CHAPTER TWO
LITERATURE REVIEW

Introduction

Literature on information needs and use amongst humanities scholars are modest when compared with similar literature in the sciences and social sciences. *Library and Information Science Abstract (LISA)* from 1969 to October 1996 was searched to retrieve titles discussing issues about information needs and use of humanities scholars. The following terms were used to search for the relevant articles: citation analysis, citation study, bibliometric study and humanities. Relevant titles were also obtained from an article “Citation studies in the humanities and social sciences: a selective and annotated bibliography” by Herubel and Buchanan (1994). Duplications were found, where some titles appeared in both of the sources. The number of related literature retrieved increased when more articles were located from footnotes of the individual articles. Table 2.1 shows a total of 97 references retrieved (Appendix 1), out of which 24 (24.7%) are dissertations, 56 (57.7%) journal articles, 11 (11.4%) proceeding papers and research reports and 6 (6.2%) monograph and monographic articles.

Table 2.1: Total and Type of References on Information Needs and Use of Humanities Scholars

<table>
<thead>
<tr>
<th>Type of References</th>
<th>n= 97</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Books</td>
<td>6</td>
<td>6.2</td>
</tr>
<tr>
<td>Dissertations</td>
<td>24</td>
<td>24.7</td>
</tr>
<tr>
<td>Journal articles</td>
<td>56</td>
<td>57.7</td>
</tr>
<tr>
<td>Proceedings/Report</td>
<td>11</td>
<td>11.4</td>
</tr>
</tbody>
</table>
Table 2.2 shows the frequency of journal titles that contribute to the subject in question. A total of 56 journal articles appear in 28 journal titles, and 3 journals contributed to a third of the total articles on this subject contributing between 6 to 8 articles each. *Library Quarterly* tops the list by contributing 8 articles, *Collection Management* contribute 7 articles and *College and Research Libraries* contribute 6 articles. The 3 journals above contribute about 21 (37.5%) of the total articles on the subject. The moderately contributive journals in this subject which contributed 3 articles each are *Journal of Librarianship, Library & Information Science* and *The Serials Librarian*. Four journal titles contribute 2 articles each and these are; *Journal of Information and Library Science*, *International Library Review*, *Notes: Journal of the Music Library Association* and *Reference Librarian*. Eighteen journals contribute only one article each. Table 2.2 indicates that by covering the 6 ranked journal titles mentioned, a library would have easily obtained more than half of relevant references on the subject under study.

Ninety-seven articles retrieved on information needs and use of humanities scholars can be grouped into four broad categories as follows.

1. Those that discuss the relationship between the humanities scholars and the library.

2. Those that describe the information seeking behaviour of humanities scholars.

3. Those that describe the characteristics of information sources used by the humanities scholars within specific disciplines.

4. Those that study the citation patterns of humanities scholars in general and in comparison with scholars from other disciplines.
Table 2.2: Frequency of Journal Titles Covering the Information Needs And Use by Humanities Scholars

<table>
<thead>
<tr>
<th>No.</th>
<th>Journal titles</th>
<th>Frequency n=56</th>
<th>Cumulative Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Library Quarterly</td>
<td>8</td>
<td>8</td>
<td>14.28</td>
</tr>
<tr>
<td>1.</td>
<td>Collection Management</td>
<td>7</td>
<td>15</td>
<td>12.5</td>
</tr>
<tr>
<td>1.</td>
<td>College &amp; Research Libraries</td>
<td>6</td>
<td>21</td>
<td>10.71</td>
</tr>
<tr>
<td>3.</td>
<td>J of Librarianship</td>
<td>3</td>
<td>24</td>
<td>5.36</td>
</tr>
<tr>
<td></td>
<td>Library &amp; Information Science</td>
<td>3</td>
<td>27</td>
<td>5.36</td>
</tr>
<tr>
<td></td>
<td>The Serials Librarian</td>
<td>3</td>
<td>30</td>
<td>5.36</td>
</tr>
<tr>
<td>4.</td>
<td>J of Information &amp; Library Science</td>
<td>2</td>
<td>32</td>
<td>3.57</td>
</tr>
<tr>
<td></td>
<td>International Library Review</td>
<td>2</td>
<td>34</td>
<td>3.57</td>
</tr>
<tr>
<td></td>
<td>Notes: J of the Music Library Association</td>
<td>2</td>
<td>36</td>
<td>3.57</td>
</tr>
<tr>
<td></td>
<td>Reference Librarian</td>
<td>2</td>
<td>38</td>
<td>3.57</td>
</tr>
<tr>
<td>18</td>
<td>Others (appearing only once)</td>
<td>18</td>
<td>56</td>
<td>32.15</td>
</tr>
</tbody>
</table>
Table 2.3 shows the breakdown of the 97 studies on Information needs and use of humanities scholars by broad categorisation. Such distribution indicates that over half (65 or 67%) of total studies covering the information needs and use of humanities scholars dealt with the characteristics of the information sources used within specific disciplines (category 3) especially so between 1980 and 1989. The remaining studies dealt with the general characteristics of citation pattern of the humanities scholarship, (category 4, 15 or 15.45%); the relationship between humanities scholars and the library (category 1, 10 or 10.31%); and information seeking behaviour of the humanities scholars (category 2, 7 or 7.24%). The total distribution pattern of articles retrieved by year indicate that studies on humanities scholarship have increased from 10 (10.31%) in the pre-70s and peaked to 51 (52.58%) in the 1980s. This indicates a gradual increase of interest amongst the researchers as information seeking and use behaviour of humanities scholars, but it tapers off at a modest rate of 16% in the 90s.

