CHAPTER ONE

INTRODUCTION

Periodicals: History and Development

Historically, the date of the earliest known scientific writing cannot be exactly ascertained. However, it is general knowledge that early human civilisations in Assyria, Babylonia, China, Egypt and India had already contributed much to scientific knowledge and scientific communication. The early scientific writings were not in written form but transmitted through oral communication and crude writing materials such as papyrus and clay tablets. In 1445, the invention of the movable type by Johannes Gutenberg of Mainz, Germany brought about new development in the history of publishing.

The early history of periodicals publishing, especially those of the learned types (scientific and technical) could be traced to the mid 17th century in Europe. The idea of publishing a journal was first mooted by Sir Robert Moray, President of the Royal Society on 27th August 1661. On that day, in a letter written to Christian Huygens in Holland, he said "It will be impossible for me to inform you, by letter, of all the particulars that have occurred. But, I believe from time to time we shall print what passes among ourselves, at least everything that may be published." (Subramanyam, 1979). Nevertheless, the tradition of periodical publishing was rather of French origin. As early as 1663, Francois Mezeray, the
French's King historian obtained a patent for a literary-scientific periodical but unfortunately his effort to publish it did not materialise for some unknown reasons. Following that, in 1664, Sir Denis de Sallo, counsellor of the Court of Parliament under King Louis XIV submitted a proposal to publish a weekly scientific journal. Hence, the birth of the first periodical was sealed when on 8th August 1664; a privilege was signed to establish Le Journal des scavans [Journal of Learned Men], which was later registered on 30th December 1664. The first weekly issue of the Journal des scavans was published on 5th January 1665 in France. It consisted of 20 pages and contained 10 articles, letters and notes. The journal was later renamed Journal des savants in 1816 and from there it continued to play an important role as one of the leading learned journals of Europe. On the whole, this first French learned journal published summaries of important European books, bibliographies and obituaries of writers, and reports on developments in art, philosophy and science.

In the same year, the first issue of the Philosophical Transactions of the Royal Society appeared on Monday, 6th March 1665 in London, England. This very first issue consisted of 16 pages and contained a dedication to the Royal Society, an introduction, nine articles and a listing of important philosophical books. The plan to come out with a scientific periodical was developed by members of the Royal Society; prominent among them were Moray, Boyle, Hooke and Oldenburg. The plan developed further as a result of the secretary of the society who started collecting and circulating letters and reports of meetings in a systematic
manner to communicate new scientific discoveries. From the very beginning, the journal was far from being a scientific periodical, and its early issues reflected much the broad interests of the members of the Royal Society. Then, three years later in 1668, the periodical Giornale de' letterati was published in Italy by the scholar and ecclesiastic Francesco Nazzari (Subramanyam, 1979; The New Encyclopaedia Britannica, 15th ed., s.v. "Publishing"; Sen and Mashkuri Yaacob, 1997; Pillai, 1997).

The birth of Journal des scavans, Philosophical Transactions of the Royal Society and Giornale de' letterati paved the way for the subsequent scientific periodicals to be published by other learned societies and academies all over the world. However, it should be noted that in the very beginning, the scope of these scientific and learned journals were very general. Nevertheless, by the end of the 18th century, many scientific and technical journals began to treat very specific topics in science (Chen Ching-chih, 1979). Soon other learned establishment followed suit and thus began scientific journal publishing all over the world.

The table below shows clearly the growth of scientific periodicals from 1665 till the present day. From 2 such journals in 1665, it has proliferated to such an extent that at present there is an estimate of 350,000. In the 19th century and in the 20th century, the number of specialised journals started picking up speed and has grown to astronomical proportions. From 1800 to 1900 a total of 10,000 periodicals were published but the same number appeared in less than ten years
periodicals were published but the same number appeared in less than ten years between 1953 and 1963. Hence, it is very clear that the proliferation of such learned periodicals all over the world has indeed grown tremendously. According to the *International Serials Data System*, it was estimated that over 350,000 serial publications published by 183 countries world-wide had existed by the end of the 1980's (Md. Sidin, 1997). From thereon, without fail various learned associations or societies are still publishing many learned journals all over the world in their pursuit of knowledge pertaining to various disciplines.

