LIBRARY AND INFORMATION PROCESS OUTSOURCING (LIPO): AN IMPORTANT TOOL FOR MANAGING ENGINEERING AND TECHNICAL INSTITUTES IN HIGHER EDUCATION, GOVERNMENT OF WEST BENGAL

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The study seeks to build a framework for an outsourcing process that can suit to support managerial decisions and to evaluate the present functions of Government and Government aided engineering & technological institute libraries of West Bengal in terms of their physical resources, finance, staff, house-keeping operations, ICT application, pros and cons, services, etc. Based on the findings, the study suggests that the process of outsourcing can be used as an alternative tool for effective management of functions and/or services and directs in developing a LIPO model for future guidance.

Keywords: Library outsourcing, Library management, Decision making, Technical Institute Libraries, Library partnership, West Bengal.

INTRODUCTION

Libraries around the globe are constantly facing through evolving environment. Nowadays information process and management in libraries is more complex, and is still developing in a new plan of action. Rana and Paul (2008) have opined that the nature of services provided to the patron, the processing and organization of information resources are the major concerns to a changing environment. The gaps present in required manpower and available HRs in science and technology libraries (Sharma and Gupta, 2012). The common phenomenon is that most of the libraries do not have adequate manpower to cope up with the problems and to cater the needs of the patrons. The budget provisions are shrinking day by day, remaining constant or not increasing at par with the increasing demand. As a result, there is an urgent need of varied staff with expertise to fight the situation. Therefore, the library professionals must be practical to look into matter and explore alternative avenues/tools while their capacity of management and efficiency are being enquired for their existence. The present study tries to throw light on this direction.

REVIEW OF LITERATURE

Library functions / services done by outside staff were not generally tagged as outsourcing when it was first implemented, but outsourcing of these activities is a common practice today. Since 1990s outsourcing in libraries has been converting through an uncomplicated job to a new and strategic business management exercises. The functions or processes of library can be categorized into two- core and non-core. Book binding works, security services, photocopying services, cleaning and conservation works in most of the libraries have been in the hands of outside agencies since long. All these works have not been regarded as typical core functions of the library. According to ALA Task Force (1999), "Core functions/services are professional activities that define the profession of librarianship". But, there is a dilemma about the concept of core functions – it may differ from library to library. The concept of core in one library may be taken into a non-core in another library. However, a number of varieties of core functions may be outsourced by many of the libraries today. Rana and Mondal (2018) defined, "Library and Information Process Outsourcing (LIPO) is the transfer of works and services to the third party vendors, or organizations or service providers rather than performing by in-house staff as set forth in an agreement or with terms of references". Lam and Chua (2009) proposed an alternative and less widely discussed view of knowledge management (KM) to express the need of knowledge outsourcing as an alternative approach to KM. Ebbinghouse (2002) believed that, "If outsourcing was the librarian's idea, then it was a practical and prudent solution".

According to Romero (2011), "There is a need to adapt to the demands of the society with services that in many cases are not performed by the entity itself due to lack of specialized resources within the organization". Swan (2009) presented a slide show illustrating how paraprofessionals are playing increasingly responsible roles in library operations and thus should be trained on to be effective and knowledgeable. Rana (2015) observed that LIPO is regarded as a standard global practice due to its established method in achieving competitive advantages. He also observed that higher technical/ engineering institute libraries are tending towards outsourcing in performing different works or services effectively, particularly in non-core areas. Ugah (2010) pointed out, "When replacing card catalogues with online catalogues, libraries have hired contractors to convert their records to digital format. Vendors of automation services can be contracted to provide online access to library collections". Matsuoka-Motley (2011) observed, "Distinctly different from the US, the prevailing tendency in Japanese academic libraries is to turn many services over to commercial vendors: public services operations, reference desks, circulation desks and user education". Pantry and Griffiths (2004) have tried to show the renewed interest in outsourcing among governmental entities that began in the 1980s was generated by factors other than increasing profitability. Norman (2013) opined that collaboration was a way to do library work differently in order to do more for a library's communities.

COMPONENTS OF LIPO

According to Power et al. (2006), "There are three major players in outsourcing activities- the Client, the Vendor and the Project". The organization transferring works/services is

regarded as the client (library), performing the work and making decision by the individuals/ organizations are the vendors, and the extent of the area of library work is taken into custody in a project (Fig. 1).

Fig. 1: Components of LIPO

WHY LIPO?

