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Contents

Big Data and Libraries : An Introduction

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ABSTRACT :

Modern Technologies have resulted in the development of new methods in collection and analysis of data. Analysed Data lends authenticity and enables justification of decisions taken. Big data is a relatively new concept being used in many organisations to understand the client's requirement. This insight in turn can be used to design or enhance services to attain better patron satisfaction. This paper outlines the areas in which Big Data can be applied to bring about positive changes in Libraries.

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Keywords : Big Data, Library Data, Data Analytics.

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Introduction :

Developments in computers, information, and mobile technology over the last two decades has resulted in an excess of data from all occupations such as medicine and health care, financial sector, industries, supply chain systems as well as user generated data. To indicate this the term big data was coined.

In addition to the sheer volume of data, big data also exhibits other unique characteristics as compared with traditional data, the main being it is unstructured and requires real time analysis. This development calls for new system architecture for data acquisition, transmission, storage, and data - processing mechanisms capable of processing large scale data.

In the present knowledge based society the exponential growth in data has challenged the information experts and researchers to develop new innovative techniques to find information and solutions to the problems faced by the organisation in storage and analysis of huge quantity of data, these huge sets of data can be used to provide crucial insights when analysed

This paper attempts to describe big data, establish its importance and outline areas where it can be used to identify lacuna's so that changes can be implemented in the current library set-up.

What is Big Data?

According to SAS "Big data is a term used to describe large volumes of data (structured and unstructured) that inundates a business on a day-to day basis."

Edd Dumbill defines Big Data as "data that becomes large enough that it cannot be processed using conventional method"

McKinsey study defines Big Data as "datasets whose size is beyond the ability of typical database software tools to capture, store, manage and analyse."

Analyst Doug Laney (2001) defined Big data in terms of the 3Vs. –

- Volume – Data is collected from a variety of sources by organisations, be it business transactions, machine to machine data, from social media or from sensors, all this data requires massive storage capacities. New technologies having the potential to store large volumes of data have been able to ease this burden.

- Velocity – There is a preference to transacting and viewing results in real time. RFID tags, Sensors, smart cards etc. are bringing about a need for availability of data in real time, and these data sets must be dealt with in a timely manner.

- Variety / Variability - The data may be available in different types of formats from text documents to

pdf's, video-audio files to emails. This data flow can be inconsistent with peaks and dips, these peaks may be daily / seasonal / event-triggered and can be challenging to manage especially when the data is unstructured. In addition to this the data many be complex bringing about difficult in linking, matching, cleaning and transforming it across systems, but, without the necessary connection and correlation, and proper data linkages the data can spiral out of control.

Even though the amount of data being created and stored at a global level is unimaginable and keeps growing by the minute but, only a small percentage of it is analysed.

Importance of Big Data :

Big Data revolves around what you get out of it rather than what you do with your data, e.g. in a business, data can be analysed to determine cost reductions, time reduction, new products developments, and decision making to optimise offers. Big Data can be combined with high-powered analytics to achieve business related tasks such as

- Improve sales by determining customer's buying habits.

- Recalculating the risk portfolios and determining options to minimize risks.

- Determine root causes of failures in real time

- Detect fraudulent behaviour before it affects the organisation.

The effect of Big Data on certain organisations is as follows

- Banking – In Banks it is important to comply with the set norms as well as understand customer needs while minimizing risks and frauds. Big data brings insights and enables the institutions to stay ahead of the game with advanced analytics.

- Education – Educators can make a significant impact on school systems, enable in framing appropriate syllabus and curriculums with the help of data based insights. With appropriate analysis of big data, educators can identify at-risk students and make sure they are provided with adequate support to ensure progress; also, better systems of evaluation and support can be implemented.

- Healthcare – Patients records, details of treatments rendered and medicines prescribed enable health care professionals to uncover hidden insights and provide better patient care.

- Governance – Government agencies can apply analytics to big data to gain insight to manage utilities, running organisations and agencies, dealing with traffic issues and preventing crimes.

- Manufacturing – With the appropriate application of details drawn from Big data, manufacturers can enhance the quality and quantity of their outputs, minimize waste, and dispose waste materials effectively.

- Retail industry – Big data enables retailers to know the best way to build customer relations, market products, handle transactions, thus enabling traders to bring back lapsed business.

Sources of Big Data : It is highly essential to understand where big data comes from before analysing it for fruitful purposes. The main sources of data are

- Public sources – Massive data is available through open data sources like the Government sites, Census Reports etc.

- Social media – Data from social media sites is an increasing attractive set of information especially for marketing, sales, and support function.

After identifying the source for data, it is essential to identify the modes of storage, methods of extraction of relevant data, and identifying suitable methods of analysing the extracted data.

Big Data and Libraries : Libraries are moving from collection based services to community oriented services and library data, guides this transition. Big data ensures that librarians are correctly adapting their services to the need of their users. Over the time the culture has seen a shift from closed access to open access and sharing of the catalogue has been the major step i.e. "Opening the library catalogue to anyone and everyone" though OPAC's. The idea that society is enriched when information is freely available has led to free sharing of data, so much so, many e-book are freely available, some libraries also make it

possible to view photographs, paintings etc.

Are Librarians equipped to handle Big Data : Librarians have been working with huge quantum of data right from inception and adapting to technological changes, thus handling of Big Data should not be daunting task for librarians. The library data can be linked with other data to achieve greater insights about the library services, patrons and community and can be as broad or minute as required e.g. everyone uses google maps or other map – apps for finding locations, this can be teamed with the library patron records to identify location having minimum library memberships.

Use of Big Data in Libraries : There are five distinct uses of Big Data concept in libraries :

- **Resources :** The resources available in a library such as budget, staff, premises, media, library hours, etc. along with the traditional parameters such as lending statistics, number of visitors, social media activity can be combined with environmental information like education levels of the community within a specified radius of the library, age group of the community members etc., in order, to identify budget and staff allocation the library needs to make, to include activities that would give more exposure to the library.

- **Collection Development and Preservation of Data Sets :** Comparing the library collection (Catalogue) with the qualification, age, gender and reading interests of the patrons will enable the librarians to pinpoint lacuna in the library collection and develop the collection accordingly, also these details can help to identify the data sets that need to the preserved.

- Bench-marking – Comparing the data of resources with the data of other similar libraries helps to track performances, improvements, and effect of changes over a period. Equally tracking of return of investment is important especially when libraries are now preferring E-contents. By having the evidence of usage and stock performance librarians are better able to negotiate for the appropriate deals.

- React and Predict – To ensure the survival of the libraries, it is of utmost importance to evolve depending on the shifting demands of the patrons, collected data enables the staff to comprehend and understand patron views and identify potential trends to plan future strategies.

- Service Enrichment – Big Data has many presentation possibilities, thus offering various combinations that will provide information of patrons with what they want. Big data helps the librarians to put the patron first and create a more personal and relevant set of library services and events. If you know what the patron wants, then you know what to offer them. This will help librarians plan literacy programs, cultural events, talks etc.

