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The development of the LAMP (Library Automation and Management Program) software for use in developing countries and its marketing in Pakistan

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ABSTRACT

The paper describes the features of an integrated library software developed in Pakistan under a project funded by Netherlands. The software, called LAMP, has been developed to cater to the library automation needs of developing countries and is based on CDS/ISIS. This paper gives some suggestions to develop a marketing plan for LAMP. It analyses the market situation, divides market into segments, presents SWOT analysis (strengths, weaknesses, opportunities, threats), and suggests a market mix (product, price, place and promotion) for marketing of the software in Pakistan as well as in other developing countries.

1. Introduction

With the rapid development of new information technologies in developing countries there is an emerging market for software which can be used in libraries and information centres. Software designers in developed countries have created a variety of applications for library and documentation work. In developed countries, the cost of development and maintenance of software can be very high and the libraries have to pay a large amount of money to automate their procedures. In developing countries the situation is entirely different. One of the major reasons for not automating the libraries is the lack of funds. The governments in developing countries hardly satisfy the basic needs of their inhabitants. Therefore, storage and dissemination of information is not included in their priorities. Libraries want a cheaper way to automate their systems and that is why the costly American or European library software packages may not be appropriate.

There could be two solutions: either advanced countries design software at a lower price and supply it to developing countries or developing countries themselves take the initiative to fulfil their needs. Adopting the first option will create some other problems. For example, cheaper editions of software are difficult to develop in advanced countries where programming rates are high along with problems in distribution, training, after sales service and so on. The second option seems to be more suitable but it also has some difficulties. For example, non availability of a competent software development team, financial

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resources for development, etc.

Realising this dire need of libraries in developing countries, the Netherlands Government decided to take the initiative to develop a library software package within a developing country. This work was carried out under a project named as Netherlands Library Development Project for Pakistan (NLDP-P) for which the Dutch Government provided all funding. The project was started in 1991 and concluded in 1996. In addition to the development of a library software, NLDP-P had the objectives to provide managerial, technical, and financial assistance in the information field for:

- developing human resources through training;
- formulation of national policies and plans;
- introduction of information technology;
- developing national database;
- establishing information networks.

2. Development of, and description of LAMP

In 1993, with the help of a team of computer programmers and experienced librarians, NLDP-P started the development of an integrated library software in Pakistan called LAMP. The package was designed using Micro CDS/ISIS. A number of Pakistani libraries were already using Micro CDS/ISIS which is a program developed by Unesco, distributed free of cost, and in use in 15,000 institutions throughout the world. LAMP is based on six different databases linked with each other by advanced programming in PASCAL language provided in CDS/ISIS. LAMP is a menu driven program with the main menu having the following options: Authority Files; Acquisitions; Cataloguing; Circulation; Utilities and Quit.

The acquisitions and cataloguing modules are further divided into Monographs and Serials. All menus have the options either to return to the previous menu or directly to the main menu. Each module has three basic options, i.e., Data entry, Searching and Reports. In all steps one can enter a new record or edit an existing one as well. In data entry, online help is given with each field. Searching is available by a number of access points and whole field and word-by-word searching is possible. Right truncation can also be done. Boolean operators, i.e., OR, AND, and NOT can be used to broaden or narrow the search. During data entry, a record number is automatically allotted to each record. Therefore, record wide browsing is also possible in searching. Results of searches and reports can be printed.

2.1 Acquisition of monographs

This module includes facilities for handling budgetary details for books and can produce reports for a given budget code, department, or budget head giving the total amount of a budget, amount spent, amount remaining, and amount to be paid. It also deals with requests for books to be purchased from

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particular suppliers and produces order slips which are ready for mailing. On receiving the books, it automatically calculates the prices. It maintains the payment record and balance of a particular supplier. Details of the status of the book, i.e., ordered, received but in process, or catalogued and shelved, can be displayed.