Some research gaps do exist in library outsourcing literature and most specifically on the matter of processing work and services in technical education were identified. Based on the objectives, the research question of significance of LIPO was raised. The authors of this paper also notice that there is not enough research study made on developing the decision model and offering tools or guidelines to support library managers with appropriate empirical evidence. This study tries to address the gap.

OBJECTIVES OF THE STUDY

The primary objectives of the present study are-

i)   to introduce an innovative technique for managing library resources.

ii) to identify the factors those influence the decision to outsource.

iii) to determine how far outsourcing would be an amicable solution for library functions and/or services.

iv) to identify whether the users are satisfied from LIPO services.

v)   to study the extent of relationships between the client organizations (libraries) and external partners or outsourced service providers (vendors).

METHODOLOGY

The survey method is carried out to see the state of the art of outsourcing issues and approaches and to gather information and opinion of LIS professionals and users of IIT, NIT, University and Institutes of National Important libraries. Two sets of structured questionnaires were prepared to collect data. One set is meant for LIS professionals and another set is for recipients (users) of libraries. Stratified Random Sampling technique has been used to gather responses of users. Approximately, yearly 2,43,527 average users are there during the financial year from 2011-'12 to 2015-'16. Out of which .5% users have been chosen as the sample frame.

LIPO FACTORS

Libraries have to pay notice on certain points to get full advantages of outsourcing:

i. *Identifying the need*

First of all, libraries have to specify the need and determine which activities are to be outsourced currently. Information audit may be done for this purpose and also need to ensure the capabilities of service provider(s) with all relevant qualifications to perform duties and/or render services.

ii. *Watching the process*

Libraries require determining methods and criteria according to which service providers are assessed on a regular basis and continuously monitor the performance of them to react to any failures in due course of time. They should be able to terminate their outsourcing agreement, if required and without any adverse effect on continuity and quality of any library services provided to the customers.

iii. *Planning for finance*

Libraries need to prepare a plan of unforeseen events and ensure continuous compliance of fund to run the project and its continuity. They also need to maintain the risk of customer data safety in case of any system failure.

iv. *In-house confrontation management, if any*

Libraries need to conduct meeting transparently or make another study of internal communication in order to comply / manage any issue of resentment on the part of existing staff when outsourcing of core operational functions to the decision.

Before taking resolution to outsource various library and information related processes or services, the following factors are to be considered cautiously and deliberately-

a. Cost
b. Issues of core competencies
c. Use of technology and quality
d. Communication
e. Users' satisfaction with augmented facilities and feedback
f. Periodicity, etc.

DATA ANALYSIS AND INTERPRETATION

Libraries are broadly categorized into three groups: University, College and Institutes of National Importance. Their sources of fund are divided into three categories viz. Government, Government aided and the fund of the PPP model. Systematic analyses of both theoretical and empirical data from the professionals of these libraries and library users' responses have led to an opinion that helps to generalize the findings of this study.

Libraries and Sources of Fund

The table 1 shows that all responded university libraries' fund is Government aided. 40% of college libraries are purely Government funded and only 5% is funded by the PPP model in nature. All the institutes of national important libraries are from the category of Central Government funded.

Table 1: Category Wise Distribution of Libraries and Sources of Fund

| Category of Libraries | Total | Type of allocated Fund | | | | | |
| | | Government | | Government Aided | | PPP Model | |
	Number	Number	%	Number	%	Number	%
University	7	0	0	7	35	0	0
College	9	8	40	0	0	1	5
Institutes of National Importance	4	4	20	0	0	0	0
Total	20	12	60	7	35	1	5

RESPONSES OF LIBRARY PROFESSIONALS

Status of Library House-Keeping Operations and Use of LIPO

Professionals of these libraries were asked to know the status of resources and their functions. It can be interpreted from table 2 that 70% of the respondent libraries house-keeping works are either incomplete or under process. 60% of total house-keeping works are done or to be done by both outsourcing and staff of their own. It is interesting to note that about 50% of respondent college libraries' house-keeping works are done exclusively by outsourcing.

Table 2: Status of Library House-Keeping Operations and Use of LIPO

Types of Libraries	Status						Done/To be Done					
	Complete		Incomplete / Under Process		Planning to Start Shortly		By Own Staff		By Outsourcing		By Both	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
University	2	10	5	25	0	0	1	5	0	0	6	30
College	2	10	7	35	0	0	1	5	4	20	4	20
Institutes of National Importance	2	10	2	10	0	0	2	10	0	0	2	10
Total	6	30	14	70	0	0	4	20	4	20	12	60

House-Keeping Operation

From table 3 it can be concluded that 95% of libraries' house-keeping operations are incomplete mainly due to insufficient in-house technical staff. Being the Government / Government aided institutes; only 5% of libraries' house-keeping operations are incomplete due to lack of fund.