A closer analysis of the studies on the characteristics of information sources used indicates the subjects which have been covered (Table 2.4). These topics include scholars' information needs in archaeology, fine arts, history, literature, musicology, philology, philosophy, religion, and speech. Among the 65 articles, literature (18), history (14), and musicology (8) are popular research areas.
### Table 2.3: Subject Categorisation of Studies on Information Needs and Use of Humanities Scholars

<table>
<thead>
<tr>
<th>Category</th>
<th>Pre 70s</th>
<th>1970-1979</th>
<th>1980-1989</th>
<th>Post 90s</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humanities scholars and the library</td>
<td>2</td>
<td>1</td>
<td>5</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Information seeking behaviour</td>
<td>-</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Characteristics of information sources used within specific disciplines</td>
<td>8</td>
<td>15</td>
<td>32</td>
<td>10</td>
<td>65</td>
</tr>
<tr>
<td>General humanities scholarship</td>
<td>-</td>
<td>2</td>
<td>10</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>10</td>
<td>20</td>
<td>51</td>
<td>16</td>
<td>97</td>
</tr>
<tr>
<td><strong>%</strong></td>
<td>10.31</td>
<td>20.62</td>
<td>52.58</td>
<td>16.49</td>
<td>100</td>
</tr>
</tbody>
</table>

### Table 2.4: Subjects Covered by Studies Relating to the Characteristics of Information Sources Used by Humanities Scholars

<table>
<thead>
<tr>
<th>Subjects</th>
<th>Pre 70s</th>
<th>1970-1979</th>
<th>1980-1989</th>
<th>Post 90s</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Archaeology</td>
<td>-</td>
<td>1</td>
<td>1</td>
<td>-</td>
<td>2</td>
<td>3.08</td>
</tr>
<tr>
<td>Fine arts</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>6.15</td>
</tr>
<tr>
<td>General</td>
<td>-</td>
<td>1</td>
<td>5</td>
<td>1</td>
<td>7</td>
<td>10.77</td>
</tr>
<tr>
<td>History</td>
<td>2</td>
<td>2</td>
<td>8</td>
<td>2</td>
<td>14</td>
<td>21.54</td>
</tr>
<tr>
<td>Literature</td>
<td>1</td>
<td>5</td>
<td>9</td>
<td>3</td>
<td>18</td>
<td>27.69</td>
</tr>
<tr>
<td>Musicology</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>8</td>
<td>12.31</td>
</tr>
<tr>
<td>Philology</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>1.54</td>
</tr>
<tr>
<td>Philosophy</td>
<td>-</td>
<td>-</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>7.69</td>
</tr>
<tr>
<td>Religion</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>-</td>
<td>5</td>
<td>7.69</td>
</tr>
<tr>
<td>Speech</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>1.54</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>8</td>
<td>15</td>
<td>32</td>
<td>10</td>
<td>65</td>
<td>100</td>
</tr>
</tbody>
</table>
The following section of this chapter consists of three parts. Part one discusses library use studies involving the application of citation analysis to evaluate library collection and scholarly literature, focusing in particular on citation analysis in the humanities. Part two examines the relationship between humanities scholars and the library, covering the questions of how the humanists use the library, what sources are vital for humanities scholarship, how can the library support humanities scholarship and what are the collections and services essential to humanities scholars in terms of satisfying their information needs and use. Part three analyses and reviews the characteristics of humanities scholarship, including the research nature and work habit of these scholars, how this effect their information seeking behaviour, the characteristics of the materials used by humanists by previous studies in citation analysis of literature uses.

**Part One: Library Use Studies**

Bolt and Newman (1964) estimated that more than 200 million books have been published since the time of Gutenberg. It is, not easy for any library to be able supply a significant proportion of any particular works wanted by the users (Broadus, 1977). Though a library could afford a collection of two million unduplicated volumes, not every volume of the collection would be utilised. Hence, the selection of titles is crucial. Satisfying user's information need is one of the primary goal of every library. Therefore, one of the important questions need to be answered in library and information science is: “Who uses what publications, and for what purposes? Accurate and complete answers to this question would not only throw light on the process of information transfer, but would help in the
design of library and information services, especially collection development and management. (Broadus, 1987)

Librarians are expected to know how to determine the nature of those needs. Many studies have been conducted by information specialists to find out the various aspects of information needs. The topics studied included, "the use of information services, the users of these services and their preferences, information dissemination and flow, user's information seeking behaviour and information use, types of information needed to carry out work tasks, solve scientific, social, economic, political and practical problems" (Jarvelin & Repo, 1984; cited in Hills, 1987).

Use studies provide the most direct way in evaluating the adequacy of a library's collection. This involves analysing the data obtained from circulation records (borrowed items), in-house use, interlibrary loan requests and citation to materials held within the library's collection (Kelland & Young, 1994). Researches on the use studies have appeared in library science literature as early as the 1930s, but had received little attention until the 1970s. These studies were concerned with avoiding fund allocations for materials that would be of little use (Perrault, 1983).

Several methods were adopted in library use studies. Heidenwolf (1994) broadly grouped them into collection-centered and use-centered methods. Collection-centered method included the examination of the collection by experts, quantitative studies of the collection
and comparison of collections against bibliographies as well as other collections. Use-centered methods involve analysing circulation or interlibrary loan statistics, and patron surveys. Sylvia and Lesher (1995) proposed a combination of both methods for evaluating library collection such as, checking specific lists and bibliographies against the collection; having experts in the literature to examine the collection directly; compiling comparative statistics on collection size and expenditures (collection-centered); studying circulation and in house use; surveying user opinions; shelf availability studies; analysing inter-library loan statistics (use-centered).

