The Role of Domain Information Specialist in Knowledge Driven Society

Sneh Lata Sharma  
Manager-IRC  
Tata Consultancy Services,  
Plot No. 249 D&E, Udyog Vihar  
Phase IV Gurgaon, Haryana-+91 124 4165461  
sneh.sharma@tcs.com

Abstract

This paper presents the existing role of librarian, which is like a rope in a very real tug of war – pulled one way by customers increasing demands and the opposite way by company’s need for growth and profitability. It is found that, they can make balance only by aligning themselves with the goals of organization and maintaining balance between push & pull of information. It is possible only when librarian transformed himself or herself into domain information specialist who will provide customized information keeping in view the goals of the organization. We can say that the domain information specialist is an individual who is both knowledgeable and able to analyze the expectation of the users in terms of the organization goal by acquiring special knowledge or skills in retrieving, analyzing, customizing and disseminating information as per need. Redefining the traditional view of a library and its services, the domain information Specialist realize that real measure of success depends how well we can customize information and create value for customers.

In other words, Librarians have to recast their roles as a domain information Specialist. They need to work as knowledge workers. That means librarian’s role should not be limited to being the custodian or gatekeepers of information. They have to move from the background to the centre of the organizational stage, to jointly hold the reins of knowledge management with users and technology experts.

Keywords: KMS, CAS, SDI, ROI, Best Practices and Benchmarking.

1. Introduction

In the 21st century, the business world is rapidly transforming and librarians are trying to adapt themselves so that they can also contribute in achieving goals of their Organization.

In the past, the outside world was stable, every organization worked independently and as a distinct entity. There was no competition and the product lifecycle was very long. The customers were satisfied with the products available to them in the market, so there was no need of innovation. The organizations did not feel the need of extra information; they were satisfied with the information available in their libraries in the form of primary and secondary sources. The librarians acquire information directly from publishers and inform readers through the new arrival books list, subject bibliographies or reading lists to users.
We can say, the main role of librarian is to procure and store information. They were acting as custodian of information in the organizations. We are entering in a truly networked and interdependent world, united by a global knowledge economy where information demand has become specific. Now data passes freely from one part of the world to other and it has become possible by the advances in information technology. Now information is available in abundance and its sources have become countless. User can download any information from any part of the world through various search engines available. Existence of library is no longer important but customized information and users. In other words, there is a shift from collection to connection. If one wants to survive in this competitive world, we ought to innovate and provide customized information to all users/readers. Due to the technology and information explosion, every user is spending most of his time in getting the right information and thus taking less time to analyze it and make decisions for the same. The rapid and exponential growth of information has made it necessary for librarians to employ new techniques to cope with the massive proliferation of literature in all the subject fields. The information is valuable only if it is retrieved timely and cost effective. So, in this age of information explosion, keeping track of information resources and managing the same are the key to success. New technologies offer new ways to handle acquisition, organizations, delivery and storage of information. Today, libraries are adopting the new sophisticated information technology tools to provide accurate and instant information to cope up with the demands of new knowledge. So Librarians can play a very important role by providing specialized, domain specific and customized information to the organization. In order to work in this direction, we have to develop new competencies in searching techniques, indexing and abstraction, information classification, analysis, customization of information and developing Knowledge Management System.

Table 1. Difference between Traditional and Modern Library

<table>
<thead>
<tr>
<th>Main Thrust Area</th>
<th>Traditional Library</th>
<th>Modern Library</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collection</td>
<td>Primary and secondary sources</td>
<td>Primary and secondary sources, Online Sources, Digital sources like eBooks, Audio Books, Digital Libraries</td>
</tr>
<tr>
<td>Role of librarian</td>
<td>Procure, store and manage information sources</td>
<td>Specialized and customized information.</td>
</tr>
<tr>
<td>-------------------</td>
<td>---------------------------------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>Dissemination</td>
<td>Notice board information, Verbal communication, subject bibliographies and reading lists</td>
<td>Information updates, knowledge management system, networking, Virtual Library</td>
</tr>
</tbody>
</table>

**Figure 1. Traditional Library**

**Figure 2. Modern Library**
As we are moving towards the 21st century, Librarians are facing three major challenges.

- Transition from Library to Information hub
- Transition from Information to Specialized & Customized information.
- Transition from paper to Electronic media.

