A STUDY OF INFORMATION RESOURCES AND SERVICES OF SELECTED SOFTWARE COMPANY LIBRARIES IN KOLKATA, WEST BENGAL

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Abstract: Information has always been a key competitive asset for managing and decision making in modern organizations on all levels. Software Company libraries or Information Resource Centres (IRCs) are the specialised libraries and have special types of collection to meet the information needs of their employees and stakeholders of IT fraternity. Over the past decade, the Information Technology (IT) sector has witnessed exponential growth, necessitating constant adaptation to changing business dynamics and employees requirement. In response to this, libraries and information resource centres within this sector have played a very active role in managing this key asset and have formed a natural and indispensable function for their business industries and enterprises. The role of libraries are more focused on providing information services and exploring awareness to gather the required information. This paper aims to explore the range of information resources handled by selected libraries or Information Resource Centres (IRCs) of software companies in Kolkata, and offering insights into the information products and services curated and provided by the library professionals in these sector.

Keywords: Software Companies, Corporate Library, Information Resource Centre (IRC), Information Resources, Library Services.

1.0 Introduction

Information is an essential resource for managing modern organizations. This is because today's business environment is volatile, dynamic, turbulent and necessitates the burgeoning demand for accurate, relevant, timely and economical information needed to drive the decision-making process in order to meet organizational abilities and to manage opportunities and threats. Software Companies and their information support systems is recognized and accepted as vital institution for their progress and prosperity in business environment. These companies need to have information literate workforce in order to be a world-class firm. In addition, Organizations today are highly interconnected, with dispersed human resources and widespread technological advances. This environment fosters 24/7 connectivity, enhancing the speed of information flow and workflow practices within organizations. Library at software companies is named the "Information Resource Centre (IRC). IRCs are the specialised libraries and have special types of collection to meet the information need of their employees of IT fraternity. The employees are not willing to wait to get the information of their interest as they are pressurized to complete their task on time (Jayapal and Kaliyaperumal, 2015). Moreover, they are well-versed in handling software devices and tools and prefer information through online resources. In this context, the information-seeking behaviour of library users is evolving towards embracing new technologies. These libraries or IRCs have played a very active role in this transition and constantly revamp their services. This transition has turned them into innovation partners rather than raw information providers with physical shelving facilities (Renn. et al 2012). It is the duty of corporate IRCs to identify and implement new paradigm services to meet the challenges posed by Google, wiki, new emerging conversational AI and other Internet search tools that have changed the information seeking behaviour of software professionals (Jayapal and Kaliyaperumal, 2015). In this crucial context, it is needed to carry out a study on software company libraries of Kolkata aiming to understand the nature of their resources and services, their accessibility, and their effectiveness in meeting the needs of employees and stakeholders.

2.0 Literature Review

Choughule (2007) in her paper explained varied needs of users in corporate libraries and employed a methodology blending literature survey and observation. It discussed how the effective and efficient use of new technologies helps to improve the library's image. She also discussed that corporate libraries' digital information services offer a diverse range of assistance to members in organizing and disseminating materials. Regardless of their scale, these libraries aim to provide high-quality and efficient services to end-users while also optimizing costs and time. Date and Walavalkar (2009) conducted a study examining how the corporate library at Tata Consultancy Services has effectively utilized technology platforms in two key areas: enhancing the skills of their library team and efficiently promoting library services to a global user base. The study also outlines the efforts made by the TCS library team to develop and integrate content into their Learning Management System (LMS). Jayalakshmi and Jyothi (2011) in their article investigated the role of a corporate library in facilitating the improvement of information literacy among employees through tailored products and services. They conducted a survey of Tata Consultancy Services (TCS) employees in Chennai to gauge the library's effectiveness across different organizational levels, with the survey findings subsequently analysed and discussed. Renn et al. (2012) in their study stated that Innovation is fostered by information, and so gaining and analysing information is a key competitive asset in pharmaceutical and biotechnology industries or any research-based company. Another study carried out by Kattimani (2015) examined the impact of Information and Communication Technology (ICT) and related advancements, including the Internet, Intranet, electronic databases, Web directories, Web portals, and E-portals, on libraries and information centres. The study highlighted the significant role played by emerging technologies such as E-Journals and E-Books Portals in acquiring and disseminating full-text information from Library & Information Centres (LICs) at Tata Consultancy Services (TCS), offering cost-effective services to users at minimal expense. From the literature review, it was found that there are few studies have been conducted in software company libraries or IRCs. But there is no comparative study has been made in the libraries of software companies earlier. As Kolkata is the major technological hub of eastern region and top software companies contributing significantly to economic growth and technological advancement in the region, so this comparative study has been made concerning the library resources and services of software company libraries in Kolkata.

