletin since the abstract provides additional information about papers. If abstracts are well prepared they can often be substituted for the original paper. Of course, more time will then be needed to produce this service.

Current awareness lists are published or issued by the library of an organisation for use within the organisation, as well as by professional or learned bodies, international agencies and commercial organisations, for use by any one interested in the subject areas covered by the list. Examples of current awareness lists produced by professional bodies are Chemical Titles of the Chemical Abstracts Service, and Current Chemical Papers of the Chemical Society, U.K.

A local current awareness list, i.e., one published or issued by the library can be tailored to suit the need of the users within the organisation. Firstly, the selection of items can be made keeping in mind the subject interest, research projects, product profile, etc. of the organisation and its personnel. Secondly, it is possible to slant the abstract to highlight the usefulness of documents to the organisation. Thirdly, the list can be featured to reflect the areas of interest or product profile of the organisation. Fourthly, the list can include information from more than one type of information source. For instance, the documentation bulletin for an industrial organisation could have references to patent or report literature in addition to journal articles. Usually, current awareness lists produced by professional bodies are more comprehensive in their coverage than locally produced lists.

6.3.3 Research-in-Progress Bulletins

This is another type of current awareness service and, as the name suggests, it alerts users of new research projects and the progress made in the research projects in hand. Such current awareness services usually require the joint effort of more than one organisation working in similar or closely related research areas. A parent body which funds or controls a group of research organisations (e.g., CSIR, ICAR in India) could also bring out Research-in-Progress bulletins with the input to these bulletins being provided by the different laboratories or research centres under that body. An example of this type of service is the United States Department of Agriculture's Current Research Information System (CRIS). All USDA laboratories and research stations contribute their input to CRIS. It is a computer-based service and it can be searched to retrieve information on research projects. It is used also for current awareness purposes. Another example of a research-in-progress service that is international in scope is the CARIS (Current Agricultural Research Information System) of the Food and Agriculture Organisation (FAO).

A research-in-progress bulletin usually contains information about the laboratory at which the project is being done, names of principal and associate researchers, funds and sources of funds, duration of the project, and special equipment in use, if any. In addition, it includes a narrative description of the research project and/or progress achieved till date.

Now a days, the trend is for the creation and maintenance of research-in-progress databases in computer-readable form similar to the USDA's CRIS system. Such a database can then

be used both for retrospective search before a new project is formulated as well as for current awareness services. Such a database can be used also for other purposes, e.g., to produce an inventory of specialised equipment, centres of specialisation, etc.

6.3.4 Newspaper Clipping Service

News papers are current awareness media, since they publish news of recent happenings on the political, social, and economic front of a nation or region. News papers carry useful information to everyone from housewives to top management of companies and ministers. Again, news papers are of different kinds. Some of them are local or regional in their orientation and coverage, others are national or international. Further, some news papers specialise in economic or financial news and contain in depth analysis of industry, trade, banking, commerce, etc.

Given the above characteristics of news papers, it is not surprising that they are considered as valuable sources of information. Libraries and documentation centres, therefore, provide information services based on news papers. One such service is the News paper Clipping Service.

In the news paper clipping service, a library subscribes to one or more daily or weekly news papers, carefully chosen for their coverage of areas of interest to the organisation. Each of these news papers is scanned and any items of interest to the user group are clipped (i.e., cut) and pasted on a sheet of thicker paper or card. The clipping is then assigned one or more subject headings or group/class codes. At periodic intervals, (i.e. daily, weekly) the clippings are arranged by subject headings or group code and disseminated to users.

In a small organisation, batches of clippings themselves in one or more groups may be circulated to users. In larger organisations, or where the circulation is wide, a bulletin containing the news item with or without an annotation may be circulated. The clippings themselves are filed in vertical or suspension file folders for possible use at a later date. Those clippings which are considered ephemeral are discarded. News paper clipping services are quite common in libraries of government departments, banks and financial organisations, and industrial development agencies.