Conclusion :

Even though Big Data is a relatively new concept, many organisations have been using Big Data to understand their clients better and thus design services that are more personalised and timely. Thus, increasing customer satisfaction and profits. Similarly, Big data can be linked with other data to remove guess works associated with library strategies. Evidence based decisions can be made, they can become more streamlined and efficient. Just as librarians have made themselves familiar with previous technological advances, so also, they should familiarise themselves with the possibilities and problems inherent with big data and use that knowledge for the betterment of their library and its services.

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Knowledge Management In Academic Libraries: Librarians In The 21st Century

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ABSTRACT :

This paper examines the contributions of librarians in knowledge management, and the implications for academic librarians. A review of relevant literature on contemporary issues in libraries and knowledge management was undertaken, and the current developments in knowledge management and the future for libraries, librarians, and information science professionals were discovered. There is evidence that knowledge management cuts across all spheres of human and organizational activities including libraries and archives. With knowledge management, academic librarians contribute to the improvement of employees' capacity in knowledge creation; it promotes and strengthens relationships and inter-networking between libraries, librarians, and users. KM creates enablement to mine and extract the wealth of knowledge in library employees. Information technologies, information explosion, multiple formats of information, changing users' needs and tools have assigned newer roles and responsibilities to academic librarians. It has transformed them from custodians of recorded human intellect to knowledge navigators; they have migrated from librarians to Cyprians, knowledge engineers, knowledge gatekeepers, networkers and knowledge brokers. These skills and competencies have to be gripped and imbibed by all knowledge workers or they will become irrelevant in this 21st century.

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Keywords : Knowledge Management, Academic Libraries, ICT

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Introduction :

Ever since the early man discovered the skill of making fire, many initiatives to transfer information, knowledge, and skills are today labeled knowledge management. However, the systematic study of knowledge as a management and scientific discipline began during the 1990s (Gupta et al, 2007). Drucker (1969) was the earliest to distinguish between manual workers and knowledge workers because in 1965 he predicted that knowledge would replace land, labour capital, machine and other fixed assets of organizations to become the chief source of production.

In library and information science, Ranganathan (2011) was the first to advocate that a universe of subjects is synonymous to a universe of knowledge and therefore proposed the concept of knowledge management in libraries. Lee (2005) also foresaw that in the new knowledge economy, the possession of relevant and strategic knowledge and its continued renewal will enable citizens to gain competitive advantage. Though the predictions by Drucker and Ranganathan did not get immediately attention, it was in 1991 when Nonaka first used the concepts of *tacit* and *explicit* knowledge that the term, knowledge economy, knowledge management, and knowledge-based competition finally came into light. First introduced in the business sector during the 20th century, the application has penetrated into many organizations and other sectors of the economy including universities, research institutes, and libraries.

The contributions of knowledge management to libraries is seen where: i) libraries as organizations can tremendously benefit by adapting relevant knowledge management applications, ii) by creating knowledge sharing atmosphere, and iii) by adopting seamless or non hierarchical organization culture and structures in order to facilitate communication and sharing of knowledge vertically and horizontally. Every organization and institution generates and acquires huge amounts of data and information, and without effective management it is difficult to identify the information required and therefore useless. Knowledge management therefore comes as a strategy to harness organizational knowledge and enhance the capacity to derive

relevant knowledge from information.

Concept of Knowledge & Knowledge Management :

Knowledge management is a journey that moves an organization (library) from their present knowledge-chaotic environment to a knowledge-centric system (Taylor, 1999). Literature has shown that many writers such as Ugwu and Ezema, 2010; Priti, 2009; Raja et al 2009; Mutula and Mooko 2008, Gupta et al 2007; Pantry & Griffiths, 2003; Shanhong. 2000; Duffy, 2000; Rowley, 1999; Balcombe, 1999; Chase, 1998; Broadbent, 1998; Davenport et al (2000); Skyrme, 1997 & 2000; and others, have written extensively on knowledge management yet all agreed that there is no universally accepted definition. For that, writers chose to define the concept the way it relates to their peculiar field of study.

In library and information science profession, it is the insights, understandings, and practical know-how that every librarian possesses. It is the fundamental resources that allow professional and para-professional librarian to function intelligently. For that, the intellectual and knowledge-based assets of librarians were classified into two main categories namely, tacit knowledge, and explicit knowledge. The tacit knowledge includes:

- The know-how contained in the heads of librarians and other people's heads;

- The knowledge each of us carry in our heads about how to do things, and the lessons learned through experience.

- It is the innovation and creativity, which is embedded in every normal human being that helps him or her in solving some daily and challenging problems.

When the tacit knowledge is expressed, codified and made public, it becomes explicit knowledge. Examples include knowledge shared during meetings, brainstorming sessions, workshops, conferences, seminars, etc. The knowledge is then recorded in the form of minutes of meetings and conference proceedings. The documents from such events represent the insights, experiences shared, codified and disseminated in an easily transferable form.

In librarianship, it is the creation, storage and collaborative sharing of employees' information within the academic library environment. In sharing and collaboration, a library's effectiveness and efficiency, productivity and profitability is enhanced. KM is therefore the process of capturing, organizing, and storing information and experiences of workers and groups within an organization and making it available to others. It is used in this paper to refer to a process that focuses on five related library activities – capturing, classifying, exploiting, sharing, and applying both the explicit and the implicit know-how for the benefit of the library, librarians, the library users, and the academic community. KM in academic libraries may include:

- A process of collecting, organizing, classifying and disseminating information throughout a library, so as to make it purposeful to those who need it;

- Its aims are to capture the tacit and explicit knowledge that employees really have but are needed by the employer and the users in the library repository and filter the surplus out.

- It involves identification of categories of knowledge needed to support the overall library activities by combining indexing, searching, and technology to help libraries in organizing data stored in multiple sources and deliver only relevant information to users.

The problem today is that in an agrarian economy, land was the main resource. During the industrial revolution, coal, iron ore, labour and other natural resources were the key. Today, there is a paradigm shift and the shift is that knowledge economy has emerged and in it, knowledge-aiding technology and human capital are the vital resources. There is enormous increase in the codification of knowledge which Priti (2009) described as "networking and digitization of information that is leading to its increase in commoditization". Knowledge is in people's heads and managing it is an impossible task and librarians and information science professionals are the knowledge workers who Drucker envisaged.

With knowledge management around us in the 21st century, academic librarians are assigned new and challenging roles, a responsibility that ushered in other opportunities to market their products and professionalism in organization of knowledge. That was the rational Kumar (2010) noted that the role of knowledge management in libraries today has

become more vital along with the development of knowledge based economy. In view of this, this paper reviews:

- The concept of knowledge and knowledge management

- Justifications for knowledge management in academic libraries

- Strategies for knowledge management in academic libraries

- Implications for library and information science profession.

Justification for Knowledge Management in Libraries :

In the knowledge economy era, libraries are very importance to vocational training and lifelong education of librarians. It raises their knowledge level and ability in knowledge acquisition. The main objective of implementing knowledge management in an academic library therefore is to ensure an all-round improvement of library staff's capacity; promotion of relationships between libraries and library users; it promotes knowledge innovation, strengthening knowledge inter-networking and quickens knowledge flow. Other objectives are highlighted below.