3.0 Objectives of The Study
Objectives of the study are as follows:

    i.   to study the types of resources used in the software company libraries under study
    ii. to explore the information products and services offered by these libraries to users.

4.0 Scope of The Study
To maintain homogeneity in the study, a total of three global software companies having well established libraries or Information Resource Centre (IRC) in Kolkata had been selected for data collection. The names of these software company libraries which were taken into consideration for this study are Tata Consultancy Services (TCS), Wipro and Accenture.

5.0 Methodology
To pursue the outlined objectives survey method of research was adopted. Libraries and IRCs were visited physically, questionnaire were shared with the respective librarians and library professionals of the selected software companies at Kolkata. The data were collected from the respondents by following ways: i) online platforms via Google form ii) E-mail iii) visiting these libraries personally iii) telephonic interview as well as observation. Apart from these, necessary data were also collected from different documentary sources. Collected data were analysed, tabulated, evaluated and interpreted to reach the objectives of the study. This study was focused on the service sector and types of resources the IRCs of the software companies dealing with withholding other specific information due to potential policy violations. For that reason the identity of these IRCs were remains undisclosed, and referred to as company 1, 2 and 3 in data analysis part.

6.0 Overview of Software Companies and Their Libraries and Information Resource Centre (IRC)

6.1 Tata Consultancy Services (TCS)
Tata Consultancy Services (TCS) Limited is one of the leading global information technology consulting, services, and business process outsourcing organization. It envisioned and led the way in adopting flexible global business practices that now facilitate more efficient operations and greater value creation for companies

today. TCS started its journey from 1968, when the IT services industry didn't exist as it does today. It headquartered in Mumbai, Maharashtra, India. According to Wikipedia, in 2023, TCS is one of the largest IT consulting and services company in the world and second largest Indian company by market capitalization. As a subsidiary of the Tata Group this company operates in 150 locations across 46 countries.

6.1.1 Information Resource Centre (IRC) of TCS

The TCS's Information Resource Centre (IRC), is a specialized information and knowledge delivery centre, with a clear mandate of providing information to meet the business needs of the organization. The first library was established in 1969 at Air India building, Mumbai and today it has grown into 65 libraries & 25 Library corners in 13 cities across India handled by more than 120 professionals (Kattimani, 2015). Today TCS has large network of libraries with rich collection of resources, expertise and customer-centric activities acting more like knowledge centres. TCS represents one of the largest networks of Corporate Libraries in India and are also extended to overseas offices client locations and GDCs. It is leading with best practices and setting trends in modern information retrieval.

6.2 Wipro Limited

Wipro Limited is a leading global information technology company headquartered in Bengaluru, India. This company established in 1945. Today, Wipro caters to clients spanning six continents, leveraging advanced next-generation technologies. With a focus on smart business applications like IoT, Wipro excels in delivering top-notch services in cloud computing, security, and networking. The company harnesses the capabilities of cognitive computing, hyper-automation, robotics, cloud solutions, analytics, and other emerging technologies to empower clients in navigating the digital landscape and achieving success. Wipro is one of the top 5 IT companies in India.

6.2.1 Wipro Learning Centre

Wipro Learning Centres are subscribes to majority of e- resources and provide unified access to its users through its web portal. Besides traditional Library or resources services Wipro Learning Centre mainly focuses on increasing talents and skills of their employees by providing various training courses. Software exporters and library professionals therefore commit large time and resources to increase talent levels of their employees. Wipro's learning centre can train around 1000 employees daily. Learning at Wipro is facilitated through a combination of faculty, curriculum, and laboratory experiences. With approximately 70 full-time trainers dispersed across its learning centres nationwide, the company ensures comprehensive training opportunities for its employees.

6.3 Accenture

Accenture, headquartered in Ireland, is a multinational corporation offering information technology (IT) services and consulting. As a Fortune Global 500 company, Accenture provides a wide range of services including app/software development, block chain, cloud computing, Oracle, Salesforce, SAP, software engineering, supply chain and operations, and more. With more than 492k employees, the company serves clients in 200 cities across 120 countries. Accenture's strategic approach involves integrating business modelling with technological insights to drive success.