2.2 Cataloguing of monographs

In designing this module the standard cataloguing code, i.e., Anglo American Cataloguing Rules, 2nd Edition (AACR II) was followed. Analytical cataloguing is possible in LAMP and even chapter-wide searches are possible using keywords. Various access points such as Accession number, Call number (both DDC – Dewey Decimal Classification, and local), Personal author, Corporate author, Title, Series, Publisher, ISBN, Subject heading, and Project or Seminar names are available in searching. Searching using a combination of different fields is also provided. In reports, spine labels can be printed. For libraries which wish to maintain a manual catalogue, Title, Author, Subject, and Series cards can also be produced. For a given call number, Subject, or Author, sorted bibliographies can be prepared. Statistics about library holdings can also be produced. LAMP can also report on the individual performance of a cataloguer, data entry clerk, editor, or a proof-reader.

2.3 Circulation of monographs

The automated circulation system of LAMP is compatible with the traditional manual system prevalent in most of the libraries in Pakistan. The system provides the facility to define various loan policies such as how many books can be issued, for what period and to whom and if the book is overdue, what fine should be charged. The system registers the library users and allots them membership numbers. A user can reserve an issued book and at the time of return, the system displays the reservation status of a book, if any. An item can be reserved for a maximum of three library members. Priorities may be defined for reservation requests. The system has the provision to display information about the borrowing history of a particular title or a member for a given period of time. It can also show the status of an item such as, on loan, reserved or available on the shelf. LAMP can print reminder notices for overdue books. It automatically calculates the fine on overdue books. LAMP's circulation module is able to provide a Selective Dissemination of Information (SDI) service to the users. This service is used to fulfil the specific requirements of users. On defining the subjects of user's interest, the system flags all items which fall into the defined category of a subject. A printed list can be mailed to the users.

2.4 Acquisition of serials

To cater for the specific requirements of serials a separate sub-section for the acquisition of serials was developed. Purchase orders for serials can be prepared

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and renewed annually. Searching by a serial's title, purchase order number, supplier's name, requester's name, date ordered, and subscription start and end date is possible and reports of a particular supplier can be obtained.

2.5 Cataloguing of serials

In this module searches can be made using access points such as classification number, title (current/former), publisher, subject heading, ISSN, and frequency. The system can display and print a complete holdings report of a particular serial title.

2.6 Authority files

Authority files are created to avoid unnecessary duplication of information and maintain consistency and uniformity in the database. There are three categories of authority files in LAMP, namely Organisation authority (Publisher, supplier, corporate body, department, and project authorities for monographs and serials), Name authority and Subject authority.

2.7 Utilities

Some additional programs have been provided in LAMP and these are called utilities. Sometimes these programs require advance knowledge of DOS, Word-processing and CDS/ISIS. Here are some of the important utility programs :

- Global change
- General editing
- Spell check
- Duplication check (Title and Accession number)
- Accession register
- Backing up LAMP databases
- Shelving control

As most of the library resources in Pakistan are in the Urdu language, NLDP-P has converted all menus and data entry worksheets in LAMP into Urdu.

NLDP-P has prepared documentation to support its development of LAMP and has published a well written manual of LAMP of about 250 pages which contains an introduction to DOS and CDS/ISIS. A chapter on quick start LAMP is included in the manual. A field by field guide to the LAMP databases has been provided. The manual also includes the LAMP installation procedure, general cataloguing guidelines, rules for allotting authority codes, sample filled-in worksheets and outputs, ISO codes for countries and languages, back-up of LAMP databases, ASCII codes, and the LAMP licensing agreement. A work book on LAMP with examples has also been prepared by NLDP-P.

PLA Computer Training Centres at five major cities in Pakistan offer regular courses on LAMP. NLDP-P has also conducted special courses for the students

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of library and information science at various universities in the country. LAMP demonstrations have also been arranged in all big cities of Pakistan. The University Grants Commission has recommended practical training of LAMP in the new curriculum for Masters in Library & Information Science in Pakistan.