2. **TCS Domain Information Specialist**

A person who is sufficiently aware about the jargons, buzzwords, technical terms of a domain so that he can understand and extract out information from various Modern sources of information like internet, eBooks, technical sites, digital libraries etc in a timely and efficient manner, related to a query can be termed as Domain Information Specialist.

**Need for Domain Information Specialist**

- Globalization
- Technology – Internet & Information Explosion
- Economy
- Innovation
- Commoditization
- Customization

In Tata Consultancy Services Ltd the libraries are developing expertise in delivering the Domain specific information. The main aim of TCS Librarians is to develop competencies to cope up with the emerging changes so that they can add value to their parent organization by providing specialized information as per the user’s need and justify their role by selecting proper strategy to impart knowledge to the senior management in terms of value addition and Returns on Investments (ROI).

Software industry is a dynamic industry; the changes are very fast and dramatic in technology & business models. There is an intense competition, and in order to compete in this field, company has to continuously learn and update its knowledge with the emerging changes for the growth of company in the market. The company is focused on innovation, innovation in processes, methodologies and capabilities that result in higher revenues and profits. It is possible only when we are able to harness tacit knowledge of the employees within the organization. The Librarians can play a very important role by participating in the Knowledge Management System (KMS) initiative. But this initiative cannot be handled by a single person. It requires a team of enthusiastic librarians, trained in collecting the information, analysis of information, classification and customization of information. TCS has already realized this and is working in this direction by setting new goals and providing trainings to librarians for developing
new competencies to face the challenges of knowledge driven industry. They have already replaced the world librarian with Domain information specialist and library as Information Resource Center (IRC).

The concept of Domain Information Specialist is one step towards helping the organization to achieve its goals. It has not happened in one step but it has evolved over a period of time. It involves brainstorming sessions, contemplation, experimentation and learning. In order to provide specialized, customized and domain specific information, Libraries are aligned to the following domains which were predefined by TCS.

- Banking, Financial Services and Insurance
- Data communication and Telecommunication
- Energy & Utilities
- Government & Education
- Manufacturing
- Pharmacy, Healthcare and Life Sciences
- Retail, Media, Hi-Tech & Computer Services
- Transportation, Travel & Hospitality

All domains are different from each other and in order to fulfill their specialized need of information, senior librarians who were already working for that specific domain are designated as Domain Information Specialists. These experts add value to the specific Domain information by providing the services in the form of News letters, articles based on various technologies, publishing quarterly bulletin about client information, new projects and new initiatives applied by the domain. In addition to this the librarians are responsible for providing primary and secondary sources of information.

2.1 Role of Domain Information Specialist

Knowledge Acquisition

- Finding tacit knowledge,
- Understanding requirements
- Retrieval and filtering of data/information
- Sharing organizational goals and objectives

Knowledge Creation/Generation

- Elimination of “silo” processing and reinvention
- Fostering knowledge creation through research
- Collaboration with other departments

Knowledge Packaging

- Creating customized products
- Effective measurement of business processes and knowledge assets
- Management of changing requirements
Knowledge Application/Usage

- Building trust for the dissemination of knowledge
- Retaining knowledge when employees leave

2.2 Expectation from Domain Information Specialist

Market Research

- Main competitors
- Market development
- Book fairs, Associations
- Professional partnership/Networking

Company Research

- Identifying tacit knowledge
- Identifying potential partners or clients
- Client profiles
- Market position
- Client Analysis
- Trend analysis

Herewith, a case study on Telecom domain information expertise of TCS library will be discussed.