6.3.1 Information Resource Centre (IRC) of Accenture

In every Accenture office around the world have IRC's and many "Digital Library" where associates can spend their valuable learning time. There are 22 IRC centres across 7 cities in India providing information to meet the business needs of the organization. More than 25000 employees are actively using the various Digital services that have been introduced (Prabhu et al., 2019). It provides better infrastructure and launches Book reading devices which has been appreciated by the employees. Accenture has an extensive network of libraries rich in collection, expertise and resources, with customer-centric activities, dealing with business needs of the organization and acting more like knowledge centres. Currently, only those titles which are unavailable in digital version, are being procured in print version.

7.0 Data Analysis and Findings

This section consists of data analysis, findings and discussion.

7.1   Types of Information Resources used in Software Company Libraries or IRCs:

Nowadays in business organizations, the work environment has become increasingly dynamic and complex, largely attributed to the daily information overload experienced by employees (Savolainen, 2007). Demand for authentic, relevant, complete, timely and efficient information needed to drive the decision-making process in order to bring organizational abilities to manage opportunities and threats.

Resources Software company libraries under study dealt with are as follows:

i. **Books –** A wide collection of company authored books that take the readers through the journey of continuous innovation. Most of them are preserved in closed stacks and made available only on request and some of them are kept open to employees for direct access.
   - **Books on a wide array of subjects.** Artificial Intelligence, Banking and Finance, Management, Insurance, Manufacturing, Life Sciences & Healthcare, Travel, Transportation & Hospitality, Communications, Media & Technology, Markets & Media, Mathematics etc.
   - **Books on various Competitive examinations**
   - **Motivational Books and Inspirational Speeches**

ii. **E-Resources and Databases** –All the software company libraries under study were subscribed to the various e-resources to serve the users. Some of the popular E- Resources subscribed by these libraries are ProQuest, McKinsey, EBSCO, D&B hoovers, IEEE, SAGE Business Cases, Business Source Elite, MarketLine, Finder, Financial Insights etc.It was also revealed that some databases are enterprise based, some are restricted to library professionals and some are self-registration based.

iii. **Magazines, Research articles/links –** Every software company libraries under study has partnered with a leading aggregator of magazines. Magazines from nations/languages across the globe are made available to employees. They have global repository of major research magazines and journals. Articles and excerpts from these are made available to all employees through this service.

iv. **Language Kit** –Language Kit mainly used for communication and hire candidates in different languages. The following languages are offered by the libraries: French, German, Greek, Spanish, and Portuguese etc.

v. **Digital Library** – Digital Library of these software companies is an interactive route that delivers digitally leading-edge thought leadership from software company's' vibrant Research & Innovation (R&I) community. It transforms the library experience by providing a distinctive, multi-dimensional collection of stories covering a wide range of R&I topics.

vi. **Profiles of research thought leaders** – An overview of the company's research thought leaders and their pioneering work in data and decision sciences, behavioural and social sciences, robotics, life sciences, cyber security, and material sciences.

vii. **Company patents** – to know more about company's' intellectual property, and the associated areas that has enabled company to gain a differential position in the world of digital technology.

viii. **White papers** – An in-depth presentation of contextual knowledge that serves as the perfect testimony to the deep-rooted research and understanding of the business, customers and technology, as a whole.

ix. **Perspectives –** Company's' leading management journal that serves to initiate thought-provoking dialogue and is presented by company experts who have helped companies across the globe to solve their business challenges.

x. **Publications –** Expert content authored by company's in-house team of scientists.

xi. **Technical publications and Tech Novels.**

xii. **Blogs –** Bite-sized nuggets of information offering industry perspectives; sheds light on trends across industries and technologies.

xiii. **Videos –** A presentation of insights from company's leadership.

Table No. 1: No. of Newspaper Subscription

Software Company libraries	No. of Newspaper subscribed
Company 1	11
Company 2	10
Company 3	8

It was revealed from the above Table 1 that all the Companies were subscribed 8 or more than 8 newspaper before Covid-19 pandemic. But number of newspaper subscription was reduced during pandemic and most of

the companies shifted to e-newspaper subscription. One IRC provides newspaper and magazine services through Magzter database**.** It was also revealed that Financial Express, Business Standard, The Hindu, Economic Times, The Statesman, Telegraph were the highly subscribed newspapers by these libraries. Now mainly e-newspapers are provided to the users.