3. Marketing of LAMP in Pakistan

There are approximately 4,000 libraries of various types and sizes in Pakistan. For various reasons, only a few of these are computerised or are likely to be computerised. Lack of budget is the major problem. The concept of library automation is also not clear in the minds of policy makers and library professionals. LAMP is the first library software introduced in Pakistan by library professionals and NLDP-P is the pioneer in this field. After completion of the project period, NLDP-P handed over the software to the Pakistan Library Association (PLA) and now the PLA is responsible for the marketing of LAMP as well as for providing after sales service and further development of the software. LAMP is currently (mid-1997) being used in more than 25 libraries including six legislative libraries of the Senate, the National Assembly and the Provincial Assemblies. Some libraries successfully use LAMP on a local area network (LAN). LAMP software has also been sent (for trial) to 60 international institutions in more than 15 countries.

PLA has not yet developed a formal marketing plan for LAMP, though NLDP-P, during previous years, promoted LAMP through various activities. Therefore LAMP is not yet achieving its goals. It is necessary to develop a marketing plan for the software by fixing a suitable market mix for Pakistan as well as for other developing countries.

3.1 Market situation in Pakistan

The market for library automation in Pakistan is tremendous and it is estimated that only one per cent of all the libraries have been automated so far. With the right marketing mix this market can be tapped and since there are no serious competitors, the chance of creating a monopoly is excellent. However, the main problem is the attitude of the librarians. The majority of them do not want their libraries to be automated because they fear that it will lessen their control over the other staff as staff obtain more skills thereby reducing the librarians' authority over them. One possible competitor to LAMP is KITABDAR, a multilingual library software package which can handle data both in English and Urdu, and which has been developed and marketed by Silicon Systems (Pvt.) Ltd., Lahore and which is in use in five/six libraries in Lahore. Another competitor is a package being developed by Jaffer Brothers Limited (JBL). JBL is a private company which enjoys a good name in the market.

3.2 Market segments

For the marketing of LAMP four major market segments can be identified:

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Segment-A: This segment comprises those institutions which have high budgets, are foreign aided and are financially strong. For example, LUMS is a financially strong university in Pakistan and its library has already purchased a foreign library software package. The American Center and British Council Libraries in Pakistan are funded by foreign governments and they too use costly imported software.

Segment-B: In this segment are the institutes of higher education, special libraries where finance is arranged locally (self financed, Government funded, privately funded), and which have moderate budgets. For example, university libraries, business school libraries, medical college libraries, special libraries (e.g. Punjab Assembly Library and Punjab Public Library).

Segment-C: In this segment are the libraries with low budgets and small collections of books; for example, intermediate and degree college libraries, small public and school libraries, higher secondary government schools.

Segment-D: This segment comprises libraries with very low budgets such as inter and degree college libraries of remote/rural areas and commercial institute libraries.

As the institutions of Segment A have good budgets they can afford the expensive foreign software. Therefore Segment B, having a more moderate budget, may be selected as the main target market for LAMP. By revising the market mix carefully and realistically Segments C and D may also be targeted.

After getting the feedback from local libraries in Pakistan and debugging the software, PLA should give attention to the marketing of LAMP in other developing countries.

3.3 Macro-environment situation

The macro-environment factors which are currently influencing marketing decisions pertain to the fact that there is a growing awareness in the Pakistan about information dissemination. This is evident through the policies of the government of Pakistan which is promoting a literacy campaign as well as a technology advancement campaign. These policies are also allowing the libraries to obtain more funds thereby helping PLA's efforts.

As librarians are not highly educated in automation of their services, special attention must be given towards training of the librarians and their subordinate staff on LAMP and in computer applications generally.

4. A SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis of LAMP

4.1 Strengths

The strengths of LAMP include the following:

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- It is produced by librarians at PLA/NLDP-P.
- PLA is a not-for-profit organisation which will update the software according to the needs of libraries on a non-commercial basis.
- PLA is a small body which can easily adapt itself to the changing environment of the market.
- With the help of expert professional librarians PLA can easily develop and maintain the software.
- The price of LAMP (at Rs. 15,000) is reasonable, and PLA offers free after sales services.