Tacit Knowledge in Employee :

Library workers sometimes change employers and or careers. They retire, and or leave their workplace with the professional knowledge acquired in the course of working in the library. When this happens, the establishment loses the experience and expertise of such employees. The wealth of knowledge that is in older employees which can be used to give the library a competitive edge is lost. A knowledge management initiative in libraries becomes imperative in order to harness the wealth, wisdom, expertise, and experiences embedded in the heads of such employees before they leave the library. This can be achieved through brainstorming, open discussions, and provision of fertile ground for creativity, sharing of ideas, organizing workshops, conferences, mentoring, web archiving, digitization, and identification and collectively addressing problems and finding solution.

Desire for Retention of Knowledge in Employees :

When an individual enters an organization, they did so with little or no knowledge of the modus operandi of the organization. Through orientation and training which such a staff undergoes, a lot of knowledge is accumulated. The learning processes that people/workers undergo enable them to accumulate some skills and once they leave the office, the entire storehouse of knowledge about the job are gone.

If the wealth of such knowledge in librarians is not to be lost, library administration must initiate knowledge management practice which may involve a lot of strategies that will tap or transmit the latent talent of the older staff to the succeeding ones. If the library could capture part of the older worker's experience through KM, then the reciprocal relationship between the employees and the employers, librarians and users would truly be achieved once that person retires.

The Desire to Create Knowledge Management Awareness

Since it is difficult to manage knowledge in people's heads what knowledge management is all about is to create a stimulating environment in which knowledge can be created, harnessed, shared and used for the benefit of libraries, librarians and library users. There are still many knowledge management concepts that are new for many researchers. By promoting and raising awareness of the benefits of KM amongst the library users, faculties, and other stakeholders, librarians are encouraging them to have immense impacts on library performance.

The Impact of Information Technology :

The combination of computers, databases, and telecommunications, especially the Internet, provide librarians with an incredible number of options for improving the way libraries as organizations function. Information technology has facilitated the codification of tacit knowledge in worker and made them available simultaneously to other employees in remote locations. It improves user services, clients' satisfaction through a more professional approach to service delivery, and higher productivity. Information Technology in knowledge management helps to maximize the benefits and provides confidence in academic librarians. Raja et al (2009) noted that the implementation of knowledge management in academic libraries is driven by its mission rather than by the competition from internet-based reference services or electronic books

Strategies for Knowledge Management in Academic Libraries :

Jantz (2001) maintained that knowledge management can help transform the library into a more efficient knowledge sharing organization. And one of the major objectives of KM which Kim (1999) pointed out was that knowledge management practices aims to draw out the tacit knowledge people have. Therefore there are a number of approaches that academic librarians should follow and harvest the tacit and explicit knowledge of workers to the full advantage of the library. These include acquisition of modern tools, updating skills and standardization, knowledge creation, knowledge capturing, knowledge sharing, and skills in ICT.

Acquisition of Knowledge Management Tools :

Librarians should first and foremost have knowledge of the tools, skills, and competencies needed for effective knowledge management and take steps to acquire them. Raja et al (2009) enumerated the types of knowledge-related tools which are effective in managing and handling information in academic libraries to include, the Intranets/Extranets, electronic document management, data analysis, data warehousing, mapping tools, machine learning, workflow management systems, groupware, information retrieval tools, and web archiving. To implement knowledge management in academic libraries, a lot of financial involvement is required. Writing on the techniques and tools for knowledge management in academic libraries, Gupta et al (2007) concentrated their contribution under six key areas namely finance, cost analysis, information technology, standards, retrieval tools and metadata.

Without finance, information resources cannot be acquired and accessed. For efficient and effective knowledge management, cost analysis is very essential, while knowledge is the key factor in the application of IT in information handling activities. Libraries should ensure that adequate fund is available before embarking on knowledge management project.

Rewarding Competencies :

The exchange of information in the society is possible only if compatible standards, skills, and techniques for information and knowledge transfers are followed. Ugwu and Ezema (2010) studied the competencies for successful knowledge management applications in Nigerian academic libraries and reported that the skills needed for successful applications are cultural skills, leadership skills, strategic and restructuring skills, among other skills. They recommended that training and retraining of librarians to face the challenges of knowledge economy are essential for effective application of KM in Nigerian university libraries. Also Maponya (2004), and Priti (2009) in their different studies recommended some skills and competencies needed for KM in university libraries. These include a sharp and analytical mind for librarians; innovation and inquiring spirit; and literacy on how to use the appropriate technology to capture, catalogue and disseminate information and knowledge to the targeted audience. Priti wrote that personal competencies, good communication and personal skills; understanding flexible needs of users; development of creative solutions; ability to market the concept of KM and its benefits; creative and long term vision; analytical and lateral thinking ability and cultural adaptability skills, etc, are among the skills and competencies which academic librarians needed most in order to operate in this 21st century.

Knowledge Creation :

Whether the key objective of academic libraries is to provide resources and information services to support the university community, the core resource that is required is knowledge. That is, the knowledge of the library's operation, library users and their needs, the library collections, and of library facilities and technologies available. Knowledge of these must be put together so that new knowledge is created and subsequently lead to the improvement and development of services to the users. However, this diverse knowledge is rather dispersed across library sections and library hierarchy and knowledge creation is the outcome of an interactive process that will involve a number of individuals in a library setting. For that reason, only where there is interaction and communication can there be a comparison of each person's ideas and experiences with others. Knowledge creation is a particularly important strategies and process of knowledge management because it focuses on the development of new skills, new products, better ideas and more efficient processes.

In addition, knowledge creation refers to the ability to originate novel and useful ideas and solutions. Knowledge

in the context of academic libraries can be created through understanding the user needs and requirements as well as the university's curricula. Academic librarians can become part of the knowledge creation process through participating in the teaching and research activities of the university.

Knowledge Sharing :

Expertise exists in people, and much of this knowledge is tacit rather than explicit which makes it difficult to be shared. Knowledge sharing in library is simply about transferring the dispersed know-how of professional librarians and faculty members more effectively. Knowledge sharing is based on the experiences gained internally and externally in the organization. Internally, it is shared during staff meetings, seminars, workshops, orientations committees and board meetings. In many academic libraries, a great deal of knowledge sharing is entirely uncoordinated and any sharing of information and knowledge has been on an informal basis and usually based on conversation. Today, more emphasis is placed on formalizing knowledge sharing. Jantz (2001) noted that in many library settings; there is no systematic approach to organizing the knowledge of the enterprise, and making it available to other librarians and staff of the library.

For academic libraries to utilize their know-how, it is necessary that they become knowledge-based organizations. Academic libraries need to prepare themselves for using and sharing knowledge.

The expertise and know-how of other librarians should be valued and shared through meetings, conferences seminars in which the outcome is documented. That is why it is vital that knowledge should be shared and distributed within an organization so that isolated information or experience can be used by the whole company. Making this know-how available to other librarians will eliminate or reduce duplication of efforts and form the basis for problem solving and decision-making.