2.3 Competencies of Domain Information Specialist

Professional:

- Managing Information Organizations
- Managing Information Resources
- Applying Information Tools and Technologies

Personal:

- Attitude
- Skills
- Values

Core:

- Connect to customer
- Sharing best practices
- Networking with other libraries
- Organization/user know-how
- Analysis of information needs
- Marketing of services
- Knowledge of copyright & IP rights
- Budgeting
- Causal analysis

2.4 Challenges for Domain Information Specialist

Services
- Resources
- Budget

3. TCS Approach

TCS has evolved over the period. Initially all the branches were working independently. Their
The main role was to collect development-based information, on the recommendations received from TCS associates. But timely, it was realized that if we continue to follow the same processes, it will become impossible for us to grow in this dynamic industry. Over the period of time we have gone through number of stages to reach the present stage and we are still evolving based on the current changes in technology and goals of TCS.

Table 2. Evolution of Library in TCS

<table>
<thead>
<tr>
<th>Stage</th>
<th>Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage I</td>
<td>Physical Sources of information e.g. books, journals, magazines.</td>
</tr>
<tr>
<td>Stage II</td>
<td>Electronic Data, Networking, Integrated information system</td>
</tr>
<tr>
<td>Stage III</td>
<td>Specialized information, CAS &amp; SDI services, customized information.</td>
</tr>
</tbody>
</table>
| Stage IV | Identified Domain information Specialist. The Domain Information Specialist identifies, retrieves, organizes, repackages and presents information in an actionable form. And possesses following capabilities.  
  - Knowledge about domains  
  - Trend analysis |

<table>
<thead>
<tr>
<th>Stage</th>
<th>Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage V</td>
<td>Still evolving</td>
</tr>
</tbody>
</table>

During this process of evolution following challenges were faced:

- **Capability issue of librarians** - Earlier librarians were not so much comfortable with technical peculiarities. With the introduction of Domain Information Specialist concept in TCS, they are aware with the latest developments and technology know-how.

- **Exchange of ideas** – There should be exchange of ideas, new technologies within the projects. For this, there is one to one communication between librarians and associates, also various seminars and surveys are conducted.

- **Natural Change fear** - It is not in TCS as IT Company is very dynamic. Librarians and IT professionals are in sync with the changing technologies in different domains.
3.1 TCS Library Information Services Vision
To provide accurate information to the right user in minimum possible time, irrespective of the location of user.

**Action to meet the vision:**
- Updated information of projects – New & closed (Proactively)
- Information about telecom standardized organizations ITU, TRAI & DOT
- Reformatting of Information update – Time to time
- Evaluation of web sites – based on Criteria
- Details of journals – Required for domain
- Approval for journals – From GL
- Availability of Indian Editions – From vendors
- Number of copies required (books)
- Global Reference Desk

3.2 Data communication and Telecommunication

**Steps for identifying information needs of Telecom & data communication Domain**

**Step 1 – Study of TCS**
- Vision, mission & values
- Study of different domains and major clients

- Alignment with TCS Vision, Mission & Values

**Step 2 – Study of Domain**
Common areas of investigation for Telecommunication companies are.
- Market segmentation Analysis
- Competitive positioning analysis
- New products / Services Analysis
- Customer analysis

It will be done through reading Gartner and Forrester reports, newspapers and journals of the domain.

**Step 3 – Study of clients, Projects & Technology**

**Method of study**
- **Direct** – Interview with client, Survey using questionnaire

- **Indirect** – Study of project, Client & Technology, Analysis of client’s feedback, Study of activities/functions/events conducted in the project, Information regarding client visit, New projects, Projects due for delivery, Book Review committees, study of Client Profile.
Preparation of complete list of projects, clients, and location - onsite / offsite, Project Leaders & Group Leaders names, Business Domain and technology used in these projects.

Step 4 – Information needs

- Analysis of information needs
- Identification & evaluation of Information sources

Step 5 – Presentation

Step 6 – Feedback

- **Through Mail** – Collect/accept feedbacks on the feedback form provided to the project team, through email and analyze these feedbacks on periodic basis.

- **Monthly meeting** – Invite members of the project group once in a month to get feedback and updates about new changes in their project. They are encouraged to share details about the present work, problems and information requirements. Initiatives to get feedback about the information related services provided to them during the month. All these help in continuous modification and updating

Information needs and tune the services to suite the changing needs of the project. (Quarterly Bulletin - It help us to get up to-date information about the domain assigned to us.)