Self Check Exercise

1) List the four different types of current awareness service

Note : i) Write your answer in the space given below

ii) Check your answer with the answers given at the end of this Unit.

6.4 SELECTIVE DISSEMINATION OF INFORMATION (SDI) SERVICE

All the forms of current awareness service discussed so far in this Unit are basically provided manually. With the advent of computers in the 1950s, attempts have been made to use them for library and information work. One of the services attempted to be automated was current awareness service. Hans Peter Luhn, a computer scientist proposed in 1961 a method of using computers to provide current awareness service. He christened the method for automating the current awareness service as Selective Dissemination of Information or SDI. We will now look at the concepts and methodology of SDI which is becoming more and more important as a method of providing current awareness considering that computers are now being increasingly used for information work.

Luhn defined SDI as "that service within an organisation that concerns itself with **machine-assisted** channelling of **new** items of information from **whatever source** to those points within the organisations where **the probability of usefulness**, in connection with **current work or interest**, is high".

The boldfaced words in the above definition are important and are explained in some detail below:

Machine-assisted: SDI uses computers which made their appearance in the 1950s and were beginning to be used in handling information.

New: SDI is concerned with new information or information of recent origin, or that information which is current. Hence SDI is a **form** of current awareness service.

Whatever source: The sources of new or current information may be both within the organisation and outside it. The fact that there are too many sources of information necessitated such a service in the first instance.

Usefulness is high: The objective of SDI is to ensure that new information which is highly useful should be channeled (i.e., directed or disseminated) to those points (i.e., users, scientists, managers, etc.) within the organisation.

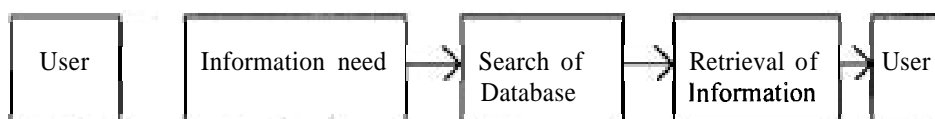
Current work or interest: The channelling or directing of information to a given user is determined by the nature of his current work or interests.

After understanding the key words in the definition by H.P. Luhn, we see that SDI is a service that uses computers to enable current information to be disseminated to users based on their **present** interests or work.

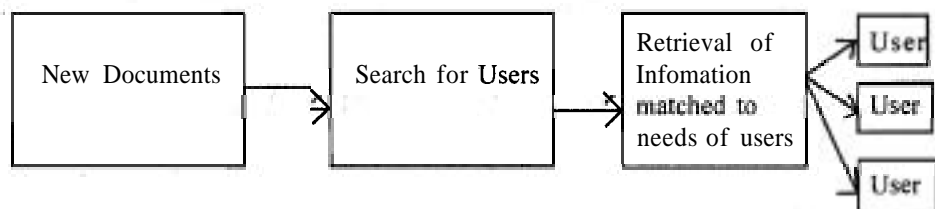
Only those pieces of new information which are highly relevant to **given** users' interests of work are selected by the computers for dissemination of each set of pieces of information to the respective or concerned user and hence the term Selective Dissemination of Information (SDI).

6.4.1 SDI and Retrospective Searching

In a retrospective search, a user's request for specific information results in a search of the database (of indexes, catalogues, etc.) to retrieve documents or references that may satisfy the user's request. On the contrary, in the SDI service, the search is for one or more users who may find one or more new documents useful. The difference is depicted pictorially below:



Retrospective Search or Information Retrieval



SDI Services

6.4.2 SDI and Current Awareness Services

Manual methods of providing current awareness require the user to go through a lot of information before he can find what is useful to him. This is because these methods of providing current awareness are directed to groups rather than individuals. These methods have a **try-to-find-it** orientation and hence require that the user expend effort in discovering information useful to him. The extent of effort required may be at times quite substantial.

In the SDI service, however, the target is an individual or a small group. The attempt in SDI is to tailor the dissemination to suit the needs of individual or the small group. The user, thus, gets only those items of information that are highly useful to him.

