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CHAPTER 1

INTRODUCTION

1.1 BASIC CONCEPTS OF THE STUDY

Despite the advancement of technology and the new forms of documents, the nature of libraries will always prevail as long as we love books. Libraries will have to act as the catalysts for the advancement of knowledge for many years to come. Technology will be the tool which will be used to achieve the objectives of the libraries and will facilitate the librarian to acquire relevant information and disseminate the same to the user who needs it. Thus the role of the library as a social institution remains the same even in a very high-tech society. In course of time, libraries have become the source of power. Therefore, it is necessary to understand this power of library. In India, there have been efforts to develop good libraries but unfortunately, these efforts have not resulted in self-sustaining libraries.

A scientific approach is needed while setting up a library. Management science has given the concept of “effective organization by performance measurement”, and has been adopted very well for the libraries. White (2008) has mentioned that “examples of the most noted assessment processes and metrics adopted from outside of the library professions include Benchmarking, Out-come based evaluation, Six Sigma, TQM, Balance scored, and a variety of customer satisfaction measures like LibQual”.

Earlier libraries have often been evaluated from a financial or economic perspective. Traditional statistics focus on the library itself, but today there is increased emphasis on measuring performance i.e. efficiency and effectiveness. Meeting efficiency criteria involves value analysis that is optimum level of service provided for the lowest possible cost.

In developing an instrument that would be useful to measure the degree of effectiveness of the library, measurement in quantitative term is considered as more concrete. Therefore some criteria for measuring the effectiveness are needed. Lancaster (1988) has mentioned the following purposes of evaluation:

1. To establish a type of ‘benchmark’ to show the level of performance at which the service is now operating;
2. To compare the performance of several libraries or services;
3. To justify existence of library services;
4. To identify possible sources of failure or inefficiency in the service with a view to rating the level of performance at some future date.

The performance measures will be useful -

- To monitor internally library performance
- To compare actual performance with planned performance and
- To compare the performance of one library with that of other libraries
Finally, it will help to maintain the performance level of the library. The important question is yet to be addressed and is: What manageable set of statistics and performance measures will best present a complete picture of the performance and value of the library?

The concept of library performance is encountered repeatedly in the literature on Library and Information Science, but there is only a rudimentary understanding of what is actually involved in or constitutes the concept. In fact, although performance is generally considered a desirable attribute in the library, no serious attempts have been made to explain the concept theoretically or empirically. There are in fact, quite a number of literatures published on this area. In spite of that, it still suffers from a dearth of propositions with explanatory power.

It is worthwhile at this point to begin with an exploration of the meaning of the term library performance. Library performance has a different meaning, depending on whether the library is viewed from inside or outside. The inside perspective of a library is a typical managerial viewpoint. The fundamental question asked about library performance is whether resources invested are utilized in accomplishing the goals of the library or support the goals of the parent institute. This research is predominantly concerned with the managerial perspective.

A significant fact in viewing library performance is that a high level of performance from one standpoint may not be correlated with a high level of effectiveness from another standpoint. A review of literature on library performance reveals that studies on this topic have been carried out from different perspectives, i.e. society’s point of view (mostly for public libraries), and users’ point of view. However, studies from the perspective of the managers who run the library – i.e. librarians, are lacking.

1.2 DIFFERENT TERMS ASSOCIATED WITH PERFORMANCE

1.2.1 Performance Measurement
A direct quantitative statement about an activity, which, because it gives exact evidence about a specific activity, has a high degree of certainty.

Performance Measurement is the process of developing and using meaningful, objective indicators that can be systematically tracked to assess progress made in achieving predetermined goals. Leading organizations, whether public or private, use performance measurement to make judgements about, the effectiveness and efficiency of their programmes, processes, and people. These organizations decide what indicators they will use to measure their progress in meeting strategic goals and objectives, gather and analyze performance data, and then use these data to drive improvements in their organization and successfully translate strategy into action.

Performance measure is composed of a number and a unit of measure. The number denotes the magnitude (how much) and the unit gives the number a meaning (what). Performance measures are tied to a goal or an objective (target).
1.2.2 Performance Indicators

A performance indicator is a tool which does not measure an activity directly but measures factors which, it is believed, are linked to the activity, thus providing evidence of the extent to which a planned effort has achieved the desired result. Such tools are more open to interpretation than are measures and are used to support judgements rather than to provide incontrovertible proof.

Put simply, performance indicators are quantitative and qualitative statistical information used to assess how successfully objectives/goals are being achieved.

