The Library Information Systems:
Its Advantages, Problems and Difficulties

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Abstrak: *Pemanfaatan perpustakaan sebagai pusat informasi dalam proses pembelajaran merupakan suatu system informasi yang tidak terlepas dari system pengorganisasian, pengolahan, penyimpanan, dan penemuan kembali koleksi dalam rangka memenuhi kebutuhan yang bermacam-macam dari para penggunanya. Hal ini, sudah menjadi suatu keharusan bagi perpustakaan untuk memiliki system kendali informasi yang kuat dengan mengambil alih teknologi informasi yang ada. Di sisi lain ternyata penerapan teknologi informasi ini masih memeliki kekurangannya, walau pada dasarnya ditujukan untuk mempermudah atau memfasilitasi para penggunanya.*

Kata Kunci: *Sistem Informasi Perpustakaan*

INTRODUCTION

Information has achieved a high profile in modern society. People in all walks of life are familiar with a constant flow of information. The information can come from newspapers, television and radio, personal electronic devices such as pagers and handle computers, as well as information kiosks, which promise to become everyday features of our lives (Pantry 1998, p. 1). We, as a part of society, live and learn in a world that has been radically altered by the ready availability of vast sources of information in a variety of formats.

A library is a centre of information in a studying and learning process. A library information system is: 'an organised system for collecting, processing, storing and retrieving information to satisfy a variety of needs' (Pritherch 2000, p. 375). To gain these goals a library has to use an appropriate system. Nowadays, many libraries use computerised systems in organising the information they have in order for it to be retrieved easily by users. However, the systems used by the libraries create not only advantages but also create problems and difficulties. This paper will explore some of these as well as some of difficulties in library systems, and conclude with the idea that a library must have a good system and evaluate the system for evaluating difficulties faced by its users.

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COMPUTER-BASED LIBRARY INFORMATION SYSTEMS

1. Advantages

As we know, the function of a library is to collect, process, store and facilitate retrieval information in order to fulfil the needs of the community. It is important that the information system should be efficient for its users. A good system will have many advantages, such as providing: 'multiple access points to a document, handle complex search strategies, generate printed output, collect operating data automatically, and produce a variety of services from a single input' (Walker & Janes 1995, p.16).

With the aid of such a system, users will be able to use an approach that is familiar to them for getting the information they need. If they cannot find the information they need in one way, they can use other approaches because a library information system should provide multiple approaches employing title, author, subject, etc. A good system, moreover, can assist users to access a site effectively and thereby retrieve the maximum amount of information they want (Jarvis 2000). In this case, users have opportunities to find some suitable documents they need without wasting time searching. They can use 'Boolean logic', such as *and* and/or *not* to specify their searches and *or* if they wish to broaden their search. The needs of the users can only be met if a library offers good multiple approach systems. Such an approach has many advantages.

2. Disadvantages

As well as the advantages offered by library information systems users will also encounter difficulties. Walker and Janes (1995), state that there are three weaknesses of a library information system. The first is that it lacks searcher interaction because a searcher has no browsing capability, which is different from the traditional search process using a manual catalogue. It is frequently the case that a request for a search is sent to a specialist searcher, known as an *intermediary*, who often has minimal or no contact with the individual who makes the request. The information received by the searcher is sometimes different from what he/she really wanted. The second disadvantage is that there is a delay in response that is largely the result of the way in which searches are processed. Even a complete search has to be

repeated if a result proves unsatisfactory to the user. The last disadvantage is that sometimes the searchers do not understand how *search engines* work to assist their search process, which is probably caused by lack of user education program.

EVALUATION OF LIBRARY INFORATION SYSTEMS

Criteria of Evaluation

As the search is followed by some disadvantages, the systems should be evaluated and revised continuously. The real purpose of evaluation is to find out how to make things better. There is a difference between *effectiveness* and *efficiency*. According to Herner & Sapper, "effectiveness is doing the right things and efficiency is doing the things right" (Marshal 1989 p. 47). A search should be evaluated to see if it meets its goals whether the basis of its goals is theoretical or practical. In most cases, Rowley (1995, p. 171) states that a user expects that a search will retrieve relevant documents, which most experts have defined as a *recall ratio* (the number of documents which are actually wanted in proportion to the number of documents retrieved in response to a question on a given theme) as a quantitative degree of success in relevant citations and literature. It can be expressed as:

$$\text{Recall ratio} = \frac{\textit{Number of relevant documents retrieved}}{\textit{Total number of relevant documents in the system}} \times 100$$