Self Check Exercise

1) Give a definition of Selective Dissemination of Information.

Note : i) Write your answer in the space given below.

ii) Check your answer with the answers given at the end of this Unit.

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6.5 SDI SYSTEM COMPONENTS

An SDI system may be said to comprise of the following components :

- i) **A document database:** A file containing document description and terms representing the subject content of the documents being described. Since SDI is a computer-based service, the document database is in computer-readable form. The document database used in SDI is for recent or current literature. The terms chosen to describe document content are usually drawn with the help of a thesaurus.
- ii) **A set of user profiles:** A file describing users or recipients of the SDI service and their subject interests. The user profiles file is again a computer-readable file. The building of user profiles is an important activity and is described in greater detail below. The terms to describe user interests are also drawn from the same indexing vocabulary (thesaurus) used to index the items going into the document database. The use of the same terminology to describe document content and user interests ensures good matching of user interests with document content.
- iii) **A mechanism to match document descriptions with user descriptions:** The mechanism used to match documents with users is the computer. In fact, a computer program running inside the computer does the matching of user interests with documents.
- iv) **A User-SDI system interface:** An interface is a common boundary that permits useful interaction or communication. The SDI service interface may be said to comprise of the following :
 - The users of the SDI service.
 - SDI notifications of recent literature that match given users' interests.
 - Request to users to provide feedback on the notifications sent to them. The feedback provided by the user is about the usefulness or otherwise of the notifications sent to him.
 - **Intermediaries** in the SDI system operation. These are the information scientists within the organisation of the user who interact with the user and are knowledgeable about the document database and its characteristics, and in the creation of user profiles.

6.6 FUNCTIONAL PHASES OF SDI

The four functional phases (major activity areas) of an SDI system may be said to be :

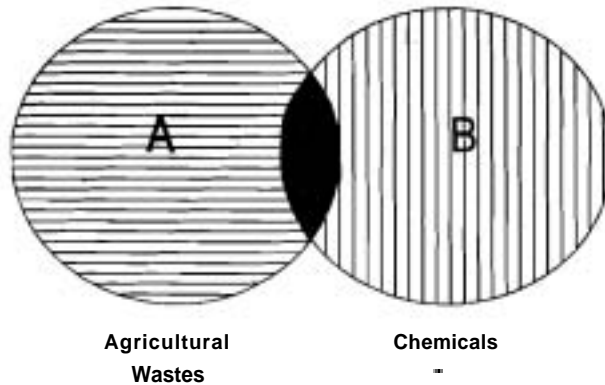
- i) selection, ii) notification, iii) feedback, and iv) modification.

6.6.1 Selection Phase

As already pointed out, in the selection phase, the subject and other characteristics of new documents are matched with the interests of users expressed in terms of subject and other characteristics. Let us take a simple example.

Imagine a scientist who is working on the use of agricultural wastes for the production of useful chemicals.

We have two subjects in the above statement, viz., agricultural wastes and chemicals. The scientist is not interested in agricultural wastes per se or in chemicals only, but really in the interaction of both subjects. His interest may be depicted as a Venn diagram as follows :



The scientist is interested in the shaded area of the above Venn diagram, i.e., in those documents which deal with both agricultural wastes and chemicals.

In the selection phase of the SDI, the computer program tries to find a match between user interests expressed as a combination of subject interests and the keywords of new documents in the database.

User Profiles

The expression of user interests as a combination of subject and non-subject terms is called a User Profile. The building of a user profile that truly represents the user's interests and information seeking habits is the crux of an SDI system.

Typically, the building of a user profile begins with the SDI system inviting the user to state his needs in his own language. He is asked to elaborate and define the concepts in his statement of needs. Such elaboration or definition of concepts provides clues about the scope of the concepts and the context so far as the user is concerned. Next, the user is asked to list the titles of papers that the user knows to be relevant to his need. The list of papers given by the user provides clues about related areas of interest, and about the narrower and broader areas that the user may be interested but did not actually express explicitly.