A more recent and objective approach is the analyzing of researchers and bibliographic citations. Broadus (1987), favours the citation studies approach as it deals only with materials users thought significant enough to cite. There is no one method which, when used alone is sufficient to provide all information needed for a good collection evaluation and academic libraries are involved currently in using a combination of collection evaluation methods, either formally or informally (Sylvia & Lesher, 1995).

Some of the results of library use studies were thought to be not reliable because of possible biasness involved in the methodology. Interviews and questionnaires for example were thought as not suitable for fulfilling the aims of information needs study because of two reasons (Price, 1984; cited in Eager & Oppenheim, 1996). Firstly, they tend to cover only what the respondents thought would happened, but not what actually happened. Secondly, asking respondents what information they use in the course of their work and
observing what they actually used frequently gave rise to contradictions. Interviews were based on unreliable self report of thought, motivation and action and that motivation was difficult to study outside of personal interaction with the scholar while actions may be studied in a variety of ways (Case, 1991). Circulation statistics were not a good predictor of in-house use, because researchers may seek references without any formal charging out of books (Hayes, 1981, cited in Kelland and Young, 1994). Another reason for the inadequacy of these methods was that the results were isolated and localised (Orr, et al., 1968; Penner, 1972). Data collection often lacked scientific approach, where methodologies were ill-defined or varying methods were used to collect data. At the same time, ill-defined scales of measurement and vague definitions of terminology used in the studies exacerbated the situation (Rao, 1983).

As a result, by comparison, citation studies which does not directly measure library use, have some distinct advantages. Discussion on the use of citation analysis in general and in the humanities research in particular would further highlight the effectiveness of this type of use study.

Citation Analysis

Citation analysis began twenty five years ago with the publication of the Science Citation Index in 1961 (MacRoberts & MacRoberts, 1989). Its main objective was to evaluate and interpret citations received by articles, authors, institutions and other aggregates of scientific activities (Rao, 1983). Citation data derived from journal articles provided
information critical to an investigators' understanding of the structure of scholarly communication within specific disciplines (McCain, 1991). The "true" citation studies dealt with works cited as having actually been used in preparation of, or having otherwise contributed to, the source paper (Broadus, 1977). Citation data were manipulated in various ways. Measures of citation frequency and impact factor were helpful in determining the optimum makeup of both special and general journal collection of a library in specific subject discipline. Analysis of the chronological distribution of items cited served as a guide in determining the optimum size of back files needed and a binding and retention schedules can be established journal by journal, rather than for groups of journals. Furthermore, correlation of data on citation frequency and impact with subscription costs could provide a solid basis for cost-benefit analysis in the management of subscription budgets (Garfield, 1972). Citation studies therefore falls within the category of bibliometric measures. According to McCain (1992), bibliometrics measures are significant predictors of library holdings count and are useful, unobtrusive, measures of journal value to patron (and librarians). According to Baird and Oppenheim (1994) citation studies can be used to identify facets and milestones of the history of a subject field, (even the hot topics of the field can be identified). They added that: 'citation studies remain a valid method of analysis of individuals', institutions' or journals' impact, but need to be used with caution and in conjunction with other measures.'

Citation count or citation checking is an evaluative bibliometric technique. Heidenwolf (1994) identified it as most appropriate for evaluating the research strengths of a
specialized subject collection. It is a method based on the principle that the actual use of the material is an indicative of its relevance to current research, therefore, it produces empirical data for a qualitative judgement about the ability of a collection to support research. The technique is often used to determine whether or not a specific scholarly work could have been written with the resources of the library being evaluated (Nisonger, 1983). It is also recognised as a scientific and versatile technique that resulted in empirical data and could be carried out at a relatively low cost to the library (Heidenwolf, 1994).

Nisonger (1983) studied the political science collection in a university library and found that citation checking approach was flexible since the evaluator could focus on the evaluation and designed the sample. The study can be varied in term of its size, number of authors, type of sources, and the manner of selecting citations from the sources could be determined. It could be employed to assess the collection of a group of libraries, a single collection in its entirely, a collection supplemented by external resources, a discipline, a subdiscipline, or even the resources relating to a single topic, and it could be used to evaluate the periodical holdings only, or, more commonly, all components of the collection.

Another advantage using citation counts is that counting them does not cause them to change (Broadus, 1977), and when taken in large numbers, they were considerably valid and reliable, at least for some purposes. Heidenwolf (1994) reviewed that citation checking can be applied to any subject area. It is well-suited for use in an evaluation of the performance of a research collection because the evaluation is based on items actually
used by scholars and results of the evaluation could be used to study research patterns of scholars in a field. Simultaneously, citation checking provides a rigorous standard because the lists compiled from citations contain more peripheral or non-core items than subject bibliographies. In addition, Buchanan and Herubel (1993) found that a limited citation study with a highly labour intensive effort could still provide a reliable and efficient indicator of the types of materials used. Citations within subdisciplines should be very manageable where particular trends in researches may exercise a direct influence on materials being used. This in turn has an impact upon the growth of the research collection.