However, there may be cases, for example, in searching pattern for a certain system used, the user is delighted when no relevant documents are retrieved. A companion measure of success, withholding what is not wanted, is the *precision ratio* (the ratio of retrieved relevant documents to the total number of retrieved documents) defined as:

$$\text{Precision ratio} = \frac{\textit{Number of relevant documents retrieved}}{\textit{Total number of documents retrieved}} \times 100$$

The precision ratio measures the efficiency with which the system is able to achieve a particular recall ratio. The precision ratio may also show the measure of effort required by the researchers to achieve a particular ratio.

Recall and precision ratio tend to vary inversely in searching, so that when a search is broadened to increase recall, precision tends to be reduced. A user writing a state of the art report may need high recall, while a laboratory worker seeking a specific analytical method needs high precision. In discussing experimental techniques of information retrieval, in particular evaluation, McGill & Huitfeldt (Marshal 1989, p. 48) say that the concept of relevance is central to retrieval information, and although precision and recall are firmly entrenched measures of effectiveness, additional efficiency criteria are needed especially ones involving human and machine effort as well as cost.

Relevancy

The term relevance can have a diversity of meanings, as shown by Bookstein (Marshal 1989, p. 49), who affirms that the relevance decision belongs to the user, that is, relevance is the degree to which the user senses that his/her need in using the system has been satisfied. Relevance may not necessarily be the same as topicality. Sometimes a document on a different topic may satisfy a user's need. A relevant document may be judged unsatisfactory if the patron is already familiar with it, or is interested in a different aspect of the topic. The purpose of the search is to satisfy the patron, not match subjects to requests, no matter how well matching process proceeds (Marshal 1989, p. 49).

For years, there has been no practice substitute for the concept of relevance as a criterion measurement for quantifying the effectiveness of an information retrieval system. In the context of a user's interaction with an information retrieval system, "relevance is a psychological predicate that describes his/her acceptance or rejection of a relation between the meaning or content of a document and meaning or content of a question" (Greisdorf & Spink 2000, p. 211).

Relating to the conclusion I would like to give some suggestions that a library must carefully consider before adopting a certain system to be applied to it. A good cooperation among libraries is needed to unify the systems they use. The systems they use ought to be evaluated regularly to outweigh their weaknesses. The user education programs should be given to the users in order to respond to the needs of the users so that the library will really be able to satisfy a variety of information needed by its users. In the ways, the main purposes of libraries to provide the maximum needs of information to all of its users will be able to reach in the future.

REFERENCES

Dennis, H et al. 2002, 'An Empirical Analysis of Web Catalog User Experience' *Information Technology and Libraries*, vol. 21, issue 4, viewed, 23 May 2003. <http://web20.epnet.com/citation.asp?tb=1..>

Eisenberg, MB & Berkowitz, RE 1990, Information Problem-Solving: the big skills Instructions, Ablex Publishing Cooperation, England.

Fitzgerald, MA 2001, 'Helping Students Use Virtual Libraries Effectively,' *Teacher Librarian*, vol. 21, issue 1, From EBSCO HOST, viewed, May 23, 2003. <http://web20.epnet.com/citation.asp?tb=1&-ug=dsb+0+1n+en2Dus...>

Greisdorf, H & Spink, A 2000, 'Recent Relevant Research: implications for information professionals,' *Online Information Review*, vol. 24, no. 5

Jarvis, R (ed) 2000, *Evaluating Website*, One Person Australian Librarian Group, Sydney.

Lee, JH (ed) 1989, Online Searching: the basics settings and management, 2nd edn, Libraries Unlimited, Colorado.

Marshal, DB 1989, 'Search Evaluation' in Lee, JH ed. 1989, Online Searching: the basics, settings and management, 2nd ed. Libraries Unlimited, Colorado.

Pritherch, R 2000, Harold's Librarians Glossary and Reference Book, Gower, England.

Rowley, J 1995, Organizing knowledge; an introduction to information retrieval, Ashgate, England.

Walker, G & Janes, J 1995, *Online Retrieval: a dialog of theory and practice*, Library Unlimited, Colorado.