Whatever performance indicators are selected, they must reflect the organization's goals, they must be key to its success, and they must be quantifiable (measurable).

1.2.3 Performance Standards

Performance standards state what results are expected for performance to be considered satisfactory. The purpose of performance standards is to communicate expectations. An example of performance standards for a Library Services associate is to respond to patrons' questions and resolve problems in a timely manner and with a strong focus on customer service.

1.2.4 Standards and Protocols

Put at its simplest, a standard is an agreed, repeatable way of doing something. It is a published document that contains a technical specification or other precise criteria designed to be used consistently as a rule, guideline, or definition. Standards help to make life simpler and to increase the reliability and the effectiveness of many goods and services we use. Standards are created by bringing together the experience and expertise of all interested parties such as the producers, sellers, buyers, users, and regulators of a particular material, product, process, or service. Any standard is a collective piece of work. Committees of manufacturers, users, research organizations, government departments, and consumers work together to draw up standards that evolve to meet the demands of society and technology.

Protocols are a set of instructions to perform an activity. The term usually refers to a set of rules that define an exact format for communication between systems. For example, the HTTP protocol defines the format for communication between web browsers and web servers.

Standards and protocols provide instructions for the implementation of a project. They are implicit instructions. Standards are frequently the rules of a profession or field, and protocols are typically the instructions and tools.

1.2.5 Library Performance Indicators

A performance indicator is a quantified statement used to evaluate and compare the performance of a library in achieving its objectives. A particular value or characteristic used to measure output or outcome is a library performance indicator for e.g. measures of service quality, performance efficiency, and customer satisfaction. Quantitative performance indicators may include volume of backlogs, processing time, reference response time, ILL delivery time, availability of information needed, etc. Qualitative performance indicators include user per-
ception of service quality, user satisfaction with reference response, types or levels of service available, etc. According to Stephen Richard (1992), "The key issues in the development of performance indicators are to be able to identify and group the library activities; determine which aspects of performance are to be measured (e.g. quality, economy, effectiveness), determine the levels of application (overall, broad area, activity, individual); establish a database for the information, and finally, distinguish between data and indicators (normally ratios)."

1.3 STATEMENT OF THE PROBLEM
Plenty of material is available on Performance Measures about the libraries. What is lacking is the convincing of libraries to use the measures and indicators proposed. Public libraries are more conscious to apply various performance measures and indicators in comparison to special and R & D libraries as public libraries are directly connected to the public money. Therefore, this study has been carried out to know the performance level of the special and R & D libraries and to compare the level also between these two types of libraries. There may or may not be differences in the methods used in special and R & D libraries when they want to carry out a performance measurement. Almost every indicator is applicable to both types of libraries but interpretation of the indicators will differ because user groups are different. There are differences inside the same type of libraries, e.g. size of the library. Therefore, a study was carried out to compare the performance measurement of both types of libraries to know the real picture.

1.3.1 Background of the Problem
It has been observed that all libraries are conscious about quality services and collect different types of statistics as and when needed. However, they do not collect the data on different activities at a regular interval.

In the libraries that use integrated software, it is easy for the librarians to generate different statistical reports when needed, as confirmed by the librarians. Those who do not have such an integrated system generate traditional statistics like number of books added in a year, total circulation, total budget, total amount spent on different types of materials.

Most of the libraries do not have to collect feedback or suggestions from the users. They have an informal way getting information from the users by talking to them. Most of them receive e-mails from the users about suggestions to improve the services and the same will be discussed in the library committee meeting and accordingly decisions are taken. The main driving force is the budget to implement the new qualitative services.

Most of the librarians have confirmed that financial limitations are always playing a major role in the library and therefore in spite of vital importance in library services, the quality aspect is not seriously considered by the libraries. This is why any attempt to evaluate the performance of a library in the context of performance indicators is made very rarely. So it is not possible to convince the authorities about financial and other requirements for quality improvement. Thus this vicious circle is always there. In fact, there should be a regular mechanism for quality control and quality improvement by introducing performance indicators in each library.
1.3.1.1 Difficulties in undertaking performance measures

1. There is no single direct measurement that can be applied to a library that will give an accurate picture of its performance; therefore assessment of any library's performance will involve a combination of a number of measurements.

2. It is very difficult for all libraries to collect performance measurement data in a consistent manner.

3. Librarians and other staff members lack the knowledge and skills needed to utilize performance measures effectively.

4. Performance measures adopted might need to be changed and updated as libraries change. In India there is no such practice found.