Knowledge Capturing/Acquisition :

Capturing and acquiring knowledge is crucial to the successful development of a knowledge-based economy in libraries, but most organizations often suffer permanent loss of valuable experts through dismissals, redundancies, retirement and death of their employees. The reason for this is that much knowledge is stored in the heads of the people

and it is often lost if not captured elsewhere. The surest way to avoid collective loss of organizational memory is to identify the expertise and the skills of staff and capture it. Academic libraries need to develop ways of capturing its internal knowledge; devise systems to identify people's expertise and develop ways of sharing it. Maponya (2004) and Mutulua and Mooko (2008) recommended that a formal process of capturing knowledge can include collating internal profiles of academic librarians and also standardizing routine information-update reports. As users became more sophisticated, academic libraries need to develop innovative ways to respond and add value to their services. Academic libraries need to be aware and to aim at capturing the knowledge that exists within their personnel. The type of enquiries, for example, that is commonly received at the reference and circulation lending desks should be captured and a folder of *frequently asked questions* (FAQ) be created to enable librarians not only to provide an in-depth customized reference service but also to become knowledgeable about handling different enquiries.

Knowledge Networking :

Librarians have been dealing with inter- library loan, in-service training of employees in other libraries for a long time. Today they are involved in searching online databases and web archiving of e-resources for their clients. This kind of experience can be very helpful in building knowledge bases and repositories, which is a crucial area of knowledge management. Since Knowledge acquisition is the starting point of knowledge management in libraries, Shanhong (2000) opined that knowledge in academic libraries can be acquired through:

- Establishing knowledge links or networking with other libraries and with institutions of all kinds;
- Attending training courses, conferences, seminars and workshops;
- subscribing to listservs and online or virtual communities of practice;
- Buying or borrowing knowledge products or resources in the form of manuals, blueprints, reports and research reports from other libraries and organizations.

In view of this imperative, academic libraries need to gear

up to equip their librarians with the know-how they needed to cope with the rapid changes in the 21st century.

Implications for Library and Information Science Professionals :

The characteristics of the knowledge economy today suggest a number of implications for librarianship. Because an economy built on knowledge is fundamentally different from the one built on physical collections, knowledge management has assigned newer roles to academic librarians. In this 21st century, librarians are no longer meeting the information needs of users through the traditional avenue of simply adding to their collections. There are lots of transformations in their roles. As knowledge workers, they must extend their expertise beyond collection management to knowledge acquisition and management. They have to extend their expertise in selecting, organizing, and preserving information. They must be willing to move outside the walls of the traditional library and work assiduously with technologists, faculty, and students. This means that librarians are no longer merely custodians of information; rather, they will act as knowledge managers who will work with users in collecting and analyzing strategic intelligence, act as trainers and consultants to transfer knowledge throughout the organization.

In this paradigm shift, academic librarians will be:

- Knowledge management developers, working more closely with faculties and students to design, organize, and maintain a broader range of digital assets; they are knowledge brokers *that* have networks of contacts as consultants and specialize in providing expert advice within and outside the library shores.

- They are knowledge management integrators who have a more active role in the educational and research mission of university, integrating information resources and services in their course and research projects and at the same time knowledge gatekeepers who are acting as subject experts.

- Academic librarians are knowledge management educators who are teaching and training students and faculty information literacy program and how to organize, preserve, and share their own information resources;

- As research assistants for both personal and professional development and for providing up-to-date assistance to library users, they are also knowledge editors that repackage knowledge into the most accessible and most appropriate formats for the patrons.

- Knowledge management researchers — applying library and information science and new digital technology to create new organizational (metadata), retrieval, and storage (preservation) options. Knowledge management in academic libraries allows librarians an opportunity to see oneself not just as service oriented, but mostly value oriented.

Conclusion :

The major trust of KM in librarianship is to enhance accessibility of information, and customize to the professional needs. In view of this therefore, the ability to work across organizational boundaries, and the willingness to take opportunities to try different roles and ways of working are essential for the information professionals in knowledge economy environments

In the present scenario knowledge management is a powerful tool for promoting innovation, realizing and re-engineering the various aspects of day-to-day activities of an organization. Knowledge is growing very fast in every aspect of life and it is becoming very difficult for knowledge professionals to capture and disseminate the available information to the deserving person without using the emerging technologies. The utility of knowledge management in an academic library cannot be ignored. For example, knowledge management helps library professionals in improving the services being rendered to their users. Information professionals have to recast their roles as knowledge professional, librarian's roles should not be limited to being the custodians of information but to acquire skills to keep themselves afloat to cope intelligently and objectively with the effective and efficient knowledge management in academic institutions. This is achievable by retooling and re-skilling with modern facilities required in contemporary library environment.

Recommendations

There is a need to reshape the structure of academic libraries

for them to be able to improve the services they provide to library users. That was why university librarians are urged to make their libraries more clients-centered, to re-design work processes in line with university's goals, and re-structure the tools in order to support front-line performance. The emphasis is more on the needs of the library user than the needs of the library. It is emphasized that the hallmark of a university education, information sharing, team-based structure, empowered employees, decentralized decision making and participative strategy should be promoted through knowledge management. Like other organizations, academic libraries need to reshape their structures to better serve their clients

Academic librarians need to go an extra mile to understand the information and knowledge needs of users. They should be in a position to map internal and external knowledge that would assist them in increasing their efficiency. In other words, academic librarians should extend their information management roles and enhance their knowledge management competencies. Foo *et al.,* (2002) pointed out that academic librarian as knowledge workers need to play active roles in searching for innovative solutions to the issues involved in adapting new technologies into their environment.

The challenge for academic librarians is to manage services, which offer users a carefully selected mix of multiple formats and media. Academic libraries should rethink their role in the whole university community. There is imperative to support the needs of the users since the teaching and learning patterns in universities have changed. As information and research resources become more varied, this places a challenge to academic libraries. There is a serious argument that the changes in the nature of information, in research strategies and in the structure of higher education are affecting academic libraries. These changes define much of the shifting context within which academic libraries must operate. Budd (1998) suggested that the changes brought by electronic media necessitate transformation in the way librarians think about their jobs, the users of information and communication process of which they are part of. Academic librarians must strive to remain competent navigators of each medium in order to assist the library users.

In view of this modern trend, academic librarians need to liaise with library users, departments, and faculties to support teaching, learning and research in universities. As Maponya (2004:11) explained, liaison is very important in an environment of resource-based learning where scholars are encouraged to carry out more independent work and make wider use of a range of learning resources. These challenges therefore require academic librarians to offer user-friendly ICT oriented facilities such as providing for remote access to information and services analyze the changing user needs and give support to users in like new academic environments.

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ABSTRACT:

Electronic resources and services refer to the variety of electronic and digital sources of information available to teachers and learners within an academic context. This article highlights the importance of online services in GNIMS Business School Library and what types of online services can be rendered to the users in the Institute.

Basically it is a practical approach towards the services, how and where these are used. The library should provide personalized assistance to its users in accessing suitable information resources to meet their needs. These may include email and web forms, online chat reference, databases and collaborative digital reference, etc.

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Keywords :

E- Resources**,** Online Services, Retrieval of Information, Web OPAC.

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Introduction :

The emergence of electronic resources has drastically improved the status of libraries and information centres across the world during the last decade and there has been strong urging from the user community to get more and more information online. The development of ICT devices, the rapid rise of electronic databases, and modern e-book technologies have altogether changed the entire scenario of informatics.