In addition to subject interests, the user is encouraged to provide information on names of persons whose new work he would like to be alerted to. Similarly, names of organisations in whose work the user is interested may also be given by the user.

In addition to providing information about the subjects of his interest and the names of persons, the user is also asked to state whether he wants his SDI to be comprehensive (i.e., broad, retrieving many items, some of which may be less directly relevant) or specific (i.e., retrieving a few items, most of which will probably be highly relevant). This information is useful in building the profile.

The user profile, thus, attempts to represent not only the user's subject interests but also his searching patterns and other approaches that he found in the past. It is in this respect that the SDI differs from other modes of providing current awareness.

In order to help the user to express his current interests and work, he is given a questionnaire which he is expected to fill and return.

Once the questionnaire is received from a user, the personnel of the SDI system attempt to develop a User Profile. If necessary, they can get in touch with the user to seek clarifications or elaborations before building his profile. As already pointed out the terms used to describe the user interests are chosen from the same vocabulary (e.g., thesaurus), as the one used in indexing the document content in the document database.

Let us go back to our **earlier** example of the scientist interested in producing industrial chemicals from agricultural wastes. In this example, the two search terms are agricultural wastes (A) and **chemicals** (B). Our hypothetical scientist may have one of the three possible approaches to suggest to the information staff working for him. These are:

- i) Agricultural wastes OR Chemicals
- ii) Agricultural wastes AND Chemicals
- iii) **Agricultural** wastes NOT Chemicals

These three statements can be **symbolically** rewritten as :

- A OR B (Logical Sum)
- A AND B (Logical Product)
- A NOT B (Logical Difference)

The **three** connectors in the above statements, OR, AND and NOT, are known as Boolean, **operators**, and the process of deriving these statements is Boolean logic. Let us at this stage look back at the **Venn** diagram given earlier. The output of the three logical operations can be **stated** as follows :

- i) OR operation **displays** references representing A (area covered by horizontal lines) as also B (area covered by vertical lines)
- ii) AND operation displays, as stated earlier, references representing both terms and, therefore, only the shaded area in the diagram.
- iii) NOT operation displays **references representing only A and NOT B, and even A AND B.**

Of course, our scientist **in all** probability would ask for AND operation as that should meet his **need**.

if the user's subject interests or profile contains more search terms, a search expression is made combining these terms using the connectors (AND, OR, NOT) which represents the user's profile. This search expression is also called **Boolean Search Expression**.

Self Check Exercises

- 5) Name the components of SDI system.
- 6) State the features of a user profile.

Note : i) Write **your** answers in your note book.
 ii) Check your answers with the answers given at the end of this Unit.

6.6.2 Notification

The selection phase matches document characteristics (content) with user profiles. Only those documents that satisfy a given user's profile (search expression) are selected for dissemination.

The items selected for dissemination have to be notified, i.e., listed, and sent to the user. The notification usually takes the form of a list of references with or without abstracts. Since the SDI service is for current information, it is important that the notifications should contain adequate information about the documents being notified. Providing detailed abstracts of documents is the best way of informing the user about the contents of documents.

The bibliographical details and abstracts of all documents entering into a particular SDI service are stored in a document database. The computer program, which matches document description with user profiles to select items, also ensures that the selected documents are notified or listed.

6.6.3 Feedback

The user is expected to provide feedback to the SDI personnel in the feedback form sent along with the SDI, on the relevance of each of the items listed in the SDI service provided to him. Once the feedback from a user is received, it is analysed to examine whether the items being disseminated are in fact useful to him. If a majority of the items are found useful, then it can be concluded that the User Profile has been properly prepared. On the contrary, if many items are not found useful, it may be concluded that the User Profile does not truly represent the user's interest and must be modified.

6.6.4 Modification

Meaningful interaction between the user and the SDI system for profile refinement begins after he has been provided SDI notifications, i.e., citations and abstracts of documents that match his profile. The provision of feedback on the usefulness of the documents disseminated enables a better understanding of the user's needs. When a user indicates through his feedback that the output was not useful, the SDI system operators begin to modify his profile. The SDI system personnel analyse the reasons for the dissemination of the items that were not found useful. This could result in the revision or modification of the user's profile or search expression for the user. The modified profile's performance is again monitored to ensure that it is better than the earlier profile.

