CHAPTER 1

INTRODUCTION

1.1 PREAMBLE

The explosion of information poises a great challenge to the every profession which results in an increasingly emergent global competition on the service sectors. In knowledge intensive environment, the individual learning is the key to creativity which is critically linked to organisational performance. In order to prosper and succeed in the era of technological advances, individuals and organisations have to be ready to develop and adapt new skills and approaches. Skill is an ability or proficiency in execution or performance, which is required for a person to plan and execute an action designed to achieve some goals or accomplish a particular task. A skilled person has the ability to perform any task successfully. He can face the challenges occurs in a particular profession because of the social, economic, education and technological changes. Thus in order to cope up with the ever-changing library and information science profession, the library professionals must be a skilled professional. In general, it is felt that the skills can be categorised as

- Domain Specific Skills - Engineering, Medicine etc.;
- Essential Skills - Reading, Writing, Computer Application, Thinking, Analyzing Skills etc;
Managerial Skills - Planning, Organisation, Managing Negative People, Assertive Skills, Conflict Management Skills etc;

Leadership Skills - Goal Setting, Team Building, Motivation, Risk Taking, Formulating Vision etc;

Contextual Skills – Operational Skills in different environment or culture.

Technologies have created a new service environment in every sphere of activities and have pushed conventional boundaries of the entire organisation especially in libraries and information centres much farther with the risk and opportunities. The technology, in combination with communication and information tool facilitates in generation, acquisition, storage, organisation, searching, retrieval and transformation of information using electronic means. These electronic information sources, used initially to transport textual information, today permits other form of information such as images, videos and audios. These electronic sources, initially served for specialized clients, now accessed by a wide range of users, ranging from computer specialists, discipline experts, laymen including the notice computer users at all levels.

The development of new capabilities, an expanded ability to keep pace with, will create new opportunities in the present competitive environment. This creates ability among the professionals to capitalize an unexpected challenges and change. This goes beyond returning to established benchmarks to see professional capability as an important factor enabling a library to leverage its resources and capabilities not only to resolve current dilemmas but to exploit opportunities and build a successful future. Capable
people are more likely to be able to deal effectively with turbulent environment in which they live by possessing all round capacity. Preparedness for continual change is a key attribute for people in any workplace.

1.2 CAPABILITY AND CAPACITY

Capability is a feature, faculty or process that can be developed or improved. Capability is a collaborative process that can be deployed and through which individual competences can be applied and exploited. Capabilities are the alternative combinations of functioning that are feasible for (a person) to achieve. They are the substantive freedoms he or she enjoys to lead the kind of life he or she has reason to value. Capabilities describe the real actual possibilities open to a person. Capability is a measure of the ability of an entity (department, organization, person or system) to achieve its objectives, especially in relation to its overall mission.

Capacity is the power to hold, receive or accommodate. Capacity is really about amount or volume. The relevant question related to capacity is Do we have enough? and the related question, How much is needed? Recent discussions with a large consumer products manufacturer revealed that while they had internal competencies in certain essential technologies and even some capabilities, their years of buying it on the outside had left their internal capacity very thin. They were constrained less by what they knew and more by their inability to get their skills and know-how to enough of the places where it was needed.
Table 1.1 Definitions for Capability

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Author</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Amit and Schoemaker (1993)</td>
<td>Capabilities are a firm's capacity to deploy resources. A firm must have access to the appropriate capabilities to effectively use, or exploit, a resource.</td>
</tr>
<tr>
<td>2.</td>
<td>Helfat (1997)</td>
<td>The subset of the competencies/capabilities which allow the firm to create new products and processes and respond to changing market circumstances.</td>
</tr>
<tr>
<td>3.</td>
<td>Teece et al (1997)</td>
<td>The firm’s ability to integrate, build and reconfigure internal and external competencies to address rapidly changing environments.</td>
</tr>
<tr>
<td>4.</td>
<td>Eisenhardt and Martin (2000)</td>
<td>The firm’s processes that use resources – specifically the processes to integrate, reconfigure, gain and release resources – to match or even create market change. Dynamic capabilities thus are the organizational and strategic routines by which firms achieve new resources configurations as market emerge, collide, split, evolve and die.</td>
</tr>
<tr>
<td>5.</td>
<td>Lee et al (2002)</td>
<td>A newer source of competitive advantage in conceptualizing how firms are able to cope with environmental changes.</td>
</tr>
<tr>
<td>7.</td>
<td>Robeyns Ingrid (2003)</td>
<td>The alternative combinations of functionings that are feasible for (a person) to achieve. They are the substantive freedoms he or she enjoys to lead the kind of life he or she has reason to value.</td>
</tr>
</tbody>
</table>
1.3 PEOPLE CAPABILITY