Nisonger (1983), however, noticed some drawbacks of citation studies. One of the most recently published literature were often not included, or under-represented. The use of abstracts and indexes by the author were seldom cited, thus not included in the evaluation. Similarly, secondary sources, such as handbooks and textbooks, were under-represented. In some situations, an author may not have cited the best material simply because it is not available; whereas some authors do not cite every publication they used. The comprehensiveness of the study may be affected because the technique is oriented towards the need of library patrons who published and the citations may be limited to a restricted segment of the collection, where some of the citation used were peripheral in nature, and the author may have limited himself to the resources of the library being evaluated. Heidenwolf (1994) agreed with Nisonger that scholars used items simply because they were available and not because they were relevant. As such, this technique did not measure accessibility. An evaluator might have succeeded in locating a cited item through
a complicated procedure; but the users searching for the same item might have difficulty locating it. Finding an item in a library's catalog does not mean that the item can actually be located on the shelves. The collection is not truly serving the user's needs when items are inaccessible.

Broadus (1977) assumed that a fundamental weakness in citation studies was it showed what people have done, but not the more relevant question of what they should have done. The results of the studies leave doubts to the librarian. An example showed by Broadus is that of Tobias's (1975) who study references used by college freshmen, in his attempt to ascertain whether academic libraries should be reduced in size, or the outlook of students should be expanded.

Citation Analysis in the Humanities

Bibliometric indicators have been extensively studied in the life sciences, and social sciences but very few studies focused on the humanities (Nederhof et al., 1989). Most of the work have been limited to numerical analysis of the literature of the natural sciences. This may be due to the well organized nature of secondary sources in these disciplines, they providing accessible data to the analyst. In addition, the literature of natural sciences is least restricted by linguistic barriers, thus making it easier for the analysts to conduct their study (Brookes, 1973). Moreover, the application of bibliometric techniques to scientific literature are more familiar to scholars in science than other disciplines. Ahmad Bakeri (1996) offered the followings explanations:
1. It may be due to the fact that the first bibliometric study by Cole and Eales (1917) appeared in 1917 in *Science Progress* when they conducted a statistical analysis on scientific literature, i.e. literature of comparative anatomy;

2. By definition, as stated by Pritchard (1969), bibliometrics is the application of mathematics and statistical methods to shed light on the process of written communication, thus highlighting nature and course of the development of a discipline (in so far as this is displayed through written communication) by means of counting and analysing the various facets of written communication;

3. The question of objectivity, which is explicitly displayed in the technique of bibliometrics, has a profound effect on the acceptance of this research method by scientists. As scientists dealt with a great deal of inanimate objects or controlled subjects which exhibited high degrees of predictability and replicability;

4. Bibliometric studies employed a high degree of bibliographic sources, making it a methodology more akin to the natural science method than that of the social sciences.

Koenig (1978) analysed the reasons as to why citation analysis were not popular in the arts and humanities. The principle reason was the lack of an appropriate database to provide raw data for the study. Another reason was the attitude that the techniques would not be as applicable to the arts and humanities as they were to the sciences since they perceived that the literature of the arts and humanities was very different from that of the
sciences where there was less dependence upon journal literature. A related basis was the skepticism about the utility of citation analysis in the arts and humanities, since there were differences in the referencing patterns in the arts and humanities in comparison with the sciences. In the arts and humanities literature, no journal were found to be highly cited such as those found in the science such as *Science* or the *New England Journal of Medicine*, which received a high proportion of citations.

Despite of these opinions, citation data are as useful and appropriate for the arts and humanities as they have been for the sciences. Consequently, the Institute for Scientific Information have established the *Arts and Humanities Citation Index* in 1978. With this publication, citation analysis on the humanities began to mushroom (Perrault, 1983). The foremost study of citation analysis are those written by Eugene Garfield in 1980, published in *Library Quarterly*, where Garfield verified the major differences between researches in the sciences and the humanities.

Knowing something about citation patterns in the humanities should help libraries build appropriate library collections and information services (Heinzkill, 1980). There are indications that citation analysis will be used more in the humanities in the future. Koenig, (1978) believed that differences between the sciences and humanities may make citation analysis even more useful to the latter since the search technique in humanities is often directed towards a particular topic as well as a personal name of a particular artist or writer, or a particular “school” or names of some members of whom are already known.
The emergence of a powerful database that can generate sufficient amount of data would be available in the future, making the utility of citation analysis in the arts and humanities more popular. The application of bibliometric techniques could reveal relationship that directly aid humanities scholarship and show patterns in the literature which are of interest to the librarian for collection management. Koenig (1978) claimed that citation analysis can be used to rank journals, and the journal ranking lists provided a useful technique in getting a quick feel of what journal coverage were important in any given field. On the other hand, co-citation cluster analysis (another bibliometric technique) revealed new research trends and help librarians identify specialty clusters. Citation analysis might also be used for collection management of non-journal literature in the arts and humanities such as the monographs. Useful life of a monograph in the arts and humanities are far longer than in the sciences and as such were regarded as “primary literature” and the “raw material” of humanist’s scholarship, as are the journal articles to the sciences.

Part Two: Humanists and the Library

The library is deemed as the humanist scholars’ laboratory. Humanities scholars are dependent on libraries as they are probably the most book-bound creatures in the world of scholarship (Weintraub, 1980). They depend very much on reading, and the actual research process is preceded and followed by a large amount of collateral reading (Fabian, 1986). Research library is an essential prerequisite of humanities scholarship, that makes possible large-scale experimental use of literature in the widest sense of the word. An experiment requires sufficient equipment, and demands, moreover, that the equipment is
available when it is needed (Fabian, 1986). Therefore, it is expected that there should be a close relationship between the library collection and the humanities scholars use of it. The questions that need to be considered therefore is to what extent are the humanities scholars dependent on the library and how can the library support the humanities scholarship?