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<th>Year</th>
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<td>1665</td>
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<td>1973</td>
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Since its inception over 300 years ago, the scientific journal as a primary journal has and will always be the most important channel for the formal communication of scientific information. The primary journal serves three important functions. Firstly, it is the official, public record of science. It serves as an archival record of scientific scholarship, which is often used as the basic source material in other secondary publications. Next, the primary journal is a medium for disseminating a variety of information.
development in scientific research and scholarship. Finally, the primary journal also is a social institution that confers prestige and rewards to those associated with it. Authors who had contributed to journals would be measured by their productivity and hence the contributions will add to their professional credentials among the peer. Apart from that, publications also facilitate the establishment of priority and ownership of new inventions and ideas in case of any dispute relating to claim. Editors and referees of such journals are given due recognition and prestige as to editorial and refereeing performed. Publishers of journals on the other hand receive financial returns and prestige for the journals published (Subramanyam, 1979).

By and large, the historical development of the learned periodical took the world by storm over a period of three centuries. From a humble beginning of 2 in 1665, it has grown tremendously to more than 50,000 presently. The scholarly periodical still remain the single most important source of information and knowledge for both the researchers, academicians and the laymen interested in them.

**Historical Overview of Malaysian Scholarly Journals**

Historically, the publication of scholarly journals both by various learned and professional societies and universities in Malaysia, is a relatively new and late development. Md. Sidin Ahmad Ishak (1997) who worked as an editor for the University of Malaya Press noted that the number of active scholarly journals published in Malaysia is estimated to
be around 214 of which 59.3% (127) are titles in the Arts, Humanities and Social Sciences disciplines and 40.7% (87) are of the Science, Technology and Medicine fields. Yet, seven years ago Kalsom Sharrif and Zakiah Azmi (1990), in their paper about the status quo of then scholarly journals publishing in Malaysia noted the existence of only 149 scholarly journals. Pillai (1997) who argued that she would place the number of Malaysian scholarly journals at around 80-90 found both these figures as to the number of Malaysian scholarly journals excessive by reference to their subject matter and publisher. Taking into consideration the 40 years of Malaysian independence, this figure of existing scholarly journals is not much of an achievement which any Malaysian could be proud of. To put it simply, the present Malaysian learned and professional societies and universities should play a more active role in the production and publishing of more Malaysian scholarly journals for both local and foreign consumption.

Nevertheless, among these scholarly journals, it was noted that with the exception of a few journals which are more than 50 years old and started publishing before the independence of Malaysia, most learned journals in Malaysia are about 15-25 years old (Pillai, 1997). The oldest existing Malaysian scientific journal is the *Malaysian Nature Journal* being published by the Malaysia Nature Society since 1925. Other early journals produced by local institutions or societies are the *Journal of Natural Rubber Research* published by the Rubber Research Institute of Malaysia.
and the *Institute for Medical Research Bulletin* published by the Institute for Medical Research (Pillai, 1997).

In the words of Zainab Awang Ngah (1997), "the growth of scholarly journals is an essential phenomenon in Malaysia as it is related to scholarly endeavours, and the propagation of new knowledge, which in turn may filter into practical applications for the advancement and improvement of the quality of life". The use of research articles contained in scholarly journals by library patrons, especially academicians and researchers alike, is due to the fact that these learned journals, with its diversity of topics, are the most important primary sources of current printed information available to them. Moreover, these communication of scholarly articles which are often short and focus on a fairly narrow subject of their interest, made them an easy target for their perusal to gain a deeper knowledge of the subject under study. Therefore, scholarly journals and scholarly communication indeed play a very important role in the dissemination of accurate and up-to-date information as they are quick to be accessed by its many users.