The rapid development of information technology and communication system has brought a revolutionary change in the organization and management of information. Hence it is mandatory for any institution that before implementation of any information technology it should be ensured that the employees possess the required skills and competence. In the digital library environment, the LIS professionals have to face different kinds of tuff challenges; so there is the maximum need of the skill enhancement programmes for the library staff. Besides academic institutions, other organisations may also help in enhancing the skills of the library professionals. Along with the potential working skills, the library professionals should also have the positive attitude to work for the benefit of institutions for achieving its goals.

An organisation that is continuously changing to meet higher demands of customers and shifting market forces will be more successful in the long run. However, any change attempted at the organisational level in terms of technology, processes and structures cannot have the desired and lasting impact without a change in its people, change in human knowledge, skill, attitude and behaviour. In a highly competitive global business, recruiting talents with technical skills is not enough anymore. On top of their technical competencies, workers must have the necessary business skills, particularly in making decisions that are not only technically sound, but also consistent with the visions of their organizations.
The Competencies, Capabilities, Skills or Strategic assets as a source of sustainable competitive advantage (Mabey et al 1998) because of their valuable, rare, inimitable and non-substitutable attributions (Barney 1991). Capabilities are rooted in the ability to reconfigure and recombine resources, and their key properties include tacitness, context specificity and temporality (Bhatt 2000). The capabilities can be grouped into Human resource capability, User approach capability and Organisational effectiveness capability.

1.4 CONCEPT OF ASSESSMENT

Assessment is the process of identifying, usually in measurable terms, knowledge, skills, attitudes and beliefs. Assessment can focus on the individual person, the working group, the institution or the organisation as a whole. It is a study of theoretical or empirical nature (including case studies, portfolio studies, exploratory or experimental work) addressing the assessment of work group aptitude and preparation, motivation and learning styles, learning outcomes in achievement and satisfaction in different contexts addressing issues of measurable standards and benchmarks.

Process or service assessment is the systematic analysis of processes to provide a report and action plan either for improvement or as part of a supplier selection exercise. Assessments are conducted mainly through interviews using competent assessors who deliver a formal report and action plan. While differing slightly in detail, assessments for improvement purposes and assessments for service management can be defined as having the following major steps:
1. Initiation — defining the need for the assessment and its purpose,
2. Preparation — plan the assessment, set targets and communicate the approach to all affected people,
3. Assessment — capture the data and review relevant supporting evidence,
4. Analysis/Reporting — analyse the data and inform the relevant personnel of findings.
5. Closure — examine the assessment performance against the assessment purpose.

**Figure 1.1 Concepts of Assessments (Mackie, 1997)**
Process assessment has two principal contexts for its use in a process improvement context, process assessment provides the means of characterising the current practice within an organisational unit in terms of the capability of the selected processes. Process capability determination is concerned with analysing the proposed capability of selected processes against a target process capability profile in order to identify the risks involved in undertaking a activity using the selected processes.

1.4.1 Types of Assessment

According to Hanna, G.S and Dettmer P.A (2004), the term assessment is generally used to refer to all activities of work group, uses to help in learning and to gauge the progress. Though the notion of assessment is generally more complicated than the following categories suggest, assessment is often divided for the sake of convenience using the following distinctions:

1. Formative and Summative
2. Objective and Subjective
3. Referencing (Criterion-referenced, Norm-referenced, and Ipsofacto)

Traditional assessment practices, however, focus in large part on the individual and fail to account for knowledge-building and learning in context. As researchers in the field of assessment consider the cultural shifts that arise from the emergence of a more participatory culture, they will need to find new methods of applying assessments to work groups.
1.4.1.1 Formative and Summative Assessment

Formative assessment is a range of formal and informal assessment procedures employed by teachers during the learning process in order to modify teaching and learning activities to improve student attainment. It typically involves qualitative feedback (rather than scores) for both student and teacher that focus on the details of content and performance. It is commonly contrasted with summative assessment, which seeks to monitor educational outcomes, often for purposes of external accountability.