1.3.1.2 Some barriers observed during the study

1. Minimum norms and standards are not strictly adhered to in the library system, it is difficult to collect the data.

2. Special and R & D Libraries mission is different therefore, analysis was little difficult and therefore, statistical significance analysis was adopted to compare these two groups.

1.4 Objectives of the Study

1. To know the statistical significance between the performance measurement attributes of the special and R & D libraries;

2. To know the culture of assessment in the libraries;

3. To identify the most applicable performance measurement and ranking of performance indicators according to the librarian's perspectives.

4. To see the correlation between performance measurements and Performance Indicators of the libraries;

5. To identify leadership role of the librarian in the library;

6. To find the use of Information Technology in expanding information access in the libraries;

7. To know the different roles played by the library;

8. To know the publicity methods used by the libraries to increase user awareness;

9. To learn about satisfaction level of the users.

1.5 Scope of the Study

This study is a comparative evaluation of the two types of libraries and the scope of the study is limited to the Special and R & D libraries of Ahmedabad and Gandhinagar.

Listed below are the libraries that form part of the study. These libraries are from Ahmedabad and Gandhinagar cities. DAIICT and CEPT are now deemed universities but because their collections are very special, they have been included in special libraries.
Special Libraries
1. Centre for Environment and Planning (CEPT), Ahmedabad
2. Dhirubhai Ambani Institute of Information and Communication Technology, (DAIICT), Gandhinagar
3. Entrepreneurship Development Institute (EDI), Gandhinagar
4. Mudra Institute of Communication (MICA), Ahmedabad
5. National Institute of Design, Ahmedabad
6. National Institute of Fashion Technology (NIFT), Gandhinagar

R & D Libraries
1. Ahmedabad Textile & Industries & Research Association (ATIRA), Ahmedabad
2. Institute of Plasma Research (IPR), Gandhinagar
3. Gujarat Institute of Development Research (GIDR), Ahmedabad
4. Cadila Pharmaceuticals Pvt. Ltd. (CPL), Ahmedabad
5. Institute of Clinical Research (ICRI), Ahmedabad
6. Sardar Patel Institute of Economic Research (SPI), Ahmedabad
7. Physical Research Laboratory, Ahmedabad
9. Centre for Environment (CEE), Ahmedabad

The variables which are considered for the study are as below:
1. Governance, Leadership, Policy & Planning, and Funding & Financial Procedures
2. Personnel
3. Library Access
4. Materials and Collections
5. Roles of the Library
6. Facilities and Services
7. Cooperation and Resource Sharing
8. Publicity Methods

The questionnaire is limited to the performance measurements and indicators.

1.6 HYPOTHESES
1. There are not much significant differences between the proportion of most of the attributes of performance measurements of the special and R & D libraries;
2. Most of the libraries are not using any national or international standards for the library statistics;
3. Librarians rank ‘User satisfaction’ as the first item among the most applicable performance measurements for their library;
4. Most of the libraries do not have a written policy for disaster plan and staff development;
5. To raise the profile of the library services among the users, librarians apply different publicity methods;
6. Majority of the users are satisfied with the library facilities and services.
1.7 METHODOLOGY OF THE STUDY

Methods often used for the study of any organization mostly include case studies, field studies, etc. The influence of sociology, social psychology, and other social sciences is not only limited to the theories of organizational performance but also extended to research methodologies. To study organizational performance, there is a wide range of research methods to pick from. They are case studies, field studies, interviews, questionnaire methods, and computer simulations. While a variety of research methods are available, each one of these has its own advantages and disadvantages. The following are some of the questions asked in deciding on a particular method of study:

1. How much of control do we have on the manipulation of variables?
2. How valid and reliable are measurements of library variables?
3. How economically can we get the information we need? How speedily can we get the information?

The area of research that has been chosen is a difficult one and has not been explored in India very well; and particularly in Gujarat – i.e. in the cities of Ahmedabad and Gandhinagar, it has not been explored at all. Since the objective of the thesis is to study performance of two types of libraries – Research & Development and Special libraries, the questionnaire method seems to be the best option and the same was adopted.

The people who constitute the organization, in this case, libraries, are the librarians and their responses to the questionnaires are the source of data for this study. The other source of data is the clients – i.e. the users of the libraries. The aim is to study library performance which distinguishes high and low performing libraries which are alike on contextual factors.