**Statement of the Problem**

Even though, the number of existing scholarly journals published in Malaysia by its learned and professional societies and universities, is not much encouraging, nevertheless many played an important role in the dissemination of information and knowledge. However, it is sad to say that till this very day, only a very small number of bibliometric studies have
been carried out with Malaysian scholarly journals. Ahmad Bakeri (1996) noted that not much research activity is reported on ASEAN countries. He further pointed out that there is only one bibliometric study in LISA-PLUS, which discussed scientific productivity in ASEAN countries. To counter-check this, the author conducted an on-line searching using the LISA-PLUS database available in the University of Malaya and it was found that there were four bibliometric studies on ASEAN countries, including the one noted by Ahmad Bakeri Abu Bakar. The author also found one bibliometric study, which analysed specifically the agricultural literature published in Malaysia written by Nasir (1994). In other words, there is a dire lack of bibliometric analysis of documents, authors or journals in ASEAN countries, especially Malaysia.

Moreover, Sen (1996) managed to trace the existence of eight local periodicals, which were covered by LISA-PLUS between 1986-1995. Even though the number of articles published in these periodicals may not be insignificant, there were not much research activity related to bibliometrics. In contrast, in the Western world and other parts of Asia, many bibliometric investigations involving the study of documents, authors or journals have been successfully carried out (White & McCain, 1989). This increasing attention given to the undertaking of bibliometric study of journals is a result of three major factors, namely I) the role of the journal as a major communication channel for research findings; II) the large proportion of materials budget in research libraries is devoted to scholarly journals and other periodicals; III) the annual publication of ISI's Journal
Citation Reports, for both Science Citation Index and Social Sciences Citation Index (White & McCain, 1989). Moreover, by employing bibliometric techniques, we can rank publications in terms of importance, identify core literature, trace the diffusion of ideas, measure the impact of publications, study subject interrelationships, investigate the structure of knowledge and how it is communicated, and improve bibliographic control (Nicholas & Ritchie, 1978).

Purpose of the Study

The purpose of this study is to examine bibliometrically *Journal of the Malaysian Branch of the Royal Asiatic Society (JMBRAS)* 1987-1996, by way of analysing references, footnotes, notes, citations and bibliographies appended to 111 articles, 103 biographical notes containing names of the authors, their occupational status, indication of geographic location and institutional affiliation of the authors, titles of articles and subjects of the articles. Apart from that, 78 book reviews and the related information as to the gender, geographical distribution of reviews, geographical affiliation and reviewers’ membership to MBRAS are also examined.

The various objectives of the study are to find out:

**JMBRAS Articles 1987-1996**

(i) the quantitative growth of articles by year

(ii) the volume-wise distribution of citations

(iii) the range and mean number of citations per article
(iv) the ranked list of citations by types of documents
(v) the authorship pattern of articles
(vi) the author's productivity of articles
(vii) the author's gender of articles
(viii) the ranked list of most prolific contributors of articles
(ix) the ranking of authors by occupation (articles)
(x) the ranked list of authors by geographical affiliation (articles)
(xi) the ranking of authors by institutional affiliation (articles)
(xii) the range and mean number of words in the titles of articles
(xiii) the range and mean length (pages) per article
(xiv) the geographical distribution of articles (in percentage)
(xv) the ranked list by subject (content analysis of the articles)
(xvi) the range and mean number of notes in the articles
(xvii) the extent acknowledgement was indicated by authors in articles
(xviii) the extent of appendices being included in articles
(xix) the extent of abstract being provided in the articles
(xx) the relationship between MBRAS membership and JMBRAS articles

JMBRAS Book Reviews, 1987-1996

(i) the quantitative growth, range and mean number of book reviews by year-wise

(ii) the gender of book reviewers (in percentage)

(iii) the geographical distribution of book reviews (in percentage)
(iv) the relationship between MBRAS membership and *JMBRAS* book reviewers

(v) the ranking by country of book reviewers

(vi) the book reviewer’s productivity

(vii) the ranked list of most prolific book reviewers

**JMBRAS Articles and Book Reviews, 1987-1996**

(i) the quantitative growth of articles and book reviews by year

(ii) the productivity of *JMBRAS* contributors (articles and book reviews)

(iii) the ranked list of the most prolific contributors (articles and book reviews)

(iv) the contributor’s gender (articles & book reviews)