4.2 Weaknesses

- LAMP still exhibits some technical faults.
- LAMP possesses all the weaknesses of its base software, i.e., CDS/ISIS. Some limitations of CDS/ISIS could not be overcome even through advanced programming.
- LAMP is not based on any MARC format which is demanded by most of the libraries particularly in foreign countries.
- A very small budget is provided for the promotion and selling of LAMP.
- Lack of co-ordination between PLA Headquarters and five branches in updating and marketing of the software.

4.3 Opportunities

- Rapidly growing awareness of library automation in developing countries.
- Sheer size of data is moving libraries towards automation. The bibliographic data is becoming so huge in most libraries that it is now difficult to handle properly.
- Governmental policies for the development of information technology.
- Establishment of educational institutions in private sector causes a competitive environment. To attract the students a good automated library is felt necessary.
- Lack of many competitors.

4.4 Threats

- The largest threat is the opposing attitude of librarians towards automation.
- A possible threat may be the ever changing priorities of the government.
- Other competitors may become a threat in future as some of them are planning to provide library software free of cost.

5. Market mix (product, price, place, promotion) for LAMP in Pakistan

5.1 Product

In addition to the LAMP software, other supporting products offered by PLA include:

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- a CD-ROM which includes bibliographic records of 23 libraries which have been computerised using LAMP. The databases contain about 260,000 records and this CD-ROM may be used as a union catalogue;
- services for retrospective conversion. PLA has developed a team for classification, cataloguing, and data entry of bibliographic records.

There are some recommendations that would enhance the quality of LAMP:

- some problems appear in the software particularly in some local environments such as different DOS versions, etc. These bugs should be eliminated and the software should be made as independent of local variations as possible;
- a video demonstration of LAMP should be prepared to reduce the fear and hesitation of librarians to use the software;
- as optional products the catalogue cards and spine labels may be prepared on continuous stationery;
- LAMP lacks the ability to handle non-book materials and so should be upgraded to overcome this;
- LAMP should be divided into different modules which should be available separately;
- LAMP in the Urdu language is a great achievement and other non-roman scripts should be developed.

5.2 Price

At the moment the price of LAMP is Rs.15,000 for all types of libraries.

The following recommendation are given in price setting:

- the price should be different for various market segments;
- LAMP should be divided into different modules and a modular pricing strategy should be adopted;
- discounts should be given on early/cash payments;
- some libraries in segments A and B may want some customisation of the software. Cost of special changes may be charged separately;
- if an institution demands more training, costs for that may also be charged.

Suggested price list in Pak Rupees:

- Segment A 35,000/- (Subject to the improvements in product)
- Segment B 25,000/-
- Segment C 15,000/-
- Segment D 5,000/- (Sometimes free for promotional purposes)

5.3 Place (Distribution)

Now there are six distribution channels:

- PLA Headquarters, Islamabad

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- ii) PLA Sindh Branch, Karachi
- iii) PLA Punjab Branch, Lahore
- iv) PLA NWFP Branch, Peshawar
- v) PLA Baluchistan Branch, Quetta
- vi) PLA Federal Branch, Islamabad.

There is an unlimited number of people who could become agents for distributing LAMP after passing a test devised by the PLA. PLA has also nominated individuals as agents who can distribute on the behalf of PLA. They were given 35% of the income and would be bound to provide one year after sales service.

Here are some recommendations on distribution:

- PLA should nominate large libraries as distribution channels and agents
- PLA should hire the services of organisations dealing with the marketing of various products relating automation.

5.4 Promotion

NLDLP-P has promoted LAMP in various ways:

- sending brochures of LAMP to many libraries;
- establishing training centres for LAMP in five cities of Pakistan;
- conducting training courses in other big cities of Pakistan;
- giving some copies of LAMP free of charge to big libraries in Pakistan;
- donating 20 computers to different libraries with the LAMP software;
- using PLA's newsletters and journals for advertisements;
- arranging free courses on LAMP for the students of library science at various universities in the country;
- introducing LAMP at various conferences of PLA and other professional associations;
- providing LAMP free of charge to library schools.

