CHAPTER II

REVIEW OF LITERATURE

The review of literature not only provides glimpses into earlier studies carried out in this particular arena, but also reflects the direction in which it is moving. The review of OPAC studies is presented in a chronological order.

Moore (1981) surveyed the use of OPACs in the North American higher education libraries. In this study user search success and failure rates were compared and their opinions analysed. The study revealed that there was wider acceptance by the users and suggested for the further improvement.

Doszkocs (1983) presented the unique subject search capabilities of the National Library of Medicine CITE Public Access Online Catalogues such as, natural language query input, automatic display of medical subject, headings, closest match, search strategy, ranked output and the use of dynamic end user feedback for search refinement.

Broadus (1983) reported the CLR study on online catalogues in which most of the users showed positive attitude towards OPAC.

Simirenko (1983) surveyed and analysed the OPAC usage patterns and stressed the need for point-of-use prompts and bibliographic instructions.
Bishop (1983)\(^5\) reported a study of responses of users of Association of Research Libraries (ARL) and compared their responses with those of public library users. The OPACs surveyed were MELVYL system, Syracuse University SURLIS system and Ohio State LCS system.

Cochrane et al., (1983)\(^6\) offered some directions for analysing user behaviour, monitoring existing OPACs and stressed the need for the user - system interaction in an OPAC.

Markey (1983)\(^7\) came out with the findings of the focussed group interviews conducted by OCLC, which points out that the users and staff accepted the OPAC, but at the same time they expressed difficulties in subject access.

Matthews and Lawrence(1984)\(^8\) reviewed the report of the project entitled 'Online Public Access Project' of CLR (Council on Library Resources) which surveyed the OPAC users and non users in 31 libraries in the United States.

Steinberg and Metz (1984)\(^9\) studied the perceptions of the users of OPAC at the Verginean Tech Library System of the Verginean Polytechnic Institute and State University. Major findings are printed instructions helped in the consultation and searching of OPAC and highlighted the popularity of subject search.
Markey (1984) in an another attempt studied (through survey, transaction log analysis and focused group interviews) the needs of library users for online and offline assistance while searching OPAC.

O'Connor (1984) studied the user acceptance of OPAC installation, its system, but in particular, user attitudes towards the computer technology itself.


Chih Wang (1985) studied the problems associated with Library of Congress Subject Headings (LCSH) and the OPACs, along with the suggestions for improvements.

Carson (1985) observed in his study that subject access received a major share in the design of an online catalogue.

Croucher (1986) studied the problems of subject access in an OPAC at Middlesex Polytechnic, London, which examined the use of existing catalogue facilities by students that led to the experimental evaluation of various interface design for an OPAC.

Sager (1986) made an attempt to study the use of library assistants to provide on-demand assistance to users of Online Public Access Catalogues (OPACs) as a part of instructional programme. The study also highlighted the staff training programmes developed at Arizona State University Libraries.
Hancock-Beaulieu (1987) studied the subject searching behaviour of the users belonging to City University Library, London using a holistic approach encompassing the use of bibliographic tools and self browsing and examined the implications for online interactive catalogue.

Getz (1987) reported the measures of the gain in search time and likelihood of success in known item searches with the ACORN automated cataloging at Vanderbilt University.

Nielson and Baker (1987) conducted a study at North Western University and provided a model for the development and evaluation of an OPAC user education programme that could be employed by academic libraries with any number of different online catalogues.

Liptezy and Paulson (1987) studied the OPAC catalogue users of New York State Library with an aim to detect and measure the impact of online catalogue use and subject searching capabilities.

Ashoor and Khurshid (1987) presented the results of the OPAC users survey at the University of Petroleum and Mineral Library in Deharan, Saudi Arabia and compared the results with the studies conducted by the Council on Library Resources (CLR) which showed preference for known item searches over subject searches.

Frost (1987) conducted a survey of 196 faculty members of Houston University at University Park Library, focused on the use of subject search in card and online catalogue. Subject search pattern of faculty in humanities and
social sciences was compared with that of their colleagues in the fields of natural sciences and engineering.

Kaske (1988)\textsuperscript{23} studied the percentage of subject searching in an OPAC of Virginia Tech Library System (VTLS). The subject search varied from a low of 35\% to a high 52\% over the weeks of the semester.