Sometimes, however, modification of the user's profile may be initiated by the user telling the SDI personnel about a change in his interests. For instance, if the user takes up a new research project, then his interests may change and he may inform the SDI system personnel to modify his profile suitably.

It is in providing the mechanism for collection of feedback and modification of user profiles that the SDI is fundamentally different from other modes of current awareness services. Personalisation and selectivity of service to the user, and the possibility of continuous interaction between the users and the providers of the service result in more effective use of documentary resources. SDI services have been known to generate more demand for documents than other modes of dissemination service. The interaction between users and information specialists through SDI brings about a better understanding of user needs and this could lead to better acquisition of documents and indexing and abstracting services.

The functional aspects of an SDI System, viz. Selection, Notification, Feedback, and Modification are shown in Figure 1.

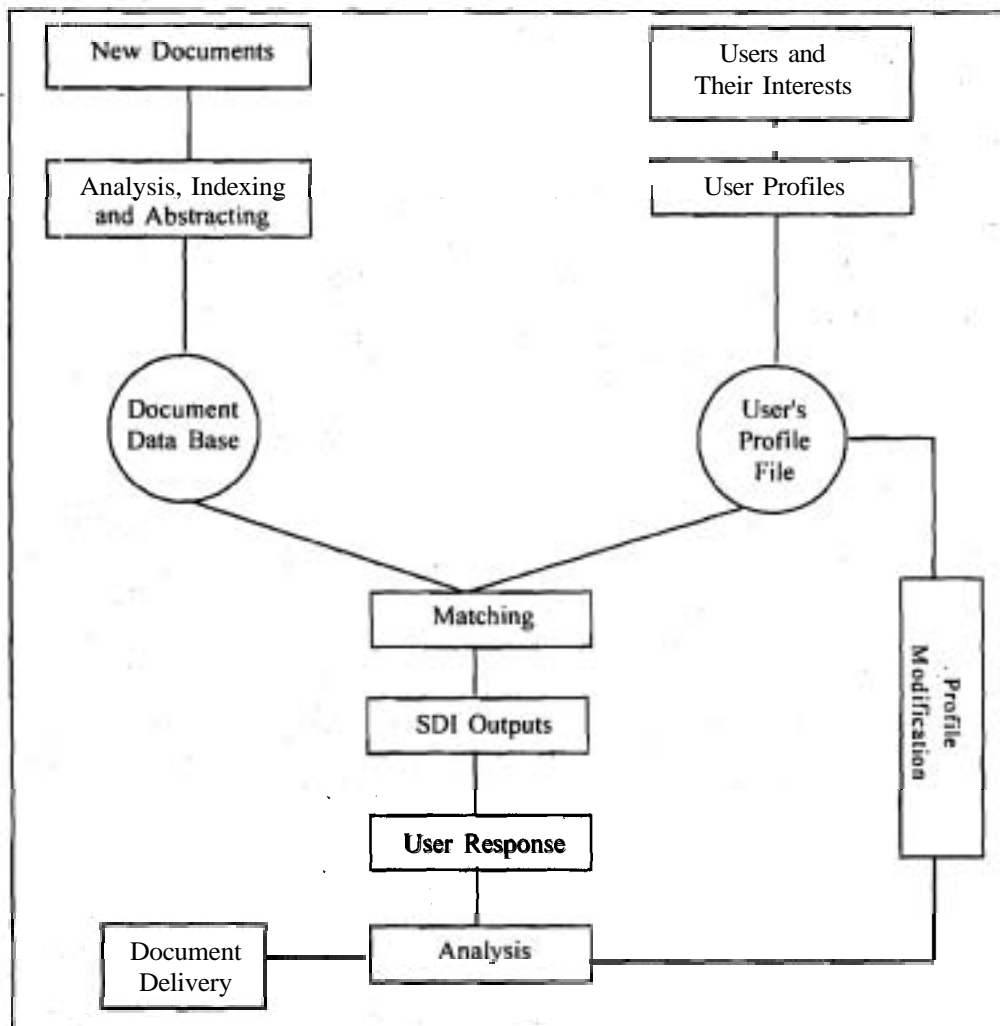


FIG. 1 : SELECTIVE DISSEMINATION OF INFORMATION (SDI) FUNCTIONAL FLOWCHART

6.7 SDI IN RECENT YEARS

The concept of SDI as enunciated by Luhn meant a service that required each organisation to develop its own computer-readable document database or document profile against which the user profiles were to be matched. This arrangement was suitable during the time when Luhn first thought of SDI. It is no longer necessary today for each organisation to build its own database, since databases are now available in computer-readable form in almost all areas of science, technology, social sciences, and humanities.

These databases can be acquired by a given organisation for use on their own computer. In other words, the organisation subscribes to one or more databases, creates profiles for its users, and periodically matches the profiles against the various issues of the computer-readable database to produce SDI outputs. This method of providing SDI service, however, is **expensive** since the subscriptions to computer-readable databases are usually expensive.

This **method** of providing SDI may be suited to an organisation which has a very large **number** of users who require SDI, and can, therefore, justify the cost of subscription to the **database**, and the computer time required to run the SDI programs.

In **view** of the high costs involved, and the difficulty for each organisation to acquire databases, a number of Information Dissemination Centres were established in several countries in the 1960s to provide **SDI service** from a centralized location. These information dissemination centres, generally established by the government, obtained one or more databases, built profiles for users in **R&D** and academic institutions, and in industry, and provided **SDI** outputs periodically to the users all over the country.

