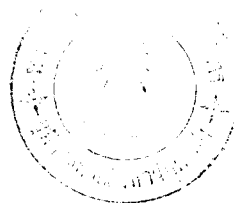


Chapter I



INTRODUCTION

Today the computer has come to be accepted by many libraries and information centers as one of the most useful pieces of equipment in library and information work. Serials control is one of the popular applications that has been computerized.

Serials are publications issued in successive parts intended to be continued indefinitely and are available by subscription or by a continuing arrangement. They are one of the most significant means of disseminating new knowledge in all fields of study, especially in science and technology. Literature experts estimate that the total number of scientific journals is about 35,000 titles and that this number is growing at the rate of 5-10% every year. Others have calculated that 1,500,000-5,000,000 scientific papers are published in journals every year and that the amount of this research literature doubles every 10-15 years.¹ The great profusion and the continuing nature of serial publications give rise to a need for effective listing, recording, and bibliographical control.

In general, the basic functions of serial control consist of ordering or renewing, accounting, receiving and checking in, claiming,

¹George S. Bonn, "Literature of Science and Technology,"

cataloging, binding and listing. The data for serials in a catalog must include not only the serial title but also the library's holdings. Moreover, since serials change their names frequently the catalog entries must provide tracings from prior names and variant names to the present one. Finally, libraries usually will bind sets of successive issues into bound volumes, so that a serials system must satisfy the added requirement of controlling when such binding should be done. These functions require relatively large amounts of data for each serial record and frequent updating. Taken together, this has implied that processing of serial records would be an especially attractive application for computers.²

Purposes of the Study

In view of the complexity of serials work and the possibility of using computers to deal with them, this study intends to find out the answers to the following questions:

1. How has the library computerization come into being?
2. What are the common library applications?
3. How is the computer used in serials work?
4. What are the existing computer applications for serials work in Thailand?

²Robert M. Hayes, and Joseph Becker, Handbook of Data Processing for Libraries (New York: Wiley-Becker-Hayes, 1970), pp. 653-4.

5. What are the future directions and trends in computer applications in Thailand?

Scope and Methods of the Study

This study will trace the development of library computerization in general and the use of computers in serials work in particular. Existing computer applications on serials in Thailand by the Library and Information Center of the Asian Institute of Technology and the Library and Information Center of the National Institute of Development Administration are to be studied in detail together with the on-going project for a computerized union list of serials. Future prospects in computerization, particularly through cooperative approaches, are to be examined.

Documentary research primarily will provide the information for the first three chapters which discuss history of library computerization, library applications of electronic data processing and computerized serials control. Information for Chapter V will be obtained through surveying the Library and Information Center, Asian Institute of Technology and the Library and Information Center, National Institute of Development Administration, studying the operations and interviewing those who are concerned.

Significance of the Problem

The significance of this thesis can be seen from the increasing use of computers by libraries and information centers

throughout the world including many in the developing countries. Thailand was among the earliest in Southeast Asia to use computers.³ Indonesia and Singapore have also pursued this course seriously.^{4,5} Although it has been felt that computers are too sophisticated and expensive for libraries in the developing countries where there is also a shortage of trained people who can use computers to the maximum advantages, recent trends indicate that large academic and research libraries, national libraries, or national documentation centers in developing countries can benefit from computerization through cooperative use. This study is undertaken to trace the development and to point out some of the most beneficial applications by computers.

³Hwa-Wei Lee, and Stephen W. Massil, Library Automation at the Asian Institute of Technology-Bangkok ("The LARC Report," Vol. 7 No. 2) (Peoria, Ill.: LARC Press, 1974).

⁴Sularti Ismusubroto, and Andrini Martono, Report on an Experiment in Computer-aided Periodical Listing (Djakata: Indonesian National Scientific Documentation Center, 1971).

⁵Lim Hong Too, "Towards a MARC-oriented Union Data Base for Singapore," Singapore Libraries, 3 (1973), 27-30.