This fast-growing array of electronic information resources is often viewed as a significant opportunity for change in education, with shifts towards increased student independence in learning. An e-Resource is an electronic information resource that you can access on the web, on or off campus. You can get the information you want, when you need it, 24 hours a day, 7 days a week and 365 days in a year. E- Resource refers to any work encoded and made available for access through the use of computer. It includes both online and electronic data in physical format. The data may be stored at a remote server in electronic form and could be accessed electronically using internet. This policy covers both free internet resources and electronic resources purchased or licensed by the libraries from a commercial source, professional organization, non-profit organization or any external institution.

Literature Review :

Jose and Pacios (2005) the author shows the impact of consortia purchased, periodical publications on document

supply services. It focuses mainly on the impact of electronic journals in libraries, their effects, and proposed actions.

Venkadesan, Jagannath and Puttabasavaiah (2004) stated that the library environment is currently undergoing a rapid and dynamic revolution on leading to a new generation of libraries with an emphasis on e-resources. On one side, there is an increasing demand for good library collection in terms of large amount of data/information and on the other hand, the publishing media is striving hand to support this demand at lightning speed by way of e-publication as well as online access. As a result, a large number of e-resources are published in all subject areas.

Therefore, library needs to adopt electronic media for its collection development in a better way to fulfill the requirements of users. He also described in details, the steps taken by the library for a comprehensive e-resources access package model so that the researchers reap the maximum benefits by giving access to reasonable level to meet their information requirements for academic and research activities.

Bist (2005) made an attempt on managing and handling electronic journals. The importance of Electronic Resources in library and information collection and services are stated.

He also stated that the role of library and information science profession in managing of electronic journals in a rapid information communication technology and digital revolution period.is necessary. The author mentioned difference between electronic services, online journals and electronic resources and also stated different definitions of these. Various types of accessing of electronic journals are also specified. Added advantages like multiple access, accessible to all users, time consuming for print and mail process, space restriction, storage, multimedia storage etc. are discussed.

Role of Library and Information Science professionals in the selection of electronic journals are indicated. Various steps like selection, subscription, license agreement terms, backup and archival, file format, access modes, acquisition, budget, pricing options are stated. The roles of aggregators on providing online access of electronic contents are stated.

Importance of Online Services in Management Libraries:

All Management libraries are reshaping their services and service proving strategies. New storage Medias and new channels for transmitting information are changing total picture of the process and the result is nationalize distance-learning concept. Every thing is available on your desktop so no need to go or to wait for any kind of help or assistance. We speak about electronic references, full text data access, Web resources that are integral part of all education in the digital environment - Past examination question papers, Course handouts, Auto alert service and online article delivery service, online research assistance in Research center. All types of such information is an integral part of education system. Especially students and faculty are demanding it very much without wasting their time. Therefore solution for this is online services. Every Management library has to involve fully in the process of delivering education with quality services.

Types of Online Library services :

There is wide variety of online services in different libraries. We can take an example of GNIMS Management Library only and as per that some university and college libraries are providing following services :

- **Library Catalogue:**

    It is a register of all bibliographic items found in a library or group of libraries, such as a network of libraries at several locations. In other words, it is collection of all bibliographic details of library holdings. Now it is available online with all types of libraries in the world.

- **Web OPAC :**

    Online Public Access Catalog (OPAC) is an electronic library catalog, which contains complete bibliographic information of all items in the library. It brings information at the fingertips of members, whether the member is in the library or at a remote location. Information is given about where material is located in the library, whether it is available for loan, when an item is due back if on loan, and how long it could be borrowed.

Providing services to its users and to get the cent percent satisfaction from its users is the main objective of any Management library. Library has to give user oriented services to its users so that he will get his information without wasting his time. Then only he will be satisfied with what he got form library. Students and faculty members are main

users of Management Library.

New Arrival Auto Alert Service :

Auto Alert Services are automated email notices sent by library to alert its users about newly available publications in the field of interest. It helps to inform and keep updated to its regular user. This service is not new but the structure is some how changed. Previously it was done manually and now by computer. We can give this service with the help of software. Let us see how it works. Firstly, we have to collect user information with their subject interest. Secondly put all data in the software. The software is attached with the catalogue. The work of this software is to match the relevant keywords with both Catalogue entries and subject interest of users. After getting bibliographic details of document Auto generated E-mail will be send to the respective user.

Auto Overdue Reminder Service through SLIM Software :

SLIM efficient Library Management software is finding such books, which are delayed by the users and also sending them auto-reminder for the same. Every day when the system is on, automatic reminders are send to the persons who have delayed books with them.

Online Newspapers Reading as CAS :

Current Awareness Services is extensively for users. Important advertisement and important highlights of the library will be send through WhatsApp.

Every faculty and student in educational organization is in search of today's updates, for News and events surrounding them. They will reserve the time and come in the library to see today's newspapers. It is not necessary to come in the library when he/she is having online newspapers reading service.

Full-text Database :

A full-text database is a collection of documents or other information in the form of a database in which the complete text of each referenced document is available for online viewing, printing, or downloading. In addition to text documents, images are often included, such as graphs, maps, photos, and diagrams. A full-text database is searchable by keyword, phrase, or both. Management library also can subscribe some databases for the use of its students and faculty. GNIMS library have ProQuest, which is a remarkable example of Full-text Database. By placing customers at the core of business, it has tapped the resourcefulness in developing the high quality products and service. Now INFLIBNET is also having number of databases.

Conclusion :

As per the new trend, modern Management libraries are relying more on online services. It is a good sign for digital revolution in the field of library and information science. Now a days some traditional library works are not relevant and we have to refine them. Always there is observation from Management and library staff that users are not coming to the library and not using library resources very frequently.

GNIMS Library have already implemented digital technology for their users. Whatever things are with the library it should be in tremendous use and for this the librarians have to be ready to accept new techniques such as web 2.0 in general and library 2.0 for library. All library professionals have to try their best for meeting loud demand of digital information and implement the latest technologies available in our field. This will definitely encourage the Users to use the library resources and help the library grow.

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Promoting Information Services in Digitized and on-line Academic Library Environment

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ABSTRACT :

Academic institutions are primarily designed to conduct academic activities like study and teaching, in all areas of universe of knowledge for which up-dated information is the basic requirement for a teacher. Academic libraries invest a huge amount of money on collection development, processing and storage of information resources to support the study and teaching undertaken by universities. Effective utilization of these resources can be achieved through ICT based information services of the library attached to these institutions. This is the main focus of the paper. The paper also deals with the new ICT based tools to assist academic libraries developing and delivering appropriate information services and products. A number of social networking platforms have come up in the surface of Internet through which the libraries can promote their services for the users.

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Keywords: Information Services, Library Services, ICT based Services, Library Blog

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1. Introduction :

In the field of academic studies the contributions of libraries that too Digital Libraries are at the top of the list. The quality of study depends on the availability of latest information with the academic faculty, students and researchers in their areas of interest. Academic libraries play a vital role in the provision of latest information to the researchers by acquiring the specific resources in library and making them available to the researchers. The Information and Communication Technologies (ICT) acts as the best medium to establish link between researchers and information resources. With rapid advancement in digitization and on-line technology sectors the Libraries are experiencing a period of radical changes in all their activities, particularly while providing information services to their users. This new demand brings forward a number of unanswered questions. One of them, possibly the biggest, what is preventing librarians and information professionals from developing successful promotion (marketing) of information services? Every library starting from the huge university set up to a small school establishment is facing the same challenge. Promotion strategy of information services in the line of their provisions through new information technologies particularly in Internet responds to these challenges. Provision of information or promotion of information products or marketing of information services in a library ultimately all aim towards Ranganathan's concept of "Right Information to Right Users at Right Time". Strengthening Ranganathan, Dennis Brandel says "Right Information to Right People at Right Time Generates Productivity" (2008). The advent of Web based social networks and new telecommunication platforms widened the scope for furthering information provisions to meet users' demands in innovative and effective ways.