Table No. 2: Magazine Subscription

Magazines	Company 1	Company 2	Company 3
Business India	√	√	√
Business Today	√	√	√
Business World	√	√	x
Civil Service Chronicle	√	√	√
Competition Success Review	√	√	x
Employment News	√	x	x
Fortune India	√	√	x
Frontline	√	x	√
India Today	√	√	√
Information Technology	√	√	√
Readers Digest	√	√	x

It was revealed from the above Table 2 that Business India, Business Today, **Civil Service Chronicle,** Information Technology, **India Today** were highly subscribed Magazines by these libraries. These libraries are also subscribing e-magazines databases.

Table No. 3: Some of the Popular E-Resources Subscribed

E-Resource databases	Company 1	Company 2	Company 3
Oreilly for ebook database	√	√	√
McKinsey	√	√	√
Proquest,	√	√	√
IEEE	√	x	x
EBSCO	√	√	√
D&B hoovers	√	x	√
Financial Insights	√	√	√
MarketLine	√	√	x

It was shown from the above table 3 that EBSCO, ProQuest, O'Reilly for e-book, McKinsey are highly subscribed e-resource databases by these libraries. It was observed that during and after pandemic e-resources subscription were increased.

7.2   Information products of Software Company Libraries or IRCs under study

From the collected data it was revealed that Software company libraries or IRCs provide various consolidated information products to their respective users for recent information or news, market analysis, industrial growth and trends on timely manner. Some of the information products are listed below.

i. **Newsletters** – These consisting of one or a few pages in print, electronic or any other form, containing recent news and information which is the interest of the special or particular group of users. It announces current and forthcoming events like conferences, seminars, workshops etc. It provides information about social and cultural activities, appointments, promotions, transfers, retirements, obituaries etc. of the members of concerned company.

ii. **Info Watch** – a periodic alerts on news, technologies, customers, geographies & industry.

iii. **Competitor's Digest** – Quarterly digest on company's competitors, with analysis.

iv. **Market research & analysis** – Customer profiles, data collection on trends, market analysis.

v. **Tenders and Business Opportunity dissemination** – potential business prospects.

vi. **Domain specific Info Alerts & Bulletins** – These provides Compilations of news, trends and current information.

vii. **Trade and product Bulletins** – Typically disseminated by manufacturers, distributors, and commercial publishers, these publications are collected by librarians and furnish details regarding various attributes of manufactured goods, industrial processes, materials, or services.

7.3 Library Services provided by the Software Company Libraries or IRCs under study

Services offered by Software Company Libraries or IRCs are quite distinct from traditional library information service because requirements are granular, information resources are non-traditional, fragmented and require careful synthesis before delivery. Some of the library services of all libraries under study identified from collected data were as follows:

i. It was observed that there was a huge shift in librarian job responsibility. They were assigned with training coordinator's role. Usually, the IRC team undergoes initial training and receives support from the business team. Depending on the complexity and nature of collaboration, certain projects transition completely handled by IRC team. Today, IRC professionals, with assistance from the Learning and Development Department (L&D), offer diverse training courses to their users.

ii. It was noticed that ICT based reference services were the highly used library services offered by all three libraries in these days.

iii. It was noted that IRCs provides Online **Global Help Desk (GHD)** services. Online Global Help Desk (GHD) is a ticketing platform. With respective queries a Ticket was raised by any employees of that company like Lab Scientists, Research associates. They require information about their research and lab services and business trends etc. Dedicated LIS professional team resolve user queries by collecting all the information from various databases and online platform. They use to study various job reports of different industries and providing all the information in nutshell following particular format and sending it to the required target group.

iv. It was explored that IRCs provide multiple channels of delivery and the IRC has chosen its presence on them suitably viz. IRC Home Page, Intranet Portal, Knowledge Portal, and Community pages of business verticals & horizontals and Sales-Marketing. TCS IRC uses TCS' social media platform to announce releases of products. Instant feedback and user discussions are triggered. It is also an interactive platform for database evaluations which are piloted with respective user groups.

v. The longstanding role of library as a 'disseminator' they disseminate CAS and SDI services through products like in-house Newsletters, Info watch, Info Bulletins, Client specific Dossiers on news, technologies, customers, geographies & industry. Users and employees are notified for every release through their email subscriptions.

vi. It ensures that end-users are fully aware of the products that are powered by the IRC and they stay connected with IRC for them. Email forwards have been eliminated where possible and the IRC now encourages pull technology to get users to come to their products. This way IRC is very sure of serious users who are setting alerts to be notified for every release and hitting the links, compared to email subscribers where usage is uncertain.

vii. LIS Team research on various upcoming queries related to particular industry trends, their business competitors and provide customized information services to their users.

viii. LIS team participate in and provides various Collaboration related works with different projects and market researchers. They advanced searches on hard-to-find data, Reading balance-sheets, investor-relations pages for financial tracking, capturing sentiments from news and field inputs of Sales & Marketing etc. Track people and customer information from databases, LinkedIn and Industry.