Summative assessment refers to the assessment of the learning and summarizes the development of learners at a particular time. After a period of work, e.g. a unit for two weeks, the learner sits for a test and then the teacher marks the test and assigns a score. The test aims to summarize learning up to that point. The test may also be used for diagnostic assessment to identify any weaknesses and then build on that using formative assessment. Summative assessment is commonly used to refer to assessment of educational faculty by their respective supervisor. It is imposed onto the faculty member and uniformly applied, with the object of measuring all teachers on the same criteria to determine the level of their performance. It is meant to meet the school or districts needs for teacher accountability and looks to provide remediation for sub-standard performance and also provides grounds for dismissal if necessary. The evaluation usually takes the shape of a form and consists of check lists and occasionally narratives. Areas evaluated include classroom climate, instruction, professionalism and planning and preparation.

1.4.1.2 Objective and Subjective Assessment

Objective assessment is a form of questioning which has a single correct answer. Subjective assessment is a form of questioning which may have more than one correct answer (or more than one way of expressing the correct answer). There are various types of objective and subjective questions. Objective question types include true or false answers, multiple choice and
10

multiple-response and matching questions. Subjective questions include extended-response questions and essays. Objective assessment is well suited to the increasingly popular computerized or online assessment format. Some have argued that the distinction between objective and subjective assessments is neither useful nor accurate because, in reality, there is no such thing as objective assessment. In fact, all assessments are created with inherent biases built into decisions about relevant subject matter and content, as well as cultural (class, ethnic, and gender) biases.

1.4.1.3 Referencing Assessment

The Referencing Assessment can be categorized into

(1) Criterion-referenced Assessment
(2) Norm-referenced Assessment
(3) Ipsofacto Assessment.

- **Criterion-referenced assessment** typically using a criterion-referenced test, as the name implies, occurs when candidates are measured against defined (and objective) criteria. Criterion-referenced assessment is often, but not always, used to establish a person’s competence (whether she/he can do something). The best known example of criterion-referenced assessment is the driving test, when learner drivers are measured against a range of explicit criteria (such as not endangering other road users).

- **Norm-referenced assessment** (colloquially known as grading on the curve) typically using a norm-referenced test, is not measured against defined criteria. This type of assessment is relative to the student body undertaking the assessment. It is effectively a way of comparing students. The IQ test is the
best known example of norm-referenced assessment. Many entrance tests (to prestigious schools or universities) are norm-referenced, permitting a fixed proportion of students to pass (passing in this context means being accepted into the school or university rather than an explicit level of ability). This means that standards may vary from year to year, depending on the quality of the cohort, criterion-referenced assessment does not vary from year to year.

- Ipsofacto assessment is self comparison either in the same domain over time or comparative to other domains within the same student.

1.4.1.4 Formal and Informal

Formal assessment usually implies a written document, such as a test, quiz, or paper. A formal assessment is given a numerical score or grade based on student performance, whereas an informal assessment does not contribute to a student’s final grade such as copy and pasted discussion question. An informal assessment usually occurs in a more casual manner and may include observation, inventories, checklists, rating scales, rubrics, performance and portfolio assessments, participation, peer and self evaluation and discussion.

1.5 PEOPLE CAPABILITY MATURITY

The People Capability Maturity is a proven set of human capital management practices that provides an organizational change through an evolutionary framework based on a system of workforce practices. It is designed on the premise that improved workforce practices will not survive unless an organization’s behavior changes to support them. The People Capability Maturity provides a roadmap for transforming an organization by
steadily improving its workforce practices. It can help organizations successfully address their critical human capital issues. It employs a process maturity framework as a foundation for best practices for managing and developing an organization’s workforce. Based on the best current practices in fields such as human resources, knowledge management and organizational development, it guides organizations in improving their processes for managing and developing their workforce. It is also an evolving channel for and a roadmap of organizational development and improvement. It helps in addressing the critical issues related to employees in the organization.

The People Capability Maturity addresses a broad range of issues in managing the organization’s talent including:

1. Recruiting – attracting the talent.
2. Selection – choosing the talent.
4. Training – enhancing the talent.
5. Compensation and reward – rewarding the talent.
6. Career development – developing the talent.
7. Organisation and work design – organizing the talent.
8. Team and culture development – integrating the talent.