Fabian (1986) claimed that there were differences between the function of library to the humanistic researchers and researchers in science, medicine or technology. For the scientists, library functions as a “memory” in which each item is continually being rewritten as new results was transferred to it. The library is therefore a repository that stored the research results. Scientists used the library for specific information on a specific subject. They have a much clearer sense of working on the frontiers of knowledge, and they rarely shifted their views backward (Weintraub, 1980). The knowledge frontier is less visible and much more diffuse for humanities scholarship. To the humanists, “libraries are books -- the basic instrument of humanists inquiry is the book.” (Stone, 1982). The library has to perform a dual function by providing the researcher with both the raw material and the results of research (Fabian, 1986; Stone, 1982). Research in humanities is not merely a simple process of consulting and digesting a smaller or larger number of books and periodicals, but rather an act of continuous reading. Consequently, humanities scholars require not single books or distinct pieces of information but “mosaic-like” configurations of texts consisting of a web of primary and secondary literature. The library for the humanists is not merely the ‘store house of research’, but also acts as a repository of the sources upon which the research process is based upon (Fabian, 1986).
Atkinson (1995) tries to give a definition of humanities scholarship from the library's perspective, and commented on the ability of research libraries to support such scholarship. According to Atkinson, humanities scholarship is highly dependent upon bibliographical authority due to the nature of how individual works related to each other. They usually need all editions of a text, not just the printed texts but all the first drafts, second drafts, galley proofs, and page proofs, to study the process (Weintraub, 1980). They need not only texts in their original languages but also the translations as well. As a result, careful bibliographic description and cataloging of these variant texts is crucial to them. The authority control in the production of catalogs by listing holdings and consciously and painstakingly establishing relationship among items within these holdings could provide humanists scholars with the much needed information. At the same time the library must be willing to play the role of authentication, so as to determine the originality of the text available to the author, so that humanists could always gain access to a stable and authentic text. Librarians are expected to adhere to neutral practices when formulating the collection development policy. There are two types of neutrality according to Atkinson: methodological neutrality and object neutrality. Methodological neutrality refers to the plurality of values assigned to sources. To support this neutrality, libraries have transferred collection building responsibility from the faculty to the library to reduce biasness in collection development. Object neutrality refers to the concept that any publication or human creation have research potential. The humanist's object of study is a much more multi-layered one and libraries found it a problem to determine how collection
Characteristics of Research and Information Seeking Behavior of Humanist

As reported by Garfield (1980), humanities scholars tend to work alone rather than in teams. Wiberley and Jones (1989) found that out of more than 172 publications claimed by the 11 humanities scholars, only 8 were co-authored, all the rest were written alone. The tendency to work alone may reflect something fundamental about the nature of humanities scholarship (Stone, 1982). Garfield (1980) reaffirmed this, “In the contrast to scientists’ study of the physical universe, humanities are concerned with those human achievements which make up our cultural heritage. The works of art, religion, and philosophy which comprised this legacy are not superseded as scientific works are.” The subject studied by humanists scholars were often an individual author, object, or text (Weintraub, 1980). Corkill, Mann and Stone (1981) grouped researches in the humanities scholarship into three different types:

1. Chronicle type - based on the study of a large number of texts and documents, often widely scattered, involving much travel (history, music, linguistic);

2. Critical or comparative type - basic material is likely to be more easily available, though not necessarily all at hand (literature);

3. Contemplative type - requires only a small number of documents readily available, often in the research worker’s own collection (philosophy, literature).
Wilson and Eustis (1981) in their survey carried out at the Virginia Polytechnic Institute and State University found that: "Humanities scholars do perceive a link between the library and their scholarly output, but they generally do not accommodate their research to available resources." The respondents felt that an adequate library collection was extremely important for successfully conducting their research, and that the quantity of their research would improve if certain problems such as the collection's physical environment, or services were corrected. Wilson and Eustis felt that the library adequately served the requirements of undergraduates, but tended to fall short in fulfilling the needs of graduate students and researchers. The more specific the research requirements, the less the library is perceived as able to satisfy the humanities scholars.

Humanities scholars seem to consider physical environment and library services as important to their research (Stone, 1982). Services such as inter-library loan, reference, and circulation should be efficient to make the routine mechanics of research as smooth and unrestrictive as possible. Inter-library loan is crucial to the humanities scholars because of the wide range of materials required which no one university library could be expected to supply. Another important facility needed by the humanities scholars is adequate reprography services (Fabian, 1986). Humanities scholars are based on texts which are brought together from many texts from different sources. They need the library's reprographical support to ensure that the texts required can be assembled in the shortest of time. Fabian claimed that reprography services of the library should go beyond simple photography and xerography to the reproduction of historical texts.
There is a need to design a bridge between the humanities scholars and the library. The colloquium between the librarian and the humanists initialised by the Doreen B. Townsend Centre concluded four major points which were integrated into the final “Humanists and the Library” grant proposal and project (Burnette, Gillis and Cochran, 1994).

a) Humanities faculty and graduate students are frequently uninformed of library resources and methods of allocation.

b) Many faculty and graduate students are unaware of the ever-increasing number of new library resources in electronic format.

c) Humanities researchers need to be made aware not only of electronic resources but also of librarians themselves as a resource.

d) Librarians would be able to assist humanities researchers more effectively if they were linked, as part of the team, to the research effort.