2. Marketing concept in Library :

Information, although in tangint form, is an Economic product viable for selling as well as amenable for

purchasing. Promotion of information for availability of it with maximum number of clientele needs a strong marketing strategy. Marketing, as Philip Kotler writes "a social and managerial process by which individuals and groups obtain what they need and want through creating, offering and exchanging products of value with others", (Kotler, 1994) and Adam Smith says "Marketing is a stance and an attitude that focuses on meeting the needs of users." (Rao, ý1999) And we commonly belief the marketing concept holds that the key to achieving organizational goals consists in determining the needs and wants of target market and delivering the desired satisfactions.

Marketing is a process that can help managers of libraries and information centers in achieving self-sufficiency in their resources and to provide an optimum level of services to reach more potential users and to encourage the use of library resources. This naturally requires a shift from product or service orientation to customer or need orientation. Different marketing concepts provide librarians various types of tools for collecting and analyzing useful data about information needs of customers, which assists in designing, developing and delivering appropriate services.

3. Levels of Marketing :

Consumers often think that a product is simply the physical item that he or she buys. Every product is the output of bundle of information, application of theories, and innovations of the producer. While promoting any product the matter is communicated to the end user is information. In case of information products the complications mounts further for the promoters how to sell information to information consumers as well as producers.

Primarily there are two levels of marketing, which are related to information marketing:

3.1 Strategic Marketing: - Strategic Marketing is the way a firm effectively differentiates itself from its competitors by capitalizing on its strengths (both current and potential) to provide consistently better value to customers than its competitors (Strategic Marketing, 2017). Strategic marketing attempts to determine how an organization competes against its competitors in a market place. In particular, it aims at generating competitors. Quality in information is the key element in competitive information market.

3.2 Operational Marketing: - Operational marketing is designed to attract and keep customers by satisfying their needs with prompt customer service, at the highest level of quality and to do so in the shortest amount of time (Operational Marketing, 2017). Operational marketing executes marketing functions to attract and keep customers and to maximize the value derived for them, as well as to satisfy the customer with prompt services and meeting the customer expectations. Peter Drucker (1954) also said that the same "Business success is not determined by the producer but by the customer".

In the early conceptualization of a library's and information center's concept of customer orientation embedded into it. Moreover, Dr. Ranganthan's (Ranganathan, 1931) concept of the five laws of library science had the marketing concept at their core. The five laws were:

First Law : Books are for use; (Maximize the use of books or information product)

Second law: Every reader his/her book; (Reader as a is the prime factor and his/her need must be satisfied)

Third law: Every book its reader; (Find a reader or customer for every book or information product).

Fourth law: Save the time of the reader; (Organize information in such a way that the reader finds his desired information promptly. Don't dissatisfy a customer).

Fifth law : Library is a growing organism; (Emphasis is on comprehensive and evolutionary growth. To go on increasing products or books and

customers or users in library).

A focus on customer needs (second law) and wants through saving of time (fourth law) is clearly emphasized in these laws devised in way back to 1931. Also the third law relates to finding a reader, probably implying that the library should reach out to the customers.

Thus though customer focus long been advocated in the library profession, it may be refined to suit the current context of the market.

4. Marketing Strategy for Information :

A Strategy is only an articulation of what we plan to achieve. In the field of information marketing strategy is based on a set of key principles:

4.1 Knowledge based Organization : The University/Institute is a knowledge- based organization. (Information Industry). Information is critical to the university's success and needs to be managed as a strategic resource. University/Institute systems should enable people to create, analyses, publish, store and archive data.

4.2 Access: Potential users of information should have ready access to the University's/Institute's Information, whether in campus or remotely, according to need.

4.3 Information Infrastructure: The University Institute will provide an information infrastructure to facilitate information handling processes and procedures across the University and to ensure that they are coherent and coordinated.

4.5 User of Information : All users should be fully aware of their rights and responsibilities in the handling of Information.

4.6 Communications : The University/institute will provide a communication system for the rapid distribution of information with staff, students and external stakeholders.

4.7 Ownership: Each area of information or element of data should have a custodian who will be responsible for ensuring the quality of the data and for implanting the access policy.

5. Factors Influencing Information Market :

Following are factors that will influence the information market-

5.1 Market Size: The market networks coming up at national regional and global level, the marketing and promotional activities associated with them will increase awareness of information at all levels among potential users.

5.2 Number of venders: It is not expected that there will be exponential growth of information suppliers as it involves specialization, huge financial backing and enormous efforts.

5.3 New entrant to the market: This is of greatest significance to the information industry. It is at the top end of the market that the greatest interstices. It is true that the entry price is highest, but the resource of some of the new entrants are higher still, on the positive side, the interest of such potential new entrants can only confirm the future growth potential of the market.

5.4 Services and strategy : Services and strategy are the heart of the future information that will define the scope of the market and to which suppliers must orient both their operations and their planning.

6. Marketing Strategy of Information in Libraries and Information Centers:

A library is a social and service institution providing information to its members. Its traditional functions include selection, acquisition, storage, processing, circulation and reference. Over a period of time, due to change in the nature of demands by the clients, libraries have expanded their document delivery systems. Today translation, editing, publishing and reprographic services have been added to the traditional services mentioned in the following table: -

S. No	Activities	Services/Products
1.	Selection and collection of documents	Bibliographies, Current awareness
2.	Indexing and abstracting	Indexed bibliographies, Abstracting bulletins, Custom searches.
3.	Extraction	Digest extracts, Descriptive reviews/state of the art report.
4.	Evaluation	Critical review of area, critical compilation of data, Criteria for experimentation etc.
5.	Other activities	Translation, Editing, Publishing, Reprographic services and On-line services.

7. Marketing research in Information services :

Due to importance of marketing strategy in Information Services many studies have been conducted in this area. Some are as under:

Khali Klaib (1994) conducted a survey of libraries and information centers in Jordan to examine the application of the marketing concept to the products and services of LIS and to investigate users attitude towards free or fee-based service.

Vaishnav (1997) did a case study of Dr. Babasaheb Ambedkar Marathwada University Library and pointed out that the university library uses marketing process to satisfy the needs and wants of user.

Panday (2001) conducted a survey of the M S University of Baroda to explore the feasibility of marketing library and information services and products.

Sharma and Choudhary (2003) conducted a case study of All India Management Association library. The author found that experience of marketing of information services and products is very encouraging at the AIMA library.

It can be safely concluded that marketing methods if applied appropriately can make a vital contribution to library and information work.