Table 3: Reasons for not Completing House-Keeping Operation

Reasons	Libraries	
	Number	%
Lack of Supporting Technical Staff	19	95
Lack of Fund	1	5
Lack of Enthusiasm	0	0
Lack of Technical Knowledge of Existing Staff	0	0
Other Reasons (if any)	0	0
Total	20	100

Planning to Adopt LIPO in Automation Process

The table 4 shows that 70% of the respondent libraries have planned to outsource for accomplishing the work of automation, as they have inadequate staff and infrastructure in their respective library, but on the contrary, 30% of the respondent libraries have opined that they have no planning to accomplish automation work with the help of outside staff rather they have bitter experience while engaging them in such other library works. So, they would like to complete it with the help of own staff or they would prefer to retain the work for in-house execution only.

Table 4: Planning to Adopt LIPO in Automation Process

Planning	Libraries				
	University	**College**	**Institute of National Importance**	**Number**	**%**
Yes	5	8	1	14	70
No	2	1	3	6	30
Total	7	9	4	20	100

ADVANTAGES OF LIPO

Respondents from librarians and other library professionals were asked to state as to whether the engagement of service providers in libraries was beneficial or not. Their personal responses and opinion are noted separately in an exercise book and is represented in the following table. Some respondent library professionals have responded to more than one benefit at a time. In table 5, it is interesting to note that all the respondent librarians, assistant librarians and other library professionals have necessary knowledge about the idea of outsourcing in their respective field. Some of them opine in favour of outsourcing as economical, time saving, enhance library efficiency, etc. at a time.

Table 5: Benefits regarding the adoption of LIPO

Benefits	Responses of Libraries			Total Responses N=20		
	Univ-ersity	**College**	**Institute Of National Importance**	**N**	**%**	**Rank**
Economical	4	8	3	15	75	1
Time Saving	6	7	2	15	75	1
Enhance Library Efficiency	5	7	0	12	60	2
Authorities Get Enough Time to Involve Other Developmental Activities	6	4	1	11	55	3
Gives Relief from Stress and Strain	3	3	1	7	35	4
Staffs are Enriched	1	2	1	4	20	5
Input Latest Technical Know How	1	0	1	2	10	6
Other Benefits (If any)	1	0	0	1	5	7
No Idea of Outsourcing	0	0		0	0	8

DISADVANTAGES OF LIPO

Librarians and other library professionals of respondent libraries were asked to state about what disadvantages they have observed while working with outsourced staff. This has been depicted in the figure 2. The figure 2 shows that the disadvantages of outsourcing faced by librarians and other library professionals mostly as it deserves constant supervision, performance may not be up to the level of satisfactory, agents recruit less qualified staff, fear to lose control over a vital department, etc.

Fig. 2: Disadvantages of LIPO
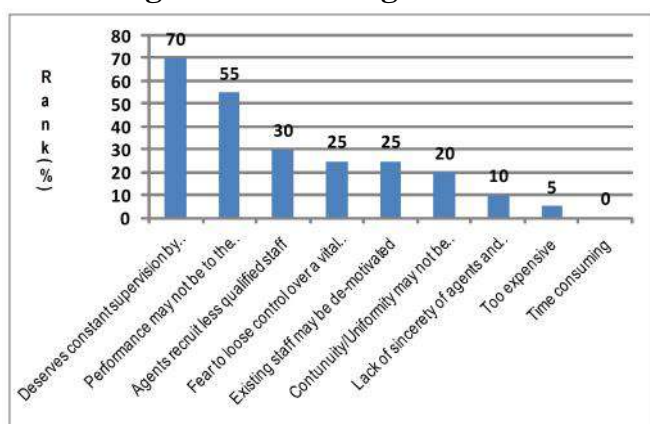
GENERAL OPINION OF LIBRARY PROFESSIONALS

Library professionals have been asked to know as to whether LIPO be adopted in their respective libraries or not. Their personal thinking and general comments in this regard are shown in the following table. Some respondent library professionals have responded to more than one opinion at a time.

In table 6, 58.33% of library professionals have answered that the process of outsourcing in libraries may be adopted as a managerial tool or technique. 16.67% of respondent library professionals have of opinion that one should adopt outsourcing in libraries immediately and 8.33% of respondents have expressed their views regarding the adoption of outsourcing in libraries may be considered in future. 4.17% of respondent library professional have answered that one should not adopt it. However, 12.5% of respondent library professionals are unwilling to put any comment in this regard.