There exists a model, People Capability Maturity Model (P-CMM) popularly adopted in Software Engineering industries. It was developed by the Software Engineering Institute (SEI) of Carnegie-Mellon University in Pennsylvania by Dr. Bill Curtis. P-CMM is a maturity framework, patterned after the structure of the Capability Maturity Model (CMM) that focuses on continuously improving the management and development of the human assets of a software or information systems organization.
The P-CMM provides guidance on how to continuously improve the ability of an organisation to attract, develop, motivate, organise and retain the talent needed to steadily improve their software development capability. It is used worldwide by organisations, small and large, such IBM, Boeing, HCL, BAE systems, Tata Consultancy Services, Ericsson, Lockheed Martin and QAI (India) Ltd., etc.

Although P-CMM was developed mainly for software companies, it could be implemented for any organisation concerned with its workforce. Indian confederation of industry is implementing a program for implementing P-CMM in all industries in India.


1.6 NEED FOR THE STUDY/PROPOSED RESEARCH

The vast increasing rates as well as maximum need for the speedy access of latest information in the present day-to-day context, the libraries are now becoming an inseparable and integral part of an information-based society. Because of the increasing awareness among the users, availability of new resources and advanced application of information communication technology, the library is changing its traditional concept rapidly. Library and information centers are now becoming a global information hub, available and accessible to the users, where the users have the most opportunity to retrieve and access their required information covering all disciplines all over the world with a single mouse click on the computer monitor.
The organisations including service industries strive continuously to improve their performance as a business. The emergence of this philosophy brings the greater challenge of becoming more customer conscious, scheduled conscious and cost conscious. This mandates the real and continuous change in the development and integration of the system. Therefore organisations are forced to concentrate on people, process and performance. These issues with time and quality have been with organisation for over the years. This has enable the measurement of a success consequently. Methods have been devised to analyse the performance of process, people and manipulate it such that it has attained a standard. This is done by checking for the existence of evidence of the process.

In recent times, research has focused on measurement of capability of the individual process to perform the task for which it is defined. This will enable to rate the attributes of the process not just in terms of the completion of the process but also how it contribute to the goals of the organisation. This type of assessment can be made in several ways as follows:

- To assess the process employed by an organisation as a part of a performance improvement programme.
- To assess the process employed by an organisation to identify the areas or organisations capability to deliver and undertaken as a part of customer satisfaction.

The process assessment has two principle contexts such as improvement and capability determination. Assessment can be used as a part of process management such as

1. Skill transfer,
2. Motivation for change
3. Exploring needs
4. Continuous improvement
5. Analyzing the improvement
6. Pinpointing the improvement; and
7. Benchmarking the capability

By this technological advancement, severe competition brought in by the forces of globalisation, increased user awareness and expectations both in terms of quality and service, have necessitated a reorientation of the organisations. The challenge for organisations is to perform to world class standards and gain competitive advantage to survive, grow and prosper. This challenge can only be met by organisational transformation. To cope with the technological changes and challenges, it has become mandatory to reorganize the services in the Library and Information Centres. Hence the digital Centric Information Services becomes a mandatory of the day. An attempt in this study has been made to assess the people capability in order to improve the organization (Library and Information Centre) a service oriented organization. This performance process paved way for assessing the capabilities among the LIS professionals.

1.7 STATEMENT OF THE TITLE

People capability maturity assessment among LIS professionals in engineering institutions: an empirical study.

1.7.1 Explanations of the Concepts in Title

The diagrammatic representation of statement of the study shown in Figure 1.2 provides brief methodology of approach.
An Empirical Study

People Capability Maturity Assessment among LIS Professionals in Engineering Institutions:

- Gender
- Qualification
- Experience
- Designation
- Nature of Management
- Professional Knowledge
- Professional Skills
- Professional Development
- Professional Challenges
- Future Professionals
- Organisation Context
- Organisation Commitment
- Work Environment
- Self-Financing Minority
- Self-Financing Non-Minority
- Government
1.7.1.1 Assessment

The opinions were ascertained on a five point scale on organisational perspectives and work environment. The main feature of the assessment is ability to set focused targets for performance and to analyse gap between the target and actual performance.

1.7.1.2 People capability

People Capability is the level of knowledge and skills in the workgroup and the ability to apply them for improving the performance of an organisation.

1.7.1.3 Maturity

Maturity is a well defined evolutionary stage that establishes a level of capacity for improving workforce capability.

1.7.1.4 LIS professionals

The Library and Information Science (LIS) professionals working in the libraries of Engineering Institutions.