8. Modern Ways of Marketing Information Services :

There have been so many new methodologies for promoting information services of a library. Some are mentioned below:

8.1 OPAC - An Online Public Access Catalog (OPAC) is a computerized online catalog of the materials held in a library, or library system. The user in the library can search the bibliographic database and find specific information online. The search facility also aprises the user about the availability of each item for circulation, including current status of individual copies of a title and reserve status. The scope of these services include:-

Online Catalogues: The catalogues of Title, Author, Subject, Classified, KWIC Index, Publisher, etc. are available online.

Current Serials: To provide online information on holdings of current serials including recent issues received in library.

Recent Additions: To make available new additions to the library, to the users.

Multiple Databases: To support the definition of multiple databases based on types of documents for searching in OPAC through Federated search mode.

Other services from OPAC Client : Updating subject interest profile for SDI by users themselves; request for acquisition of a document; while browsing / searching various catalogues, facility to develop request online for putting a specific title on reserve, etc.

8.2 Web OPAC : Web OPAC (Online Public Access Catalogue) (WebOPAC, 2017) is a web based search platform, developed with advanced Information technologies for serving information to the users at the fingertips, regardless of physical location whether the member is in the library or at a remote location. It brings the library online by presenting bibliographic data in a read only manner. Following are some of

the library services can be made available through WebOPAC:

- Library Catalogue,

- Search facility on entire database,

- New Arrivals, Current Awareness Service C.A.S.,

- Selective Dissemination of Information S.D.I.,

- Journals list,

- Online Journals,

- Latest Issues of journals,

- Popular Documents - based on circulation and reservations,

- Place Reservation / hold on certain documents,

- Outstanding List - renewal facility optional,

- Procurement request for purchasing new books and other media,

- Approve Document for procurement,

- User feedback

8.2   Library Blogs :

Blog is a website, usually maintained by an individual, contains chronologically the brief entries of commentary, descriptions of events, or other material like audio, video, graphics, etc. Promoting library's services, resources, and programs online becomes a lot easier with the help of a blog. Blogs can be very effective tools for reaching online audiences (Fichter, 2003).

Marketing library services: Many libraries have already been using blogs in various ways for different purposes. The most obvious applications of blogs are for propagating library news, notices and services, which are needed to be updated frequently and easily. Sometimes the services of a library are valuable but costly that their promotion and sale become obvious. Here blogging acts as a cheaper means for their promotion. Blogging software helps in making the job easy enough for anyone to do it. Besides this there are other ways of using blogs in a library, some are here:

Promoting Library Events: A blog created for a library can promote its regular events and programs. The blog reaches out beyond the visitors of regular Web site of the library. The RSS feed can be set up for the blog to alert everyone in the community to include the headlines of the library on their sites or can use an RSS newsreader to see what is up at the library. Libraries can also try E-commerce sites to turn each visitor into a repeat customer. On the blog site an   e-mail subscription form can be put up to encourage visitors to sign up for permission. Through this permission-based marketing library news can be sent regularly straight to the user's in box. By this way an opportunity can be availed to invite visitors to come back to the library or its Web site more frequently. In order to make the blog distinguish among others some special content that captures readers' interest should be included.

Supporting Users: Most of the library visitors hunt the library on-line to find out what new materials like books, videos, CDs, or DVDs have been added to the collection. Regular updating of the information may serve the clients by setting up topics on your blog for each genre: mysteries, horror, science fiction, romance, and so on. The college and university libraries can prepare special alerts about new resources for particular departments or colleges through blog.

Community engagement: In library blog new book reviews and book award lists can be posted for information as well as selection for users. An online book discussion area can be created for readers to recommend books. The users community can also be invited to comment and suggest for inclusion and modification in the blog.

Other applications of blogs in libraries :

The blogs developed for a library can be used:

- to provide Current Awareness Service (CAS),

- to provide Selective Dissemination of Information (SDI),

- to highlight news or resources of interest,

- to post book reviews from students, faculty, and staff members,

- to announce library news and events,

- to announce New Acquisitions in library,

- to use as library newsletter,

- to use as Reference Desk,

- to use as libraries consortia,

- to link recommended web sites,

The relevance of blogging to libraries :

- blogs are an excellent way to stay current

- Librarians are great filters of information

- blogs are ideal for disseminating all types of information

- blogs are ideal for commenting, expressing opinions and

- blogs are ideal for discussing implications

- And to provide local information

Facebook for Libraries:

Using Facebook (Facebook-libraries, 2017) can be an effective way for academic libraries to connect with their user community. By posting updates on Facebook, libraries can inform their users about the library's programs and services. They can invite students to attend training sessions, post practical information about the library's opening times, link to new and existing print and online resources, and update the university community about any new developments. 'Followers' can engage with the library by commenting on posts and sharing them with their friends collaborative teaching learning and research becomes easier, cost free, and less time consuming.

Twitter Hashtags for Librarians :

Twitter is a fantastic tool for engaging with other librarians, monitoring LIS trends and debates in real time, and gathering unfiltered insights and inspiration from peers and seasoned professionals. The challenge for new tweeters is to know where to start among the 5,000 library landers on Twitter! So to manage your time and start building your online professional learning network, I recommend using hashtags to tune into curated Twitter chats relevant to the Library and Information Science Professions

Conclusion :

In recent time's research and development efforts have been mainly focused on problems, which required access to information. In University libraries, a huge amount invests on collection development, processing and storage of information resources. Effective utilization of these resources and services can be achieved through marketing approach. Such tools to assist University/institute developing and delivering appropriate services and products.

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Business Information in Digitized Era : Marketing Plans for Business Librarians

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ABSTRACT:

The article gives roadmap for marketing Business Information in digitized era for Business Librarians. It gives insight to use various techniques of marketing the Business Information. Also, stresses the Information and Communication technology profitably used for marketing the Business Information. In today's world of downsizing, rightsizing, and outsourcing, librarians, like these other professionals, have to be more proactive and apply management principles in providing Information to business houses. Modern Business Libraries should run like a business enterprise within the organization. For marketing Business Information in digitized era, first one should know the type of Business Information and type of users for that Information.

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Keywords: B School Libraries, Marketing tools

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Introduction:

As the saying goes "no guts, no glory", Library and Information Professionals in today's Business Libraries, are looking for opportunities to align themselves with their organization's core strategies and add value to the bottom in visible or tangible ways. Today's Information Business is no more librarian's business only: there are many professionals (Information brokers, Information agents, and Information houses), which have already started their Information business by providing business Information to large business houses. Opportunities are provided by Information technology to deliver vast basket of Information products; business libraries should know all of them and effective ways of marketing them to their clientele.

In today's world of downsizing, rightsizing, and outsourcing, librarians, like these other professionals, have to be more proactive and apply management principles in providing Information to business houses. Modern Business Libraries should run like a business enterprise within the organization. For this purpose, Business Librarians who deals with an Information rather than a document in the traditional library, must know the concept of 'Information Marketing'.

Objectives of the study:

- The present paper is written to explain the concept of Information marketing and how business librarians

applied in the present digital environment.

- It analyses the marketing mixes: price, product, place, promotion used for Business Information Products in context of digital environment

First understand the concept of Information Marketing :

Marketing is a process of planning and executing the conception pricing, promotion and distribution of ideas, good and services to create exchanges that satisfy individual and organizational goals.

