
UNIT 5 REVIEWS, STATE-OF-THE-ART REPORTS, TREND ETC.

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5.0 OBJECTIVES

In the previous Unit we discussed about indexing and abstracting periodical which is designed to meet exhaustive approach to information. Here, we discuss State of the Art Reports which instead of referring to primary documents provides the brid's eye view of a subject. After reading this Unit, you will be able to:

- indicate the scope and purpose of the state-of-the-art reports;
- identify various types of the state-of-the art reports;
- distinguish between the different types of the state-of-the art reports;
- understand the basic process involved in their preparation; and
- provide services to clientele by making effective use of the state-of-the art reports as reference sources.

5.1 INTRODUCTION

Society does not remain static. The new developments in socio-economic system result in a constant and purposeful social change. A number of resources are needed to create positive conditions for future development. Information is an important commodity and a vital resource needed for development in addition to other resources. The accessibility of the information to its potential user is possible only if it is available in organised and consolidated forma However, there are a number of impediments to the fruitful use of information. They are:

- rapid explosion of information;
- problems in comprehension of information due to non-familiarity with languages;
- terminologies, cultural framework or formats in which it is available; and
- doubtful validity and reliability of information.

A number of solutions have been proposed and implemented to solve these problems from time to time by providing information services in different forms. They are specialised skills of classification, indexing and abstracting, translations in different languages and bibliographic organisation. Different approaches have been tried for improving accessibility of information.

In the earlier two Units, we have acquainted you with different kinds of bibliographies and indexing-abstracting periodicals. They are secondary reference sources useful for locating



primary documents containing original information. In this Unit, we intend to introduce you to different types of the state-of-the-art reports. This Unit discusses the state-of-the-art reports describing their purpose, framework and functions. It also discusses criteria for evaluating such information sources.

5.2 PURPOSE AND PRESENTATION

The State-of-the-Art Reports are of several types. They vary marginally in the presentation of the content. However, their main purpose is to present consolidated information available in various forms and to repackage the same in a condensed form for the users. The need for consulting this type of source arises when a particular user desires to know about the development of a particular area in which he has not been interested so long. This requires basically consolidation work. The basic objectives of information consolidation are:

- to enhance the effectiveness of information transfer;
- to encourage intensive use of information scattered all over for developmental activities; and
- to fulfill information requirements of the potential users by repackaging information in evaluated and synthesized form.

This category of reference source is generally serial publications but they differ in frequency and format subject periodicals having regular frequency. They contain articles dealing with current and significant trends of development in a specific field. They are compiled from primary sources but are arranged according to some definite plan. They deal with already published knowledge in a more organised and systematic way. They are more frequently referred to than the primary sources because they provide organised and consolidated information in useful packages which are self-sufficient.

In short, they occupy an intermediate position between a technical journal and collection of handbooks or monographs. Subject journals publish articles pertaining to recent development in scientific or technical fields or result of a particular research to make it accessible to the subject specialists. After a few years, the concrete and related results in similar areas are combined to publish a comprehensive handbook, sourcebook, monograph or treatise. The state-of-the-art reports such as reviews, advances, progresses, surveys, trend reports and so on are published to bridge the gap between these two types of publications: They are published periodically to present in a suitable form, analysis of the progress made through research and practice.

Self Check Exercise

- 1) Enumerate the basic objectives of information consolidation.

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

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

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5.3 TYPES OF THE STATE-OF-THE ART REPORTS

The state-of-the-art reports can be grouped into three categories (for the sake of convenience).

- Reviews and Surveys;



- Advances and Progresses; and
- Trend Reports.

The difference between these categories of reference sources is marginal. They cover topics of current significance of a particular rapidly advancing field of a subject. They bring together articles pertaining to diverse aspects of a particular field at intervals for a wider audience. They publish critical articles and surveys, based on published literature, research in progress and trends in development. They are addressed to specialists in the field, viz;

- Scientists, engineers and professionals engaged in research and development activities;
- Managers, economists and business entrepreneurs engaged in small and large scale business, commerce, marketing and industries;
- Technicians, supervisors and communicators; and
- Policy makers in government.