- **Information Update** – Library

Information is provided according to the frequency mentioned by the associates of that group. It includes news related to clients, Technology, M & A, Contracts Competitors & Trends

- Study of domain (projects, interaction, Organization structure)
- Domain Information Expert in TCS
- 1. Study of domain (projects, interaction, Organization structure)
- 2. Preparation of Questionnaire (Project details & information need)
- 3. Survey
- 4. Analysis (excel sheet)
- 5. Presentation
- 6. Feedback
- 7. Customization of Info alert
Figure 3. Role of Domain Information Specialist in TCS

4. Methodology

In order to find out specific information needs and to provide customized information to the users of telecom domain, the survey was conducted. The questionnaire was circulated to 400 users approximately. In all we have received responses from 220 associates and this represents a response rate of above 50%. The questionnaire was designed to find out:

- Frequency of news letter
- Technology in which they are working
- Requirement of Customized information

Data collected by questionnaire was analyzed and was presented to the users of that particular domain to find out the relevancy and information needs of users.

4.1 Survey Findings

Based on this study following keywords were identified and mailing groups were created for dissemination of the information

- Service Providers
- Equipment Vendors
- Service/Platforms

- Clients
- Technologies
- Market positioning
- New Areas
- Trends
- Competitors
- Network Services
- Subscriber base
- Marketing segmentation

4.2 Results and Analysis

- It was observed that entry level users are more interested in the gaining the knowledge of new technologies.
- First level users required news on products, technologies and major developments in the telecom industry.
- Middle level users are more interested in the company/client news and competitor’s news.
- High level users are more interested in the emerging technologies and conference proceedings and latest articles.
- Domain heads like to refer those sources which update information related to market forecast, future trends perspective clients and emerging markets.
On the basis of feedback received on questionnaire, the frequency of e-newsletter distribution was fixed twice a week and a list of technologies was prepared to circulate the articles among the domain users, apart from the above listed keywords. We have circulated following articles based on projects and technologies being used by them and all the respondents appreciated the efforts being made by us. The results of the questionnaire are confidential and we are not supposed to share here. In order to show how we have implemented our results to improve our customer services, we are giving details of only technology part.

Table 3. Technology wise article distribution

<table>
<thead>
<tr>
<th>Technology</th>
<th>No. of articles circulated</th>
</tr>
</thead>
<tbody>
<tr>
<td>CNS</td>
<td>5</td>
</tr>
<tr>
<td>GPRS</td>
<td>1</td>
</tr>
<tr>
<td>IMS</td>
<td>2</td>
</tr>
<tr>
<td>NGN</td>
<td>6</td>
</tr>
<tr>
<td>CDMA</td>
<td>2</td>
</tr>
<tr>
<td>Linux</td>
<td>2</td>
</tr>
<tr>
<td>Layer2</td>
<td>3</td>
</tr>
<tr>
<td>RF</td>
<td>2</td>
</tr>
<tr>
<td>SIP</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>41</strong></td>
</tr>
</tbody>
</table>

Figure 4. Graphical representation of Article distribution

5. Conclusion

Due to technology explosion, everybody needs access to information, so it’s very necessary to redefine the boundaries of our profession and to develop new skills and competencies required for providing customized knowledge, enhanced access flexibility, timeliness, time efficiency and
collection enhancement. Librarians have to move from the background to the centre of the organizational stage, they have to move from traditional view of a library to jointly hold the reins of knowledge management with users and technology experts.

6. Acknowledgments
We would like to express our gratitude to Ms Ruchi Raina, Mr. Rakesh Mohansinghal and Mr. Sachin Mahajan of consultancy group who gave us the possibility to complete this paper. Ms Ruchi Raina looked closely at the final version of this paper for English Style and grammar, correcting both and offering suggestions for improvement. We want to thank corporate library of Tata Consultancy Services who nominated us for this paper presentation in international conference and we would also like to thank our colleague Ms Sucheta Johar.

7. Bibliography


[14] DeLisi, Peter S. Strategy Execution: An Oxymoron or a Powerful Formula for Corporate Success?


Manuscript Received: 9th Mar. 2011
Manuscript Revised: 17th May 2011
Manuscript Accepted: 24th May 2011