In the comparative study of libraries, performance measurements are some of the most important aspects of the research process. As one measurement rarely gives a sufficiently precise view, it is desirable to use several variables. This is a qualitative research; and in this, the focus groups (here librarians and users of the libraries,) offer the researcher a source to gather information about the participants’ (here, Librarians and users) perceptions, experiences.

In the present study, field survey method of research was followed and the study was conducted with the help of a questionnaire followed by interview and e-mail response method to bring about clarity in the study. The data collected through the questionnaire was analyzed with the help of tables, graphs, and Q-analysis.

Various methods adopted for the study during the research work which are as follows:

1.7.1 Study of Literature
The literature available on the subject was studied both Indian and foreign articles. This facilitated the construction of the questionnaire.

1.7.2 Questionnaire Construction
The following are the criteria from which the questionnaire was constructed.s for the librarians. These were derived from the literature search and from the researcher’s experience.
The criteria are grouped into eight as shown below. Each criterion is followed by a number of questions.

Part I is aimed at collecting general information about the library like Name of the library, Name of the Institute, Name of the Librarian, etc. Part II is constituted of the following groups:

Group 1 (G1) : Governance, Written Policy & Planning, Leadership and Funding & Financial Procedures
Group 2 (G2) : Personnel
Group 3 (G3) : Library Access
Group 4 (G4) : Materials and Collection
Group 5 (G5) : Role of the Library
Group 6 (G6) : Library Facilities (Easy to Identify)
Group 7 (G7) : Cooperation and Resource Sharing
Group 8 (G8) : Publicity methods

Group 1 : Governance, Policy & Planning, Leadership and Funding & Financial Procedures
This group is for getting the details on Government statutes, local ordinance, operational plan, mission statements, strategic plan, etc.

Group 2: Personnel
This group addresses the need for library staff members to project a positive attitude towards library customers, receive on-going training to improve their skill, and be available in sufficient numbers to ensure a high level of service.

Group 3: Library Access
This group deals with information about library access like library hours, reaching the library by telephone, access from remote locations, charges for non-members, ILL facilities, and adoption of IT to expand service capabilities.

Group 4: Materials and Collections
This group gives information on collection development policy. A library's collection reflects the diversity in its users. A library offers a wide range of information and materials in a variety of formats. It develops and organizes its collection to encourage browsing. Library users receive timely access to helpful materials needed to meet their subject requests and they are able to find the location. The library makes use of information technology to expand access to information.

Group 5: Roles of the Library
This section deals with the different roles the library needs to play like User information centre, Independent learning centre, Research centre, and Reference library.
Group 6: Library Facilities (Easy to Identify)
This section provides information on the attractiveness and location of the library building and its impact on library use, and facilities that are appealing, attractive, safe, and functionally sufficient.

Group 7: Cooperation and Resource Sharing
This section concerns the level of cooperation with other libraries and cataloguing as per any standards to share information.

Group 8: Publicity Methods
This group is to obtain information on different publicity methods like Direct mail, Newsletters, Electronic Bulletin Board, Participation in events, Presentations to users, etc. used by the library.

The following attributes were covered while constructing the questionnaire for library users:
1. Personal and General (General information about the library and personal information like name, age, area)
2. Purpose of using the library and frequency of use
3. User’s satisfaction with the library collection
4. User’s satisfaction with library hours
5. User’s satisfaction with library facilities
6. Inter-library Loan
7. Relevance of library collection
8. OPAC facility
9. Training to use library resources
10. Overall satisfaction with the library
11. User’s satisfaction with library infrastructure and environment

Data collected for the Librarians’ perspective for Performance Measurements using questionnaire as shown in Annexure - I and data collected for the Users’ perspective for Performance Measurements using questionnaire as shown in Annexure - II.

1.7.3 Pilot Study
A pilot study was conducted with a sample of 10 questionnaires from IIM, Ahmedabad, and based on the study, the questionnaire was further modified and developed to suit the stated objectives. Accordingly, a revised version of the questionnaire was finally administered to the librarians and users of the libraries of the study area.

1.7.4 Analysis
A data sheet was prepared in Excel and exported in SPSS Worksheet. Different tests were performed on this software. Their findings have been included in the respective chapters.
1.8 STATISTICAL TECHNIQUES USED FOR DATA ANALYSIS

The analysis of the data was done with the help of graphs, tables, and Q-analyses. In the present study, the task of data analysis boils down to an examination of the interrelationships between the variables, and different factors of the same variables. The following statistical tools also were applied in conducting statistical analysis.