Table 6: Library Professionals' Opinion regarding adoption of LIPO

Opinion	Professionals of Libraries					
	Univ-ersity	Coll-ege	Institute of National Importance	Number	%	Rank
One should Adopt it Immediately	2	2	0	4	16.67	2
May be Adopted as a Managerial Tool / Technique	5	6	3	14	58.33	1
One should Think to Adopt it in Future	0	1	1	2	8.33	4
One should not Adopt	0	1	0	1	4.17	5
No Comments	1	1	1	3	12.5	3

RESPONSES OF RECIPIENTS (USERS) OF SERVICES

There are different types of users like faculty, staff, students and research scholars in the library. They are categorized in table 7. Users of libraries are made them aware by the principal investigator of the fact that the process of outsourcing works has been done in the respective library or the process is going on. Respondent users are asked to know if they have any experience of getting better services or not with the introduction of outsourcing in the library and they have been requested to furnish their views.

The table 7 shows that 21.62% of respondent users are taken from faculty category of university, college and institute of national importance. 24.86% of respondent users have taken from staff category, 47.62% have taken

Table 7: Category Wise Distribution of Users

Category of Users	Libraries							
	University		College		Institute of National Importance		Total	
	Number	%	Number	%	Number	%	Number	%
Faculty	83	7.90	110	10.48	34	3.24	227	21.62
Staff	95	9.05	127	12.09	39	3.71	261	24.86
Students	202	19.24	210	20.00	88	8.38	500	47.62
Research Scholars	23	2.19	7	0.67	32	3.05	62	5.90
Total	403	38.38	454	43.24	193	18.38	1050	100

from student category and 5.90% of respondent users have taken into account from the research scholar category respectively.

Users' views about Library Services

The table 8 shows that 84.58% (44.87% + 39.71%) of users are either very much satisfied or satisfied with the introduction of outsourcing in the libraries. However, 7.42% of users opine that they have average satisfaction with the outsourcing arrangements in the libraries. 6.28% of library users have not responded to put their views.

Table 8: Users' Views about Library Services

Category of Users	Users' Views									
	Very much Satisfied		Satisfied		Average		Not Satisfied		No Remarks	
	Number	%	Number	%	Number	%	Number	%	Number	%
Faculty	87	8.29	104	9.90	14	1.33	2	0.19	20	1.90
Staff	106	10.10	113	10.76	18	1.71	9	0.86	15	1.43
Students	246	23.43	183	17.43	46	4.38	6	0.57	19	1.81
Research Scholars	32	3.05	17	1.62	0	0	1	0.09	12	1.14
Total	471	44.87	417	39.71	78	7.42	18	1.71	66	6.28

BUILDING RELATIONSHIP WITH THE VENDOR

Library professionals were asked to know as to whether the long term relationship and/or collaboration are built up while working together with their respective libraries or not. Their personal opinion and general comments are shown in the table 9.

In table 9, 70% of respondent library professionals have said that a good relationship and collaboration is built up while working with the vendors. However, 30% of professionals have opposed to the relationship building with the vendors and reluctant to engage outsourced staff for processing works or for proving library services.

Table 9: Building Relationship with the Vendor

Relationship	Professionals of Libraries				
	University	College	Institute of National Importance	Number	%
Yes	5	8	1	14	70
No	2	1	3	6	30
Total	7	9	4	20	100

FINDINGS OF THE STUDY

The major findings of the study include- the scenario of lacking expertise, shortage of technical staff and to some extent economic hindrances in the libraries. In contrast between the Indian and the International Libraries where most of the Indian, particularly in the libraries of West Bengal are abstaining from outsourcing of core activities or services but they prefer to use outsourcing in non-core activities and services. The growth and development of the process of outsourcing activities is as a common practice in the libraries; the preference of direct coordination and supervision of outsourcing works by the university/college authorities to establish credibility, accountability, and evidence of good library management with value added services. The acceptance of outsourcing as a new strategic managerial tool by the library professionals is growing gradually. Conversion of cataloguing data especially the retro conversion, bar-coding of books, project requiring specialized services like RFID tagging, networking, works of bookbinding or installing expensive equipment, such as de-acidification or imaging projects, externalization or total outsourcing of library functions and services, library consortia and networking are the examples of acceptable outsourcing projects in an environment of shrinking budget and increasing demand for changing information and knowledge. Many libraries in West Bengal can use the outsourcing framework or model to enhance outsourcing operations and contribute to the broader aspects of management process.