Kaske (1988)\textsuperscript{24} in another attempt studied the degree of variability in the percentage of subject searching in an OPAC among branch libraries in the University of Albana. The subject search varied from low of 22\% to a high of 74\% over the hours of the day.

Weiming Li (1988)\textsuperscript{25} conducted a survey at New South Wales Institute of Technology with regard to the users comments on the existing GEAC OPAC system concerning search strategy, search results and response time.

Slack (1988)\textsuperscript{26} reported a survey carried out in the preliminary stage of a programme undertaken in the Department of Library and Information Studies, Manchester Polytechnic. The main purpose of this study was to evaluate, help and instruction facilities available for inexperienced users of OPACs in British academic libraries.

Bilazek and Billal (1988)\textsuperscript{27} studied the OPAC in Strozier Library of Florida State University. It made an attempt to study characteristics of users, types of searches they conducted and the effects of their experience with the system.
Byrne and Micco (1988)\(^28\) conducted a study in the Australian Defence Force Academy Library OPAC to upgrade subject access in it by adding an average of 21 multiword terms from the table of contents and/or index to the 653 fields in the MARC record for each book.

Hartley (1988)\(^29\) discussed the limitations and assumptions of catalogue presentation with particular reference to subject access in OPACs and identified two ways to improve subject access. The first one is the enhancement of content representation in the catalogue record and the other one is the removal of obstacles in the improvement of subject access.

Wood (1989)\(^30\) surveyed the OPACs in public libraries in UK with their system environment, user behaviour, display of data, searching of OPAC and concluded positively that OPACs facilitate searches easy with customer satisfaction.

Jouguelet (1989)\(^31\) studied developments in subject access in OPACs in France, and revealed that the use of an OPAC is direct, without intermediaries and without prior training, when compared to the database searching.

Stone (1989)\(^32\) studied certain issues for OPAC subject searching challenging for law libraries. The major issues are the impact of subject access in the design of shared OPACs and the special problems regarding subject searches on government agency names and titles of laws, the difficulties with
law related subject headings, keyword and call number searching, from the law library perspective.

Akeroyd (1990)\textsuperscript{33} studied the information seeking behaviour in online catalogues by using transaction logging as a methodology to study different interfaces for OPAC. The results showed that users of the catalogue employed different approaches and prepared to undertake sustained searching till something was retrieved.

Hildreth (1990)\textsuperscript{34} evaluated the usability and retrieval performance of a pre-structured navigation approach, subject searching and browsing in an online catalogue, and analysed users' responses and the impact of search performance.

Muncer, et al., (1990)\textsuperscript{35} surveyed the use of ALS browser terminals for OPACs in twelve public libraries in Hertfordshire.

Slack and Wood (1990)\textsuperscript{36} studied subject access provision in UK OPACs, and discussed a research programme at Manchester Polytechnic which identified the conceptual problems created by subject searching, including general OPAC instructions, inputting search terms, refining search strategy and the subject description of each record.

Furniss (1990)\textsuperscript{37} emphasized the need for a thorough assessment of the provision of subject access in OPACs and proposed a methodology based on the proposition that it is essential to take into consideration the theory on which subject access is based.
Riesthusis and Stuurman (1990) examined the trends in subject indexing in OPACs in Netherlands, which revealed that both librarians and the public were familiar with OPACs.

Knuston (1990) studied and compared online catalogue with the existing card catalogue of an academic research library to detect levels and types of errors, which revealed that online catalogue was more accurate to present progressively more problems to users.

Hancock-Beaulieu, Robertson and Neilson (1991) investigated the tools, techniques and methods for the evaluation of interactive library catalogues with emphasis on diagnostic methods and use of the catalogue in the wider context of user information seeking behaviour.

Yee (1991) attempted to identify research methods and findings applicable to the design of effective user interfaces to OPACs, and reviewed the current research on user interfaces to OPACs.

Lancaster et al., (1991) have performed 51 subject searches in an OPAC containing about 4.5 million records whose success was judged in terms of list of items known to be relevant to the various topics, compiled by subject specialists.

Cunnell (1991) examined user beliefs about the accuracy of information found in manual and computer catalogues in libraries of Millikin University, Illinois.
Kalin (1991)\textsuperscript{44} studied the remote user searching behaviour in the OPAC of Pennsylvania State University through either dial access or the University's computer network, and compared to the searches done by in-house users.