Information marketing consists of analyzing and identifying the current and potential clients of Information business. The intend is to device the product and services, materials and programmes that will attract and serve this group.

"For marketing Business Information in digitized era, first one should know the type of Business Information and type of users for that Information."

With the invention of Information technology, all Information is available, not only in print, but also on internet or in CD-ROM's or in software form.

Any business house, in India, has/access following type of digital business Information and clientele for the Information:

Business News Information : Business news are Real-time access Business News accessed through internet/satellite, whereas Archival Business News are available on Internet or can be complied in CD-ROM. Real time business news are accessed by everyone who is dealing with business from traders, policymakers to analysts, consultants for their day-to-day operations. Whereas, Archival Business news are needed by analysts and corporate consultants to do research of the industry, business.

Scientific Information: It includes technology, process used for business. Scientific or Technological Business Information one can get in E-journals or CD-ROMs, which is required by research and development centers for ongoing research or by technology consultants to do research of the industry, business.

Analytical Information: It means research reports, broker reports, consultant reports on specific Industry or company or business. One can get it as a real time access through Internet or through satellite. Whereas, Industry/Corporate reports which are available in CD-ROM form or through Internet. Traders access Real time analytical Information to make decisions-making, and Analysts, Corporate Consultants, Brokerage Houses use Industry reports for forecasting the industry, business.

Information as statistical/analytical data: It is the data about the Industry, Company, Business. Data Information has Financial or economic data related to Business, mostly available as readymade software foe e.g. prowess, capex from CMIE available online or in CD form. Consultants, Business analysts of the Industry, Business also require analytical data.

For marketing any Information, Librarian should first know what type of specific Information s/he is dealing with, and what type of clientele s/he has. Then only s/he could market the Information well to her targeted clientele. By reviewing the type of clientele, s/he could decide type of specific Information they require frequently. After this identification of users, Next step for marketing Information is product designing to fulfill those needs.

Analysis of mixes of Business Information Marketing:

Products Mix IT, really, helped a lot in conceptualizing new products in Information industry and with the new types of uses for the industry. For e.g. products provided by business Information vendors.

Librarian, himself or herself, must possess good knowledge about the kind of products which are available on the various digital mediums and utility/ value of each one it in satisfying the Information needs of the clientele. This is necessary for fast and accurate delivery of Information.

Information Products designing does not mean that Librarians necessarily has to launch any product for their clientele. Librarian can use internet, satellite in which s/he could get web site/s which give free/paid Information required to fulfill the clients' needs.

For e.g. Information consultants, analysts require archival business news or Industry/business reports or statistical data for their ongoing research work. Librarian promptly has to respond to these clients by developing the Information system which could retrieve require Information very fast. Traders require business news kind of Information: these people also need expert opinion for their day-to-day decision making. Here, for fulfilling needs Librarian has to acquire Information about the user-friendly Information available on the web, which gives news kind of Information very fast. Librarian can use Google Alerts service and create keyword specific alerts for the organization.

Marketing Strategy :

After suitable identification of Information products or websites to fulfill required Information need of the clientele, librarian has to decide the marketing strategy for actual Information delivery to user. The mode and medium of delivery, promotion of products using various promotion techniques.

All these things have to be decided in advance for better and better satisfaction of users. For e.g. if people in the organization don't know real value of Information in their working, decision making, librarian while deciding the strategy has to focus on how s/he can actually use technology to educate the clientele about the value of Information.

Pricing the Information :

Pricing of Information is very to the type of Information. Real time Information delivered through satellite has a high value in terms price than statistical and other data type of Information.

Most of the Business Librarian does not know what type of a value the price of Information has, or many times s/he is reluctant to see the pricing aspect of the Information, as till now she delivered it freely to outside clientele. For this purpose, s/he can get expert opinion from marketing managers in the organization and try to devise pricing mechanism for its Information products.

For pricing the Information, Librarian should look what value s/he has added to the piece of Information. For. E.g.

Consolidation of Information has a higher value than the compilation of Information. Analysis of Information can be priced at the highest rates.

For this purpose, today's Business Librarian must possess ability not only to access and have the specific Information from the internet or any other digital media, but also to make instant consolidation of scattered pieces of Information from various internet sites and analysis of consolidated Information. If s/he could do that, s/he can ask for higher price of Information.

If product has a real time access, which could be delivered to clientele accurately, very fast price of the product is high. If librarian has analyzed the Information available on the Internet, s/he should start price that Information for the clientele who are paying for library services.

After suitable pricing mechanism for Information is designed, the librarian should focus on actual Information product delivery.

Promotional Techniques :

Developing the products that satisfy user's specific Information need is not enough for Librarian, but s/he should devise various promotion techniques to populate the Information product.

Business Information selling process involves :

Sending mails to the targeted clients above new Information product library is subscribing.

Educating the targeted client about the value of Information they have in decision-making. Here , librarian has to spread awareness of Information literacy. Clientele should not only have a good knowledge of accessing the Information but how to manipulate it for their day-to-day working librarian hast to educate its user for more high value use of Information in digital era. The proliferation of electronic Information and publishing on the web has created and increasing need not only to master search strategies but also to gain an understanding of the value of the Information in everyday life.

Presentations at client's desk Information products such as real-time Business News are mostly technology-oriented products delivered through satellite requires presentations. So, if Business library has subscribed to real time business news, librarian has to give presentation on what type of Information one could get, what is its value to the business, how it is to be used. So, presentation is the best technique for such technology-oriented products. Statistical data kind of Information, also, require presentations because need is focused not only on authenticity of data, but also the user-friendliness of the data. Also, if it is delivered through software, then that software should be flexible enough to manipulate that data. These are low cost marketing products and effective way of marketing these products are by direct mailing.

Direct Interaction with client for Information marketing the approach is direct marketing. Librarian can have direct contact with the clientele, have a conversation about his/her specific need. Librarian has to look for ways giving customized Information services to its clientele. In the course of direct interaction she/he can give effective and efficient ways of using Information on the computer.

Accounts Management should, also, be applied by regular interaction with the clients after Information delivery is started, understanding the usage patterns, changing need of the clients, educating more utility of the Information. In fact, Account management is the most critical factor is Information marketing as targeted audience is not big for librarian, s/he to retain clientele with all maximum efforts.

Also, Librarian can try to convert Information in **user-friendly format** and give it accesses to the clientele. It, also, have to keep in mind that for high value Information products

librarian have to rely on presentations, meetings etc., But otherwise for low value products can be promoted by using E-mail option, mailing lists, etc.

Besides all above techniques, the marketing efforts for marketing Information very according to type, mode, cost of Information. For e.g. The high value and technology-oriented products like real-time news require all above marketing tools, whereas industry reports, scientific reports required lesser efforts, as the focus is on authenticity, quality rather than technology (software, mode of delivery).

Conclusion :

In this digitized era, with computer and Information literacy, librarian should possess skills of marketing the Information to compete with the other Information providers, Librarian has to come out of the desk and has to think of all possible ways of marketing Information, so that s/he would become first stop shopping for Business Organization's Information requirement. In digital era, s/he has to devise all ways of retaining loyal clientele and marketing is the best option for that.

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