The authors designated to write these articles are internationally known experts. They present in a nutshell the results of research and summaries of technical writings and make it intelligible and interesting for specialists in the field. They have played major role in the advancement of the subject they review. They use a variety of styles for presenting the new development

5.3.1 Reviews and Surveys

A review is a survey of the primary literature in a specific subject field covering specific period. It may be considered as a critical synthesis of the state of knowledge or advances in a given subject or its sub-discipline, In other words, reviews and surveys are critical examination of information and literature on a particular subject or topic. They are often considered the highest level of intellectual reprocessing of information. A critical or an evaluative review or survey done by a specialist often highlights gaps in the research field and suggests new avenues for research. They not only cover what has been published but also stimulate thinking,

Reviews are of two types. (1) First, the bibliographic reviews, which emphasize bibliographic approach evaluating continuation in a subject or subject-oriented approach (2) the second, focussing on particular scientific or technical problem and its solution. Most of the reviews combine both these aspects.

&Mews appear in different forms and vary in frequency. The most well known are the annual series in specific subject fields. Annual Reviews Inc., California, US is a publisher interested in the advancement of the sciences. It has published high quality, reasonably priced Annual Review volumes in more than 25 major disciplines such as Physical and Natural Sciences, Medicine and related Sciences, Computer Science, Sociology, Psychology, Public health and so on. The volumes are organised by editors and editorial committees who invite eminent authors to contribute critical articles reviewing significant developments within each major discipline. They also appear in quarterly or monthly review journals, Reviews also appear as articles in primary journals. The titles of such reference sources contain terms like, Review of..., Annual Review of..., World Review of..., International Review of..., Review of Research in....., etc.

some of the examples of 'Reviews' are:

- 1) *Annual Review of Information Science and Technology (ARIST).*
- 2) *Macromolecular Reviews;* ed. by A. Peterlin et. al. Wiley, 1982.
- 3) *Reviews of Environmental. Continuation and Toxicology fed. by G. W. Ware. Springer, 1991.*
- 4) *Annual Review of Psychology.*



Reviews k Names of Journals

- 1) *Review of Plant Pathology* (Available different physical Formats).
Wallingford, Great Britain : CAB International

Paper	--	1922- 12 times per year
Diskette	--	1922- 12 times per year
Internet	--	1996- 12 times per year
- 2) *Review of Higher Education*. Baltimore : John Hopkins University Press.

Paper	--	1978- 4 times per year
Internet	--	1996 4 times per year.
- 3) *Reviews in Fish Biology and Fisheries*. Andover, Great Britain : Chapman and Hall

Paper	--	1991- 4 times per year
Internet	--	1996- 4 times per year

It should be noted that the term 'review' can also mean a 'book review'. Again it is often found that many works having a word 'review' in their titles are not always reference sources. This can be illustrated by taking the following examples.

- *Review of Research in Education*. Itasca: F. E. Peacock, 1973. It is an annual whereas *Review of Educational Research* is published as quarterly journal by the American Educational Research Association, Washington.
- *Mathematical Reviews* is an Abstracting Journal and *Review of Scientific Instruments and Physical Review* are both research periodicals, which are published annually or irregularly.

Some of the examples of 'Surveys' are :

- 1) *Cancer Surveys : Advances and Prospects in Clinical, Epidemiological and Laboratory Oncology*/edited by John Tooze New York : Cold Spring Harbor, 1982. Irregular
- 2) '*National Readership Survey*' Annual. London : - National Readership Surveys Ltd., 1989
- 3) *Fifth Survey of Research in Education*.
- 4) *OECD Economic Surveys*. Paris : Organisation for Economic. Cooperation and Development.

Paper	Annual -25 vols.
CD-ROM	1994-95- annual.