Tracking customer and vendor products, creates infographics, and also makes presentation decks for go-to-market.

ix. Nowadays after pandemic, all libraries and IRCs are providing online SDI services through subscribing more electronic databases, e-magazines, e-newspapers through login id based services to their users.

x. It has been observed that IRC organizes annual training programs. For TCS IRC team members these programs entail a three-day intensive, hands-on training covering various areas including Domain overview, Competitive Intelligence (CI), Research methods, Databases, and competencies required for digital workflows such as Copyright, Intellectual Property Rights (IPR), Digital Rights Management (DRM), Contracts, Licensing, and Access. Additionally, soft-skills training is also provided. These sessions are facilitated by invited experts and TCS professionals. Training methods include WebEx sessions, instructor-led training, and utilization of state-of-the-art learning management systems.

Table No. 4: ICT Infrastructure Facilities Available in the Libraries/IRCs

ICT infrastructure facilities	Company 1	Company 2	Company 3
Adequate PCs	√	√	√
Printer	√	√	√
RFID	x	x	√
Scanner	√	√	x
Internet connectivity	√	√	√
Photocopier	√	√	√
Fax Machine	√	√	√
LAN/Wi-Fi facility	√	√	√
Server	√	√	√

The above Table 4 explored the status of ICT infrastructure facilities available for the information management in libraries. It was identified from collected data that majority of the libraries under the study have proper ICT infrastructure for providing services to their users. Software company libraries need software and hardware to make best use of resources.

Table No. 5: Reference and Information Services offered by Software Company Libraries

Types of reference and information services	Company 1	Company 2	Company 3
Current Awareness Services (CAS)	√	√	√
News Paper Clipping Service	√	√	√
SDI, through : Info watch, Info Bulletins, Client specific	√	√	√
Providing latest news, articles, upcoming conferences, business news, citations, and reports	√	√	√
Providing outreach activities like Book exhibition	√	√	√
Providing Subscription Drives, Take away Drives	√	√	√
Help in locating the documents	√	√	√
Help in use of library catalogue/OPAC	√	√	√

From the above Table 5 it was revealed that majority of the libraries under the study provide Current Awareness

Service, Providing latest news, articles, upcoming conferences, business news, citations, and reports, Providing Subscription Drives, Take away Drives, SDI, through : Info watch, Info Bulletins, Client specific Dossiers.

Table No. 6: Access to the E-Resources/Databases

Access to the E-Resources/Databases	Company 1	Company 2	Company 3
Through Library Portal	√	√	√
Separate digital library section to access the	√	√	x
Allot individual username and pass-word to	√	√	√

Table 6 revealed the various ways to access e-resources in the Software company libraries. It was identified from collected data that majority of the libraries under the study allot individual username and password to the library users, managers, employees.

Table No. 7: Awareness Creation about Library/IRC

Provide awareness about IRC	Company 1	Company 2	Company 3
Conduct library orientation	√	√	√
Made display of new arrivals	√	√	√
Circulate new arrival lists	√	√	√
Book Fair	√	√	√
Talk shows	√	√	√

Table 7 explored creation of awareness about IRC to their employees. It was identified from collected data that majority of the libraries under the study Conduct library orientation, Made display of new arrivals. Before pandemic they arranges Book Fair, Author talk, expert talk etc. But nowadays company 1 still arranges talk shows, expert talk, author talk, and storytelling activities virtually and physically.

8.0 Conclusion

In conclusion, the establishment of separate libraries by software companies underscores their commitment to providing enhanced information resources for software professionals. It was observed that these libraries offer a wide array of resources, including print books, e-resources, databases, magazines, research articles, and more, catering to the evolving needs of users. Notably, ICT-based reference services are heavily utilized, demonstrating the libraries' responsiveness to technological advancements. The efficient solution of user queries through comprehensive information gathering and dissemination reflects the libraries' commendable service orientation. Moreover, the provision of CAS and SDI services directly to users' desks streamlines access and enhances user convenience. The emphasis on training programs further highlights the libraries' dedication to facilitating continuous learning and skill development among users. Overall, these findings underscore the pivotal role of libraries and IRCs in supporting knowledge enhancement and professional development within the software industry, contributing significantly to the sector's growth and innovation.

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