The project indicated that humanities scholars and librarians can bridge the gap between them and form a mutually beneficial and enriching partnership. Through the project, scholars became aware of new and valuable resources that they would not otherwise have used and librarians derived a sense of integration into the process of scholarly research. The co-operation between librarians, library administrators and scholars are significant in making the project a success.
The ideal research library from Fabian's (1986) point of view is that which provide encyclopaedic reference library sources and where university libraries exist side by side with a national library, to offer independently the facilities of a universal reference library. Excellent regional research institutions at the same time enhanced the work of a good researcher exposing the researcher to the best possible national resources. Weintraub (1980) described the future librarian to be "a knowledgeable sluicekeeper, a most sensitive filter, a wise cicerone who knows where what knowledge is available, how to get its essential parts, someone who does not block access but also someone who does not drown us in an unsorted morass of information."

Part Three: Characteristics of Humanities Scholarship

"In order to have systems which can perform and operate functionally, it is crucial to understand the various aspects of scientists' communication behavior, such as information-seeking patterns, channels which individuals depend on for the acquisition of needed information, and other factors which might affect this behavior" (Al-Salem, 1989). The concept of "information-seeking" is embedded in the studies of "use", "uses", "users", and "needs" which form one of the most extensive areas of research in library and information science over the past four decades (Al-Salem, 1989).
The early studies of information-seeking behaviour were concentrated in the fields of science, technology, and social sciences. Studies in information needs and uses among scholar in the humanities is small but growing (McCain, 1987). The studies about humanities scholars have focused on the characteristics of references used which included the following.

I. Form -- a measure of the use of monographs, periodical, and so on.

II. Class of materials -- the distinction between primary and secondary materials.

III. Age -- a measure of the researcher's reliance on materials from particular period of time.

IV. Language -- a measure of researcher's reliance on English-language materials.

V. Subject -- a measure of the subject dispersion of cited materials.

VI. Categorisation of citing function -- a measure of the citing author's use of materials for the purposes of substantiation, refutation, further information, and so on.

Most of these studies used journal literature as the source of materials whose references were examined. Other sources used are citations in monographs, indexes, bibliographies, dissertations, etc. Despite the different sources used by these researchers, results showed that the humanities scholars, (a) tend to use monographs rather than journal articles and this serve as the basis for scientific and social science research; (b) that older sources, both primary and secondary are cited to a greater degree than in the sciences and social sciences; (c) that foreign language sources in the humanities are far from negligible.
Characteristics of Research and Information Seeking Behavior of Humanist

As reported by Garfield (1980), humanities scholars tend to work alone rather than in teams. Wiberley and Jones (1989) found that out of more than 172 publications claimed by the 11 humanities scholars, only 8 were co-authored, all the rest were written alone. The tendency to work alone may reflect something fundamental about the nature of humanities scholarship (Stone, 1982). Garfield (1980) reaffirmed this, "In the contrast to scientists' study of the physical universe, humanities are concerned with those human achievements which make up our cultural heritage. The works of art, religion, and philosophy which comprised this legacy are not superseded as scientific works are." The subject studied by humanists scholars were often an individual author, object, or text (Weintraub, 1980). Corkill, Mann and Stone (1981) grouped researches in the humanities scholarship into three different types:

1. Chronicle type - based on the study of a large number of texts and documents, often widely scattered, involving much travel (history, music, linguistic);

2. Critical or comparative type - basic material is likely to be more easily available, though not necessarily all at hand (literature);

3. Contemplative type - requires only a small number of documents readily available, often in the research worker's own collection (philosophy, literature).
Stone (1982), listed out four main approaches to the material used by humanities researcher and they are by national trait, by period, by form and by theme. Humanities scholars may adopt a whole variety of approaches to their material, and sometimes using methods usually associated with other disciplines. Humanities scholarship does not emphasize the use of empirical evidence as do the natural and social sciences (Frost, 1979). Humanistic knowledge results from the application of one mind investigating a slice of reality and interpreting it anew in the context of that individual’s total experience and understanding (Stone, 1982). Nevertheless, there are some aspects of scientific endeavor in the humanities research. The study of editions to establish a ‘correct’ text and ‘literary history’ with its concern with external circumstances of a work’s creation, are examples of scientific expects that exhibit the dependence of humanities scholarship upon ‘factual’ evidence (Frost, 1979).

Stevens (1956) summarises the characteristics of research in the social sciences and humanities as distinguished from research in natural sciences as the social scientist and humanist use a greater body of literature in some areas, and much more diverse than those used by the natural scientist in subject matter, in time span, and in form. Furthermore, besides seeking needed items by author and title, the social scientist and humanist frequently search for additional materials through reading and scanning widely through newspaper, journals and books that cannot be determined previously. They needed access to a variety of materials, both primary and secondary sources. They cannot rely on recent materials alone. Recent documents may present the most up-to-date perception of a
particular set of events in the light of both past and recent evidence, but scholars may still wish to go back to the original sources, rather than rely on the characterisation of those sources built into any interpretative work about them (Stone, 1982). "They desired to understand either work of man--for instance, a poem qua poem--or the lives of specific men, or the minds standing behind the works of men, and they need to understand all of these in the complex interrelations with intrinsic contexts." (Weintraub, 1980)

Scholars collect information through various channels, including reading, talking with colleagues, listening to lectures, viewing files and television, experimenting, conducting surveys, analysing archival data, examining artifacts, participant-observation, etc. However, the printed word is the most influential medium of information (Case, 1986). Catalogues of abbey libraries, highly specialized subject and author bibliographies, lists of society publications, book-auction records, catalogues of private libraries and national bibliographies of remote countries are potential sources of valuable references for the humanities scholar (Stevens, 1956). Stoan (1984) summarises that scholars obtain needed information from "footnotes, personal recommendations from other scholars, serendipitous discovery, browsing, personal bibliographic files, and other such techniques that involve no formal use of access tools."