For the further promotion of LAMP some proposals are given below:

- try to promote overall automation in the libraries of Pakistan, brochures should be sent regularly to the libraries and all members of PLA;
- print media should be used, e.g. newspapers, professional journals and electronic media for advertisement of LAMP;
- articles should be published which discuss the different aspects of LAMP by members of the PLA;
- at professional conferences experts should present papers on LAMP;
- regular stalls should be arranged at professional exhibitions and seminars;
- the representatives of the LAMP should provide authority cards;
- PLA/NLDP-P should prepare demo diskettes of the software for demonstration purposes;
- PLA should arrange free courses for every session of library science students in all universities of Pakistan;

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- a LAMP user group should be established and a permanent newsletter be issued through this group.

6. Market Mix (product, price, place, promotion) for LAMP in the international market

For various reasons Pakistan is totally isolated from the international information community. PLA, realising this deficiency, has made extensive efforts to improve the situation by creating linkages with institutions such as Unesco, International Federation of Library Associations & Organisations (IFLA) and the International Development Research Centre, Canada (IDRC).

For the purpose of LAMP marketing we can divide the world market into two segments :

- i) Developed Countries
- ii) Developing Countries

LAMP has been developed in Pakistan and it particularly fulfils the needs of the libraries in less developed countries. Therefore, in the beginning we can only target developing countries.

6.1 Product

One copy of LAMP has already been sold to the University of South Pacific in Fiji. Some other institutions from Australia, Papua New Guinea, Chile and Syria have showed interest in purchasing LAMP. The format adopted by the software may be considered a standard for Pakistani libraries but this is not an international standard. USMARC or UNIMARC are usually accepted internationally as bibliographic standards. LAMP should be re-designed according to these standards. Some institutions from developing countries have showed interest in LAMP but they demanded international standards. Moreover, the international trend of library software is changing from DOS to Windows. LAMP should also be developed to run under other operating systems like UNIX, OS/2, and Windows.

6.2 Price

The price of LAMP in the international market is US\$600. This price should be negotiable in special circumstances.

6.3 Place (Distribution)

LAMP has been sold to some institutions abroad directly by NLDP-P/PLA through e-mail or ordinary mail. The problems in international marketing of LAMP include installation, proper training, after sales service, trouble shooting, etc. For distribution of the software the following may be helpful:

- i) Library Associations of Developing Countries

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- ii) National Libraries
- iii) Library Science Departments at Universities
- iv) Unesco Regional and Country Offices
- v) Other libraries/information centres which play leading role in the profession e.g. National libraries of medicine, National scientific and technical documentation centres, etc.

6.4 Promotion

Existing promotional activities of LAMP at international level include:

- articles in professional periodicals;
- news about LAMP in professional newsletters;
- office bearers of PLA go to international conferences, e.g. IFLA conference. Representatives from NLDP-P/PLA have participated in recent IFLA meetings and this was a good chance to introduce LAMP to the people from other countries;
- arranging LAMP demonstrations outside Pakistan, e.g. demonstrations were arranged at The Hague and Manchester for CDS/ISIS users groups in Netherlands and UK respectively;
- LAMP introduction on the Internet, e.g. the software was introduced on the CDS/ISIS discussion list;
- copy of the software and user manual were sent to more than 60 institutions world wide which are doing research in the field of library and information science.

The following measures are recommended for further international promotion of LAMP:

- more articles and news should be published in the professional periodicals;
- PLA should open a home page on Internet for LAMP where, along with the information, a demonstration version of the software should be available;
- library associations of developing countries should directly be contacted for promotion and distribution purposes;
- if the budget allows, demonstration/training courses may be arranged in other countries.

7. Conclusion

Library software development and its selling in developing countries is not easy. Implementing the principles of marketing, software developing companies can fulfil automation needs of libraries. These principles include analysing market situation, SWOT analysis, and setting a good market mix. Professional associations of librarians and information scientists in developing countries can play a vital role in this respect. To fill the gap between information rich and

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information poor societies, information technology should be promoted in developing countries. Advanced countries should provide funds in this field.

Further Reading

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