Chapter III

Interactive IR in Online Database Environments

Overview of Online Database Environments

History and Background

The Internet has introduced the concept and capability of information retrieval to millions of users. There is an increasing growth in databases, producers, vendors, records, and searches. Williams (2006) has monitored the growth of the online industry for about 30 years. From 1975 to 2005, databases increased considerably, from 301 to 17539, database records from 52 million to 21.02 billion, and database entries from 301 to 16532. The number of producers has not grown as fast as databases because one producer might publish multiple databases. The number of publishers increased from 200 to 3208 from 1975 to 2005. In 2005, the average producer produced 5.13 databases. Because each vendor might provide services from multiple databases, the number of vendors grew at a slower pace from 105 to 2811.
According to Walker and Janes (1999), the development of online databases started in the 1960s. The US National Library of Medicine provided the off-line on-demand batch searching of their MEDLARS systems to Medical professionals in 1964. After that, Lockheed Missiles Corporation (Dialog), Systems Development Corporation (SDC), and Chemical Abstracts Service (CAS) developed their versions of search services. In 1968, Medline was the first to offer online dial-up service. Right after that, in 1972, Dialog and ORBIT (SDC) started commercial online services. Williams (2006) identified the major vendors of abstracting and indexing databases: OCLC (FirstSearch), Questel Orbit, STN International, Thomson Dialog (Dialog and DataStar), and the US National Library of Medicine. Vendors of numeric databases are Genios, Reuters, CSA, FIZ technik, and STN International. LexisNexis and Westlaw are popular vendors for law databases.

**Definition of Online Databases and Major Elements of the Online Industry**

An online database is a database of either full-text documents or citations and abstracts accessible via telephone or Internet connection. The online industry is responsible for the development, design, dissemination, and use of online databases and services. It consists of three basic elements: database producers, online vendors, and information searchers. Walker and Janes (1999) illustrated the three elements of the online industry:

- **Database producers** collect and index documents, and transfer the records into machine-readable form. Database producers consist of government agencies (e.g., National Library of Medicine), professional/academic organizations (e.g., American Psychological Association), and commercial organizations (e.g., Institute for Scientific Information).

- **Online vendors** create a common interface and common language for users to search for a variety of databases online. Some of the major vendors are discussed in the previous section.

- **Information searchers** are the users that search for online databases. Information professionals are the major searchers for online databases at the early stage of online database development, and they are the intermediaries between general users and online systems. In recent years, end users have become the searchers of online databases, because of the emergence of Internet and Web search engines as well as the simplified interfaces of online databases.
Integrating Technical Advance in Mobile Devices to Enhance the Information Retrieval in Mobile Learning
www.igi-global.com/article/integrating-technical-advance-in-mobile-devices-to-enhance-the-information-retrieval-in-mobile-learning/113333?camid=4v1a