Broadbent (1986), surveying the faculty at the College of Humanities at the University of Utah confirms these findings "much [23%] of their relevant library materials are listed in
the bibliographies and footnotes in the books and journal articles they read.” Stevens (1956), concluded that cited references and bibliographies may be more important to social scientists and humanists than personal recommendations and indexes and abstracts. Humanities scholars seldom use indexes and abstracts to collect their materials since there are considerably less complete and less adequate than those in the natural sciences. Wiberley and Jones (1989) note that humanities scholar tended to avoid the large and comprehensive bibliographies in favour of smaller, more selective bibliographies in a specific field or period. They speculate that the lack of time to follow many leads is the probable reason for this tendency to ignore major bibliographies. Humanists are also less dependent on information obtained from personal recommendation as a result of the individualistic nature of their work habit. They do not have a well-developed invisible college as scientists do (Stieg, 1981). Apart from relying on library collections, humanists are likely to own personal collection. Soper (1976) reports that scholar feel that personal collections are easier to use and accessible than other collections.

Characteristics of Information Sources Used by Humanities Scholar

Formats

The humanities scholar is apt to need and use a wide variety of materials in various formats. The printed books and journals are used along with non-printed materials, such as manuscripts, dissertations, letters, original works of art, films, recordings, microforms, etc. Humanities research is more monograph oriented than other disciplines. Research in the
natural sciences depends primary on serial literature, especially on a small number of core journals published in the field. Chemists and physicists in the United States made more than 90% of their reference to serials (Fussler, 1949). Previous studies in various humanities disciplines demonstrated a high percentage of monograph use as compared to journal articles [Stern (1983) 82.7%; Budd (1986) 64%; Broadus (1987) 67.1%]. John Cullars in his series of studies of the citation characteristics of literary scholarship amongst British and American (1985), Germany and French (1989), Italian and Spanish researches (1990), confirmed that the greatest number of all citations were to monographs by a substantial margin. Stern (1983), concluded that literary research relied heavily on research materials published in books. The percentage of the use of journal articles displayed in these studies: Budd (1986) [26.7%]; Heinzkill (1980) [20%]; Stern (1983) [15.1%]. These indicated that journal articles did not play the dominant role in humanities scholarship. Nevertheless the interdisciplinary influences of the past two decades have seen an increasing use of journal literature. But studies of humanities research still support monographs as the primary research source being used. Broadus (1987) indicated that there was a stronger preference for monographs request by the humanities scholars from the National Humanities Center during the first year of the study, while the use of periodical article rose in the second year (38.6%). The Pearson Product Moment Correlation for the two years by format was .909 which suggested that scholars in humanities are rather consistent in their use of monographs. Disciplines such as fine arts, music and archaeology are more apt to cite journal articles than books (Cullars, 1992).
Dissertations were not significantly used by humanities researchers. The low use of dissertation may be due to the assumption that worthwhile thesis material will be reworked into journal articles or monographs (Cullars, 1989). On the other hand, the major problem of dissertations may be due to the fact that most libraries do not collect and purchase theses, and these type of sources are often difficult and impossible to obtain through inter-library loan, and there are relatively expensive for individuals to purchase (Cullars, 1992).

Although manuscripts expressed the same low usage as dissertation, the dependence upon manuscripts vary with disciplines. Humanities scholarship have a strong historical dimensions, where the primary act of historical understanding is an etymological, and philological one. Their work depended greatly on the availability of original texts, and many have a special reverence for manuscripts (Weintraub, 1980). Cullars (1985) reported that for older topics, the monographic literature of literary scholarship is more apt to be supplemented by manuscript sources, where pre-20th century subjects regularly referred to books and/or manuscripts as well as to journal articles from the earlier centuries. On the other hand, he found that 14.8% of citations are to manuscripts in the fine arts, which suggested that researchers in the fine arts is an omnivorous scholar having broader needs than scholars in most other disciplines (Cullars, 1992).
Class of Materials

Budd (1986) distinguished between humanities scholars use of primary and secondary sources. Primary sources comprised of materials providing evidence of original thoughts or observations, used by researchers without the aid of intermediate or interpretative assistance; while secondary sources refer to those materials that report analysis, interpretation, or background information based on the work of other scholar and/or critics.

Besides scholarly literature, humanities scholar may wish to retrieve work of art, such as poems, photographs of paintings, musical scores (Garfield, 1980). In the fine arts, Cullars (1992) showed that primary sources used by fine arts scholars comprises of visual artifact rather than a document; whereas literary scholar work on collected letters as well as literary text (Cullars, 1985). Stern (1983) pointed out that literary research depend on primary sources, where the more intense research deals with the work of creative writers with a heavier reliance on primary sources. Over 45% of all citations used by humanities in the discipline of literature were to primary sources in the form of monographic literature (Cullars, 1989 & 1990). The proportion of primary sources used in journal literature is even higher. Wiberley (1979) reported 65% of all citations used in journal literature are to primary sources. Nevertheless, Budd (1986) demonstrated an opposite result, where scholarship in American literature cited more secondary sources (60.2%) than primary sources (39.8%). Stern (1983) indicated that research on contemporary authors depended more on the text itself and the more contemporary the authors, the greater is the use made
of primary sources, since there were fewer critical works available to researchers. Similarly, the more distant the creative writer’s work, the larger is the body of secondary literature built around it and the use of the text itself decreases in favour of other types of research materials.