In India, INSDOC operated such an information dissemination centre at IIT, Madras, in 1975. This centre acquired Chemical Abstracts, Physics Abstracts, and Engineering Index databases, and provided SDI service to a number of scientists and academicians in different institutions in the country. The UGC Centre for Science Information (Bangalore) also provides SDI services from a number of databases.

During the late 1960s, however, another development took place in the West, particularly in the USA, which enabled the provision of SDI more cost-effectively than was possible by the centralised information dissemination centres. The searching of databases in an interactive or conversational mode became possible during the late 1960s and early 1970s. Thanks to developments in telecommunication technology and their application to the communication of data over telephone lines. It became possible to connect a terminal to a remote computer using the new technology.

Very soon thereafter, information dissemination centres were replaced by online Vendors, i.e., organisations, who acquired computer-readable databases, and provided on-line access to them. In this situation, it became possible for users to connect themselves to the computer of the vendor, and conduct searches on the databases that were available on the vendor's computer. Here the user utilises the database interactively, i.e., he is able to search the database in a conversational mode. In other words, he sees the results of his search almost instantaneously on his terminal. He can even print the results of his search on a printer attached to his terminal.

The availability of databases for online searching also enables the storage of a user profile on the vendor's computer. The profile is matched periodically against one or more databases to produce SDI outputs that are then sent to the user. The user pays a fee for the use of the database and for his SDI output, and for the computer time used. He pays also a charge for using the telecommunication lines. The charges for access are considerably cheaper than it was when the user had to use the service of a centralised information dissemination service. Further, the user can modify his profile whenever he so desires. Another important advantage of this method is that the user profile can be built with several elements, such as key words, names of authors, names of languages, etc. It can also contain data of those elements which should be eliminated so that the SDI output becomes a truly tailored product.

The SDI service which began as a service provided locally in several organisations to their users has now become a service that is provided centrally by online vendors at considerably less cost, and providing far better access to the world's output of information than was possible in the past.

Self Check Exercise

7) State in five or six lines the current trends in SDI.