Alexander (1991)\textsuperscript{45} surveyed the users of card catalogue and OPAC in the Sterling C. Evans Library at Texas, A & M University and analysed the user preferences for card catalogue or OPAC.

Dwyer (1991)\textsuperscript{46} identified specific reasons for the failure of library users to locate known items in an OPAC at the State University of Newyork at Albana.

Meyer (1991)\textsuperscript{47} described the experiences gained in the installation of the OPAC at the University of Cape Town Libraries. This study discussed how to provide online assistance to end users in a networked environment.

Basista, Micco and Rambler (1991)\textsuperscript{48} described the OPAC research project at Indiana University Pennsylvania library which emphasised on the design of a user interface to improve access and retrieval in large textual databases.

Ferl and Millsap (1992)\textsuperscript{49} presented the results of the survey of users of University of California's MELVYL Library system via micro computers with modems or connections carried through local or wide area networks.
Ensor (1992) studied user practices in keyword and Boolean searching modes in an OPAC.

Cherry and Clinton (1992) studied five different OPAC systems at Ontario University Libraries. About 2916 users consisting of undergraduates, graduates and faculty were interviewed to determine their satisfaction with the OPACs.

Ensor (1992) in another survey at Indiana State University determined the scale of use of the searching features of the NOTIS (North Western Online Totally Integrated System) online catalogue. It identified that the use of keyword and Boolean operators for search varied according to the age, status, frequency of library use and expertise in computer operations.

Millsap and Ferl (1993) studied the search behaviour of remote users of the University of California MELVYL Library system OPAC through transaction log analysis.

Hancock - Beaulieu (1993) made a comparative analysis of the subject searching behaviour in the Public library (The Borough of Croydon) and academic library (city of London Polytechnic) catalogues, and focused on the role of browsing subject headings and brief references in search formulations.

Cherry, et al., (1994) evaluated the functional capabilities and interface features of OPAC in twelve Canadian academic libraries using a checklist.
Kiestra, Stokmans and Kamphuis (1994) conducted an experiment in Tilburgh University where students from three different fields performed a number of searches in an online catalogue and tested the impact of system and domain knowledge on search behaviour.

Zumer and Zeng (1994) compared and evaluated the functional capabilities and interface characteristics of OPACs of Ohio LINK and its sixteen member libraries.

Hancock - Beaulieu, Field House and Theindo (1995) evaluated an interactive query expansion facility based on relevance feedback for the OKAPI probabilistic term weighting retrieval system which was implemented in graphical user interface environment using a game-board metaphor for the search process.

Spink (1996) studied a multiple search sessions model of end users' behaviour with OPACs at different stages of information seeking behaviour, which found the end user training as essential for the effective search strategy.

Drabenstot and Weller (1996) tested a new subject access design in an experimental online catalogue that had a wide range of subject searching capabilities and search trees to govern the system's selection of searching capabilities in response to user queries.

Hsieh - Yee (1996) surveyed the students of Catholic University of America and the University of the District of Columbia which found that OPACs were the more commonly used information channels than others.
Hildreth (1997) studied the keyword and Boolean searching behaviour of the users of online catalogue at the University of Okhalahama.

All the studies presented above differ with each other. However, they attempt to supply information on the following aspects:

a. Users of the OPAC
b. Approaches to the OPAC
c. Purpose for using the OPAC
d. Types of catalogue information found useful by the users or patrons
e. The system performance

All these online catalogue use studies indicate an overwhelming acceptance and high user satisfaction and have also been interpreted as a mandate for enhanced subject access.

Further the analysis of the literature survey indicates that a various methods and approaches have been used to investigate or evaluate OPACs which may be grouped into two categories.

The first consists of methods that aim to measure overall system performance through retrieval tests, and includes comparative studies and controlled experiments. The second group includes more user oriented, diagnostic analytical methods and may for example, use transaction log analysis, protocol analysis or talk a loud techniques as well as the other usual
methods of eliciting information from users (i.e. questionnaires and interviews)\textsuperscript{63}.

The research reported in this thesis belongs to the second category stated above.

The literature review, the output of the literature generated from India on this theme under study is almost nil. Most of the contributions relate to United States of America and United Kingdom.