(v) the geographical distribution of articles and book reviews

(vi) the contributor’s membership status to MBRAS

**Significance of the Study**

This study is one of the very few attempts to specifically investigate bibliometrically a learned journal published in Malaysia. Until now, there is no study, which has been carried out relating to the bibliometric analysis of documents, authors or journals in Malaysia. Next, it is hoped that this study will open up a vista for further work for the advancement of bibliometric study as related to the development of library and information science in Malaysia. Hence, this study would contribute to the current store on bibliometrics. In other words, it is the hope of the researcher that this bibliometric study on a Malaysian scholarly journal
would further stimulate research in this field. Finally, this study based on an Arts, Humanities and Social Science journal would help to fill the gap in these fields on the basis of this bibliometric study on individual learned journal which at present time is based largely on studies done on Science, Technology and Medicine disciplines.

On the other hand, it is hoped that the findings of this bibliometric study of a single AHSS journal in terms authorship pattern, words in title, length of articles, notes, acknowledgements, book reviews and other bibliometric data would be compared to other disciplines or journals of the same field keeping in view the fact that it varies from field to field and journal to journal. Moreover, the findings of this study can also be made the base for further studies in the same discipline or otherwise.

Scope and Limitations of the Study

The present study attempts to examine using bibliometric techniques the Malaysian scholarly journal called Journal of the Malaysian Branch of the Royal Asiatic Society (JMBRAS) which is published half-yearly by the Malaysian Branch of the Royal Asiatic Society (MBRAS). The study involves all the learned articles except obituaries and memoriam published in JMBRAS between 1987-1996 taking into consideration all bibliometric data appended to these articles including the biographical notes of the authors and book reviews. Only materials pertaining to the activities of the Society which are printed annually are omitted, e.g. the Annual report, the List of Members, the rules of the
Society, the proceedings of the annual general meetings and occasional indexes are not taken into consideration.

In the present study the following limitations are considered. First, the study is based on the assumption that the references, footnotes, notes, citations and bibliographies and bibliographical notes appended in the articles and book reviews under study are correct and clearly described. Secondly, some of the biographical notes given are not complete and detailed enough to give a clear picture of the situation, especially with regard to occupational status, geographical and institutional affiliation of the authors concerned. Moreover some of the biographical notes regarding the authors are omitted due to some unavoidable technical reasons known to the editors themselves. Nevertheless, some verification will be done through counter check using secondary sources available in the University of Malaya’s Main Library and the National Library of Malaysia. Thirdly, the sample frame of this study is limited only to the bibliometric analysis of references, footnotes, notes, citations and bibliographies of articles, biographical notes and book reviews published in JMBRAS over a span of ten years between 1987-1996, a reasonable period to show the present trend. For studying the current trend, a longer period was not felt necessary.
Definition of Terms

The following terms are defined within the context of this study:

1. **Abstract.** A summary of the contents of the article provided either by the author or the editorial concerned.

2. **Acknowledgement.** The author's statement of indebtedness to others for the completion of an article.

3. **Appendix.** Extra information given at the end of an article by the author concerned.

4. **Article Title.** The name of an article that appears at the beginning of the article.

5. **Author.** The person or persons responsible for the writing of an article.

6. **Bibliography.** A list of references used in the preparation of an article usually appearing at the end of the article.

7. **Bibliometrics.** A discipline where mathematical and statistical methods are employed to analyse and measure documents as a whole or any of its component (Sen, 1996a).

8. **Biographical Notes.** Notes containing biographical information about the author concerned at the end of the Journal.

9. **Citation Analysis.** An area of bibliometrics which deals with the study of relationships between documents based on their citing and referencing patterns (Smith, 1981).

10. **Citations.** A reference to a text or part of a text identifying the document in which it may be found (Prytherch, 1995).
11. **Content Analysis.** An analysis of the textual and non-textual elements of a document (Diodato, 1994).

12. **Footnote.** Notes documenting the text, and corresponding to reference numbers in the text of an article, usually printed at the foot of the page or at the end of the article.

13. **Foreign Article.** Article written by any contributor working or residing outside Malaysia.