1.7.1.5 Engineering institutions in and around Chennai

Engineering institutions located in Chennai, Kanchipuram and Tiruvallur districts which are in close proximity to Chennai (Tamil Nadu, India).
1.8 OBJECTIVES OF THE STUDY

The objectives of the study are,

1. To align the motivation of individuals with that of the organisation.
2. To identify the working environment responsibility among LIS professionals.
3. To retain human assets, people with critical knowledge and skills, within the organisation.
4. To identify the career development capabilities among LIS professionals.
5. To identify the competencies in meeting the challenges in work environment.
6. To identify the planning nature of the LIS professionals.
7. To identify the clear focus and commitment among LIS professionals in their work environment.
8. To indicate that individual elements are embedded in the operations with a resultant perception of a real empowerment.
9. To provide opportunities to LIS professionals for their multi-skilling by a commitment to the development of competencies.
10. To improve the organisation capability by increasing the capability of the workforce.
1.9 HYPOTHESES

The following hypotheses were framed based on the objectives.

1. There exists visualisation on career development among LIS professionals.
2. There exists deviation in capabilities among the professionals.
3. There exists willingness in assuming the responsibility among LIS professionals in their working environment.
4. There is no significant change on competencies in meeting the challenges among the professionals.
5. LIS Professionals have clear vision and values in their work environment.
6. There exists ensured learning among LIS Professionals.
7. There exists adaptability to the work environment among LIS Professionals.

1.10 SCOPE AND LIMITATIONS

The scope and limitations of the study are:

1. Covers only the engineering institutions located in Chennai, Kanchipuram and Tiruvallur districts which are in close proximity to Chennai (Tamil Nadu, India).
2. Institution includes Colleges and Universities which offer engineering courses alone taken up for the study. A total of 127 engineering institutions are functioning in and around Chennai.
3. The study covers 364 LIS professionals working in the libraries of these institutions.
1.11 METHODOLOGY

Methodology refers to the processes, principles and a procedure by which one has approaches a problem to seek solutions. The researcher adopts certain techniques and procedures for studying in a researcher problem, which are enumerated in the methodology.

**Step 1 : Review of Literature**

The literature on People Capability Maturity Assessment among LIS professionals have been studied and reviewed which facilitated the construction of questionnaire.

**Step 2 : Questionnaire Construction**

Based on the review of literature, a structured questionnaire (Appendix-1) has been designed to collect data from the LIS professionals working in Engineering institutions in and around Chennai. Questionnaire covers the following sections.

- Work Environment Assessment
- Organisational commitment
- Organisational Context
- Professional Development
- Professionals Knowledge
- Professionals Skills
- How the future professionals are expected to be
- Professional challenges for today and for next three years
Step 2.1 : General Information about the Respondents

Elicits information pertaining to the respondents name, gender, age, qualification, designation and experience of the LIS professionals working in the engineering institutions.

Step 3 : Questionnaire Survey

Step 3.1 : Pilot Study

A pilot study was conducted with a sample of 45 respondents working in various institutions and the results were tested. Based on the study and results, the questionnaire was further modified and developed to suit the stated objectives. Accordingly revised questionnaire was finally constructed.

Step 3.2 : Administration of the Questionnaire

The revised questionnaire was administrated among 364 LIS professionals working in 127 engineering institutions (Appendix-2) in and around Chennai. A total of 318 have responded and response rate is 87.36%.

Step 4 : Data Analysis

The data collected from the questionnaire has been analysed and interpreted to test the hypotheses framed and to fulfill the stated objectives. For this purposes Statistical Package for the Social Sciences (SPSS) software has been used. The statistical analysis techniques such as Frequency Distribution, Percentage Analysis, Weighted Arithmetic Mean and Standard Deviation have been employed depending on the nature of the data collected from the respondents.
1.12 CONSPECTUS

The thesis has been presented in five chapters.

Chapter 1 highlights the need, proposed research, objectives, hypotheses, limitations, significance of the study and methodology adopted in the data collection and analysis.

Chapter 2 deals with the review of related literature.

Chapter 3 discusses about People Capability Maturity.

Chapter 4 deals with the analysis of data and discusses the results of the analysis of the data and inferences.

The last Chapter provides the summary of the major findings and observations in the study. Offers suggestions and recommendations and provides direction for further research.

The thesis concludes with a list of bibliographic references and appendices.