Age

Humanities scholars are more likely to use older materials than non-humanists. Older sources, both primary and secondary, continued to be cited to a greater degree in the humanities than in the science and social sciences. Garfield (1980) in his study of citation practices amongst scientists, showed that scientists tended to use works published within the last five years, while the humanities did not exhibit similar pattern of use. From the 300 science authors most cited between 1961 and 1976, the oldest author was born in 1899, whereas in a similar study on 100 authors most cited in the humanities journals in 1977-78, found that the oldest was born in the 9th century B.C. and nearly 60% of the top 300 most cited authors in the humanities were born before 1900. Fussler (1949) reported that more than 70% of the useful literature in chemistry and 88% in physics were drawn from those published ten years or less previous to the time of research. Works of humanities scholar of previous decades or centuries were not superseded or discarded indicating that, work in this discipline is not susceptible to obsolescence (Frost, 1979; Weintraub, 1980; Koenig, 1978). Humanities scholarship were cumulative and less compulsive about the literature use than scientists were (Garfield, 1980). Interest in a work or a period may remain dormant until it is reawakened in some way, so that previously unheeded materials may assume or resume importance. Great scholarship and criticism endure and even bad
scholarship did not disappear entirely from the humanist’s interest. (Garfield, 1980; Stone, 1982). For all disciplines in the humanities, the greatest number of citations is made within 20 years (Cullars, 1989; Stern, 1983) and 50 years (Budd, 1986). In the literary discipline, current publications that consist mostly of secondary sources, plus new editions of primary sources, seem to be important. Stern (1983) found that over 20% of citations to the American literary works were ten years old or less, which implied that currency is a uniformly important factor both in the research on creative writers and as on literary theory.

Language

Humanities scholar is more likely to make use of materials in foreign languages than the non-humanist, although use of foreign language materials has declined in all fields except in the field of history, languages and literature (Perrault, 1983). Generally, the use of foreign language materials were far from negligible. The findings of literary scholarship in German (75%), French (84.4%), Italian (65.7%) and Spanish (83.7%) literature demonstrated a high percentage of citing to materials of the native language, verifying the explanation that “If the language of the article is the same as that of the topic, 90% of all citations will be in that language, while if the language of the article differs from the topic, 60% of the citations will be to the language of the topic and 30% to the native language of the authors of the article.” (Cullars, 1992).

Subject Dispersion

The humanities scholars are more likely to use materials from a wider dispersion of subjects. The study of literature in American literature by Budd (1986) identified five
broad subject areas, which comprises of American literature, other literature, other humanities, social sciences and sciences. The study on fine arts also recognised that there are greater number of citations drawn from literary, historical, biographical and religious sources (Cullars, 1992). Broodus (1987), on the other hand, examined the materials requested by scholars in the National Humanities Centre in North Carolina and discovered requests for material from various subjects varying from the humanities to sciences and social sciences.

**Categorisation of Citing Function**

Frost (1979) studied citations in German literary criticism qualitatively as well as quantitatively. She determined the purposes that citations served in the humanities and outlined the citation use into three groups that is: whether a cited work is used as a primary or secondary source; whether the work is used as a basis for a statement of fact or of opinion; and whether for secondary works, the deposition of the cited work was positive or negative? The classification of the citing function are as follows:

1. **Documentation of primary sources** - references to literary texts, letters, etc.,
   a) to support an opinion or factual statement on the specific author(s) or work(s) discussed in the citing.
   b) to support an opinion outside the central topic of the citing work.
   c) to support a factual statement outside the central topic of the citing work.

2. **Documentation of secondary sources** - references to previous scholarship,
   a) independent of approval or disapproval of the citing author;
   i) to acknowledge the pioneering work of the other scholars.
ii) to indicate a range of opinions or prevailing views on a topic.

iii) to discuss the meaning of a term.

b) representing approval;

i) to support an opinion of the citing author.

ii) to support a factual statement of the citing author.

iii) to take an idea a step further.

iv) to acknowledge intellectual indebtedness.

c) representing disapproval;

i) to disagree with an opinion.

ii) to disagree with a factual statement.

iii) to express a mixed opinion.

3. Documentation of sources either primary or secondary,

a) to refer to further reading.

b) to provide bibliographic information on a specific edition.

Using the above classification schedule, Frost (1979) found that German literary scholars made use of primary literary text frequently to support an opinion or interpretation. The work of other scholars were used more often for positive purposes of supporting the work of the citing author or referring the reader to additional reading, than it is used to supply an object for rebuttal. Frost also discovered that humanities scholars used factual information less frequently than might be expected in scientific literature. Humanities scholars did not cite to acknowledge pioneering work or to build on another scholar’s
work, nor do they frequently commend or refute a named critic. Budd (1986) and Cullars (1990) based on Frost's (1979) method, noticed similar characteristics of citing function in American literary criticism, Italian and Spanish literary monographs. Budd reported 3.5% positive and 1.6% negative; whereby Cullars found 5.7% positive and 3.6% negative citations. In all these studies, the greatest number of citations were value free as to the contribution of the cited materials. Both Frost and Budd suggested that the citing function of humanists needed further analysis to explore fully the reasons behind authors references to particular works.

Conclusion

This study attempts to find out whether previous findings hold true for Malaysian humanists scholars. The sample considered consists of master and doctoral dissertations in the field of humanities submitted to the University of Malaya between 1984 to 1994. From this sample, a smaller sample of dissertations were studied in more detail with regard to references contained within it. Results attained will be compared with previous studies mentioned within this section.
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