14. **Foreign Author.** Any author irrespective of country of origin working or residing outside Malaysia who has contributed an article.

15. **Gender.** The sex of the author or authors of the research article.

16. **Geographical Affiliation.** The country with which the author is affiliated at the time of the writing the article.

17. **Institutional Affiliation.** The organisation with which an author is affiliated as indicated in the biographical notes.

18. **Journal.** A periodical issued by a society, institution, and other bodies and containing news, proceedings, transactions and reports of works carried out in a particular field (Prytherch, 1995).

19. **Local Article.** Article written by any contributor working or residing in Malaysia irrespective of their country of origin.

20. **Local Author.** Any author irrespective of country of origin working or residing in Malaysia which has contributed an article.

21. **Multinational Article.** Article written in collaboration by two or more contributors coming from two different foreign countries.
22. **Multiple Authorship.** An instance in which two or more individuals jointly author a document. Used synonymously with collaboration, co-authorship or joint authorship (Diodato, 1994).

23. **Notes.** Special remarks or explanations to certain points in the articles not forming parts of the references or citations.

24. **Occupation.** The occupation of the author or authors at the time of the writing of the research article.

25. **Primary Author.** The author listed first on the title page of a document (Diodato, 1994).

26. **Reference.** List of documents consulted by the author when writing an article, usually given at the end of an article.

27. **Research Article.** Any learned contribution, more than one page in length excluding book reviews, obituary and memoriam.

28. **Secondary Author.** Any author other than the primary one; any author listed as the second, third or subsequent name on the title page of the document (Diodato, 1994).

29. **Scholarly Journal.** A periodical which contains reliable and research articles and is concerned with a serious study within a particular discipline and follows an acceptable form of academic enquiry (Zainab Awang Ngah, 1997).

**Style of Presentation**

As any learned endeavour, the author acknowledges the sources referred to in the completion of this through the proper documentation of such materials as are used for identification and verification purposes.
among them figure structure of the thesis, style of citations and references, treatment of words, numbers, unit of measurement, typography, formatting of tables and appendices and other secondary materials. Most of the secondary or primary sources cited in this study are documented using the *Chicago Manual of Style*, 14th ed., 1993 published by the University of Chicago Press which comprises two parts: the text citation and the reference list. In providing the text citation with the author-date system of documentation enclosed in parentheses, it is hoped to give brief identifying information while full bibliographic information is reserved for the list of references. Apart from that, it is the intention of the author not to allow over-documentation and every effort is taken to ensure that it did not happen. Hence, the author excluded footnotes or references at the end of each chapter as a step towards the prevention of over-documentation. Moreover, these very references would be listed at the bibliography at the end of this study. Finally, in the process of documentation, the integrity of scholarly communication is not be compromised to ensure consistency in format of documentation.

**General Overview of the Various Chapters**

This study is organised into seven chapters: Chapter One introduces the study by discussing the historical development of world scientific periodicals and the case of Malaysia, the statement of problem, the purpose, the significance of the study, scope and limitations, definitions of terms and style of presentation. Chapter Two reviews the body of literature related to bibliometric studies on individual learned
journal as obtained from *LISA-PLUS* 1997. Chapter Three describes the methodology that was employed in this study. Chapter Four describes the history of the *Journal of the Malaysian Branch of the Royal Asiatic Society* (*JMBRAS*) including its editorial, content and coverage, prolific contributors, visibility and indices. Chapter Five provides a descriptive analysis of the characteristics of the bibliometric data appended in the articles, book reviews and contents of the Journal between 1987-1996. Chapter Six provides suggestions for improvement, recommendations for further study and conclusion.

**Conclusion**

This chapter discusses the history and development of periodicals, provides an overview of the development of Malaysian scholarly journals, statement of the problem, purpose of the study, significance of the study, scope and limitations of the study, definitions of terms, abbreviations used, style of presentation and general overview of the various chapters of the study. On the whole, the growth of learned periodicals in various parts of the world, and especially in Malaysia, from a humble number of two in 1665 to over 50,000 in 1973 showed its very importance as a source of scholarly communication of knowledge and of information.