Note : i) Write your answer in the space given below.

ii) Check your answer with the answers given at the end of this Unit

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6.8 SUMMARY

In this Unit, we have discussed two major and comparatively new information services offered by modern libraries and information centres, viz., CAS and SDI. These services have become necessary because of the proliferation of publications carrying results of current research, advances in the industrial and technological fields, socio-economic developments, etc., and the need to keep scientists, technologists, managers, engineers, planners, operational

personnel, etc., abreast of current developments. CAS is an alerting service whereas SDI is totally oriented to user information needs, in addition to being an alerting service.

The four types of CAS described in this Unit are: Contents-by-Journal, Documentation Bulletins, Research-in-Progress and Newspaper Clipping Services. These are non-specific. The SDI, which is geared to specific user information needs, is based on the construction of user profiles. The user profiles are matched against document profiles to obtain current references that are of interest to the users. Notifications of these current references are sent to the users regularly and feedback is obtained from them. This feedback helps to modify the user profiles to tune the system to meet users' needs with greater precision .

Computer and telecommunication technologies have made it possible to offer these services centrally by online vendors at cheaper prices with easier accessibility to the world's information output with speed and efficiency.

6.9 ANSWERS TO SELF CHECK EXERCISES

- 1) The CAS is needed for the following reasons
 - a) Proliferation of publications in a variety of forms and languages, carrying valuable information and knowledge.
 - b) Persons involved in developmental activities like scientists, engineers, managers, planners, etc., are finding it extremely difficult to keep themselves abreast of current developments due to proliferation of literature.
 - c) In the absence of any speedy alerting information services, these persons will not be able to survive professionally in the present competitive world.

- 2) The merits and demerits of Contents-by-Journal Service are given below :

Sl. No.	Merits	Demerits
1)	The cheapest and quickest service.	A lot of effort is called for on the part of the users to locate information of use.
2)	No elaborate technique involved in its compilation.	Provides title service only and hence makes it difficult for the user to decide the usefulness of papers without examining the full papers.
3)	Intellectual effort required for this service is less.	
4)	Users can get copies of papers in advance of the publication of the paper in a journal.	

- 3) The four types of CAS are : a) Contents-by-journal; b) Current awareness lists or documentation bulletins; c) Research-in-progress bulletins; and d) Newspaper clipping service.
- 4) Selective Dissemination of Information is an information service of an organisation that concerns itself with machine-assisted channelling of new items of information from whatever source to those points within the organisation where the probability of usefulness, in connection with current work or interest, is high.
- 5) The four components of SDI are: a) A document database, b) A set of user profiles, c) A mechanism to match document descriptions with user descriptions and d) A User-SDI interface that includes notifications of current reference and mechanism for feedback.
- 6) The features of user-profile include :
 - a) Particulars of user's educational and professional background, current duties and responsibilities, etc.
 - b) Subject of user's interest in terms of key words.

- c) A few titles of papers relevant to user's interest.
- d) Names of authors active in the field.
- e) Institutions active in the field.
- f) Any other non-subject interest.
- g) Comprehensive search or specific search.

The information pertaining to all these are obtained by circulating a questionnaire or user profile form which would provide vital data for analysis, the results of which would guide the SDI service personnel.

- 7) With the advent of online databases and telecommunication networks, SDI is becoming more centralised. Online vendors offer SDI at considerably less cost and provide far better access to the world's output of information than was possible in the past. Further, advances in computer and communication technologies make it possible to provide whatever type of information is required such as titles, abstracts and full text of papers including graphics and photographs.

6.10 KEY WORDS

Database	A collection of data stored in computer. The data is integrated and cross referenced so that different people can access it for different purposes.
Feedback	A reaction to a message communicated.
Interface	Connection between two systems or two parts of the same system.
Profile -	Outline of an object.
Questionnaire :	A set of questions presented in a specific order for eliciting answers or reactions from a respondent which can be analysed for drawing usable information.
Tailored	To adapt to a particular purpose or use.
User Profile :	An expression of user interest as a combination of subject and non-subject terms.
Venn Diagram	A diagram that uses circles to represent sets and their relationships, named after John Venn, an English logician.

6.11 REFERENCES AND FURTHER READING

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