1.8.1 Frequency distribution and percentage

A frequency distribution is the tabulation or counting of response. This count displays the frequency of occurrence and highlight patterns in the distribution of scores. A frequency distribution groups data into predetermined categories and reports numbers or scores for individual categories.

1.8.2 Statistically Significant Difference

This analysis is achieved through:

1.8.2.1 Fisher's exact Test

Fisher's exact test is a statistical significance test used in the analysis of contingency tables where sample sizes are small. This technique was used for the librarian's data analysis, because the sample size of the respondents was small - only 15 librarians. This is used to test statistically whether there is any relation between two categorical variables (with two levels). It gives P-value.

1.8.2.2 Mann-Whitney U Test

It is a non-parametric test (distribution-free) used to compare two independent groups of sampled data.

This technique is used to test for differences between two independent groups on a continuous measure. Mann-Whitney tests whether two sampled populations are equivalent in location.

If the value is greater than 0.05, then we can say that there is no significant difference between the mean values of an attribute for two groups; that means our hypothesis will be accepted.

1.8.3 Median

The central value of arranged observation values is called median. Here, median value is calculated for all the attributes of one variable, e.g. for the variable 'Access,' there is a total of 6 attributes (3.1 to 3.6). Median value is calculated here from the response of all the 6 attributes of variable 3.

1.8.4 Coefficient of Variation

In probability theory and statistics, the coefficient of variation (CV) is a normalized measure of dispersion of a probability distribution. It is defined as the ratio of the standard deviation \( \sigma \) to the mean.
This is only defined for non-zero mean, and is most useful for variables that are always positive. It shows the priority of an attribute from multiple attributes. The coefficient of variation is useful because the standard deviation of data must always be understood in the context of the mean of the data. The coefficient of variation is a dimensionless number. So when comparing between data sets with different units or widely different means, one should use the coefficient of variation for comparison instead of the standard deviation. Strength Index is calculated on the basis of CV. On the basis of CV Clusters were also identified from the User’s response for the Library Facilities/Environment and location and the ranking of the libraries given according to cluster and also for individual attributes.

The analysis of the users’ survey was done with the help of a questionnaire to know the users’ response/satisfaction regarding library services/facilities through coefficient of variation or Strength Index.

1.8.5 Strength Index
This analysis is based on the Median value of the attribute, gives the strength - of that attribute. This is calculated as (Maximum Mean/Particlaur Mean)*100.

1.8.6 Correlation
Correlation is a statistical measurement of the relationship between two variables. Possible correlations range from +1 to −1. A zero correlation indicates that there is no relationship between the variables. A correlation of −1 indicates a perfect negative correlation, meaning that as one variable goes up, the other goes down. A correlation of +1 indicates a perfect positive correlation, meaning that both variables move in the same direction together. Correlation matrix generated indicates a significant level at 0.01 level and 0.05 level. 0.05 level has been considered here to show the correlation.

1.8.7 Q-Analysis
Q-Analysis was done for the study of the qualities/attributes of the performance measurements available in the libraries which was further analysed with the ‘Rank Ordering’ of the performance measurement variables available in the special and R & D libraries.
1.9 STRUCTURE OF THE THESIS

The research work is presented in the following seven chapters:

Chapter 1 of the thesis is an introduction to the topic – performance measurement, the scope of the study, the research problem, methodology used for the study, and statistical techniques used for analysis of the data.

Chapter 2 is a brief review of literature in the area of library performance. Different performance measurement variables of the library are discussed.

Chapter 3 discusses the performance measurements concept in general and the same for libraries in detail. It also includes the different international and national organizations engaged in library performance measurements and standards related activities.

Chapter 4 deals with the library profiles of the Special and R & D libraries in Ahmedabad and Gandhinagar on which the study has been conducted.

Chapter 5 deals with analysis of the data obtained from the response of the librarians. This analysis is divided into six major groups of analysis as Significant difference analysis, Assessment culture in the libraries, Variations, Analysis of importance of performance indicators, Relationship between performance measurements, and Q Analysis for qualities in the libraries.

Chapter 6 deals with the analysis of data on the basis of users' response. This analysis is for Respondents, Importance of library, Satisfaction of the Users, Inter Library Loan (ILL), For the Material, OPAC, Training for the use of library services and resources, Locating the material from the shelves, Library Webpage, Staff manner, Use of the library, Library hours, and Expectations about the library.

Chapter 7 is about findings of the study, conclusion, and suggestions for further research.

References followed in this study is based on American Psychological Association (APA) style.

REFERENCES