Surveys as Journal

Examples

- 1) *General Social Surveys*. Chicago ;National Opinion Research Center, 1972 - (Twice a year). It is also available in microfiche.
- 2) *Surveys and Reviews in Gerontology*, Israel : Israel Gerontologicas Society, 1969 - (4 times a year). (Text in Hebrew). (Formerly till 1995 it was named as - Israel Gerontological Society: Information Bulletin).
- 3) *Surveys in High Energy Physics; an international journal*'. Amsterdam, Netherlands: Gordon & Breach, 1980 - (2 times a year).
- 4) *Internet Surveys (12 times a year)*. It is a newsletter available only online.

5.3.2 Advance and Progresses

These categories of reference sources are generally serials, but they differ in format and frequency rather than in content from 'Reviews' and 'Surveys'. All these terms are used synony-



mously for a continuous series of reference books. The use of these terminologies, therefore, causes considerable confusion. By and large, it is noticed that the titles used are Advances in ..., Progress in..., Recent Progress in Report on Progress in..., Survey of Progress in and so on. These are synonymous.

Examples of Advances

- 1) *Advances in Librarians**. New York: Seminar Press, 1971-.
- 2) *Advances in Biophysics*. Biophysical Society of Japan (Published by Elsevier Science Ireland Ltd., Ireland). 1968 -. Annual.
- 3) *Advances in Horticulture and Forestry*. Jodhpur : India Annual Scientific Publishers.
- 4) *Advances and Technical Standards in Neurosurgery / ed. by Kraytenbuhi H. et al. Annual. Vienna, Austria :.Springer Verlag.*
- 5) *Advances in Computers*. New York: Academic Press, 1960 -. Annual.

Examples of Advances- Journals

- 1) *Advances in Atmospheric Sciences, Available in English and Chinese Languages*. Chinese Committee of Meteorology and Beijing Atmospheric Physics, China : 1984 (4 times a year).

5.3.3 Trend Reports

The main purpose of a Trend Report is to fulfill the specific information requirement of a specialist reader on a particular subject. It provides an account of the general direction of research in the subject based on a review of the documents on current developments. Trend Report is a highly useful LAC (Information Analysis and Consolidation) product, which facilitates the specialists in their research work. These may be adhoc documents in a particular subject or sometimes serial publications.

It provides first hand information about the research and development work that are being carried out in a country or throughout the world, in a consolidated form. This saves the time of the researcher, which can be utilized effectively for the research work. Trend Reports *are* generally produced in house by various R&D organisations.

The trend reports are also produced by International organisations like World Bank, UNESCO, FAO etc. and by other commercial publishers.

Examples of Trend Reports

- 1) *Trends in Banking in OECD Countries*. (1985). Paris : OECD.
- 2) *Trends in Solid Mechanics/ed. by J.F Banding A.M. and Van Der Heijden (198)*. Khunwar Academic. 256p.
- 3) *Trends in Food Science and Technology*. Mysore Association of Food Science and technology (1989).
- 4) *Trends in Cancer Research*. New York : World Health Organisation (1996)

UNESCO has come up with a series *on New Trends in Teaching of Different Science Subjects*. These publications present a thorough review and exemplification of current knowledge and practice in the field with wide coverage of material and ideas.

The titles under this series are:

- 1) *New Trends in Biology Teaching*
- 2) *New Trendy in Chemistry Teaching*
- 3) *New Trendy in Mathematics Teaching*
- 4) *New Trends in Integrated Science Teaching*.



5.4 USES OF THE STATE-OF-THE-ART REPORTS

With information explosion, it has become difficult for the researchers to keep track of all the publications in their field and the current trends in research. The indexing and abstracting services cannot cope up with the specific subject requirement of the specialist readers. The State-of the Art Reports, Reviews, Trends Reports, etc., can solve this problem to a great extent by providing consolidated information on specific subjects. The utility of such publications is two fold: one from the point of view of the historical development of the subject and the second from the point of view of the individual researcher. From the point of view of the historical function, these publications provide:

- 1) evaluation of the published literature;
- 2) Collection of information from the various sources;
- 3) Extraction of the necessary information, and
- 4) Identification of the emerging specialists.