DESIGNING A LIPO MODEL

The study proposes a decision model based on the survey of outsourcing activities in West Bengal and suggests a fundamental guideline while making an outsourcing decision. Software Engineering Institute at Carnegie Mellon University developed a five level maturity scales called Capability Maturity Model (CMM) for organizing the management of software projects. CMM is developed in such a manner that ad-hoc or chaotic software processes change to optimized software management functions. In an opening level, an organization working with ad-hoc and chaotic processes can lack project plans, implementation mechanisms or formal procedures. In the next level, the organization has project controls like product assurance, project management and change control. At defined level, the organization can examine and identify primary approaches to improve the processes. At managed level, the quality and productivity dimensions are established. At optimized level, the main aim of the organization is to focus on recognizing weaknesses and making the process stronger. The concept of CMM can be applied to library and information science field to perform the functions effectively and can be able to devise the Library Outsourcing Management Maturity Model (LOMMM). The rationale for which the CMM was created has very much importance in the outsourcing industry and hence requires the said model (Fig. 3).

FIVE LEVEL MATURITY STAGES

Though LIPO is recognized as an important tool for providing numerous potential benefits, library management has to undergo certain changes from one stage to another. It often encounters several problems associated with such a critical decision. Such stages are as follows:
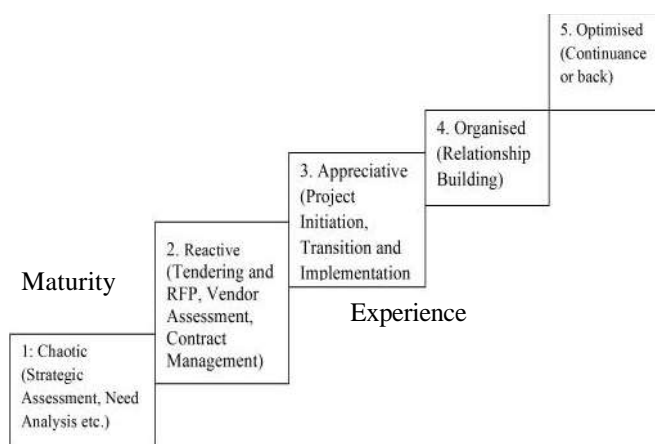
Fig. 3 Library Outsourcing Management Maturity Model (LOMMM)

Stage 1 consists of a chaotic and informal strategic assessment process. The library may not understand thoroughly the entire life cycle of library outsourcing. Some parts of the processes may be unknown to it, e.g. information audit, etc.

At **Stage 2**, the library becomes reactive to the documentation of inviting tender, request for proposal (RFP), vendor assessment and selection, etc. Owing to external pressures, the library starts improving different parts of the outsourcing process.

At **Stage 3**, the various functions of outsourcing are established over time and thus library outsourcing becomes process-centric. This phase marks the transition from in-house provision of services to implementation phase of outsourcing. It is the most difficult and troublesome phase of the agreement for both the library and the vendor that need to design and introduce new workflows.

At **Stage 4**, the library sets a quality goal for processes, services and maintenance. When it is ensured that expected levels of services and performance are met, the good relationship between the vendor and the library is developed.

The **Stage 5** is marked by continuous improvement in process performance. To sustain the maturity, the library has to upgrade the process continuously with monitoring experience and optimize the result of outsourcing. If the library fails to improve and keep the process up to date, it will be back to Stage 4. This drop is equivalent to poor contracting processes, inadequate planning and/or ineffective management of contracts.

CONCLUSION

From the present study on LIPO, the following conclusions may be drawn-

➢ Library processing works and/services in most of the libraries are either incomplete or under process due to shortage of technical manpower and fund, LIPO, in this case, may be an alternative arrangement for improving the situation and rendering services to the patron.

➢ To get full benefits of LIPO, the client libraries need to pay attentions to the right choice of vendor(s), various factors of products and services and follow up actions.

➢ Apart from the reduction cost, LIPO may bring on quality of products, time saving and building relationship with the vendors as a part of the system for a given period of time, otherwise it may lead to decline in optimized level.

➢ The efficiency, time, cost, effectiveness, etc. are judged by the library professionals who have recommended for positive use of outsourcing. However, they have pointed out some disadvantages that are to be overcome carefully and judiciously.

➢ The study proposes Library Outsourcing Management Maturity Model (LOMMM)

based on the findings and suggests a fundamental guideline while making an outsourcing decision.

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