From the user point of view, the following functions are served:

- 1) notification of the published literature;
- 2) Current awareness about the subject and other related fields; and
- 3) Back-up for literature searching to be carried out in future.

Self Check Exercise

- 2) Discuss the functions of State-of-the-Art Reports, Reviews Trend Reports, etc.

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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5.5 EVALUATION

Like any other reference sources, the following general criteria for evaluation are applicable for the State-of-the-Art Reports and similar publications:

- 1) Quality of information in relation to:
 - Precision and accuracy
 - Authenticity
 - Credibility of the sources
 - Recency
- 2) Scope and Coverage in terms of
 - Completeness of information.
 - Comprehensiveness of subject or topic covered.



- 3) Appropriateness in terms of
 - Needs and requirements
 - Avoiding information overload
 - Befitting the levels of sophistication. and language
- 4) Hagggle and Hassle free in terms of:
 - No time lag i.e. published at regular intervals
 - Ease of access
- 5) Costs involved, i.e.
 - Direct cost of obtaining the service
 - Indirect cost of post processing

Apart from the above general criteria, the following special criteria for evaluation are needed to assess the quality of the state-of -the-art reports and similar other publications.

- 1) Completeness : Comprehensive coverage of the literature.
- 2) Perspective : It should be directed towards the given subject.
- 3) Analysis : It should be thorough, with in-depth analysis of the subject.
- 4) Synthesis : The material should be produced in a compact format.
- 5) Value added : It should serve as an addition to the information database.
- 6) Utility : It should be able to serve multiple purposes.

5.6 SUMMARY

Information explosion and availability of information in variety of languages and formats creates problem for their effective use. Information consolidation and repackaging can solve these problems to a great extent. State-of-the-art reports, Trends Reports, Reviews, Advances, etc., are examples of information consolidation and repackaging which can overcome the barriers in the use of information. In this Unit various categories of State-of-the"-art reports have been discussed along with their utility and evaluation aspects.

5.7 ANSWERS TO SELF CHECK EXERCISES

- 1) The objectives of information consolidation are:
 - to enhance the effectiveness of information transfer;
 - to encourage Intensive use of information scattered all over for developmental activities; and
 - to fulfil information requirements of the potential users by repackaging information in evaluated and synthesized from.
- 2) The functions of State-of Art Reports, Trends Reports, Reviews, etc. are:
 - i) From the point of view of the historical development of the subject:
 - a) evaluation of the published literature,
 - b) collection of information from the various sources,
 - c) extraction of the necessary information, and
 - d) identification of the emerging specialists.



- ii) From the point of view of the researcher:
 - a) notification of the published literature.
 - b) current awareness about the subject and other related fields.
 - c) Back-up for literature searching to be carried out in future.

5.8 KEY WORDS

Consolidation of Information : It involves investigation of all primary documents for a particular subject, collection of information, analysis and checking of validity and consolidating for dissemination.

Repackaging of Information : Collection of information for different sources and in different forms and putting them together and presenting in another form to facilitate the work of the user.

5.9 REFERENCES AND FURTHER READING

Atherton, Pauline (1977). *Handbook for Information Systems and Services*. Paris: Unesco.

IGNOU, MLIS-04, Block 3 - *Information Products*, Unit 11 - State-of-the Art Reports and Trend Reports. PP. 27-40.

Saracevic, Tetko (1996). *A Course in Information Consolidation: A Handbook for Education and Training in Analysis, Synthesis and Repackaging of Information*. Paris: Unesco. PG 1-86/WS/14.

Activities

Visit any library in your town, and study the contents of the State-of-the-Art Reports discussed in this unit.