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## HUMAN RESOURCE ASPECT IN DIGITAL LIBRARY ERA

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### Abstract

*This paper deals with the primary idea of Digital Library (DL). It emphasis on the role, responsibilities and function of human being in the library society both Traditional Libraries (TL's) and Digital Libraries (DL's). Lastly it highlighted the genesis, historical development of the term Human Resource Development (HRD) and its different area related with the Modern Library services.*

**Keywords:** Human Resource Management; Human Resource Planning; Hominidae; Electronic Library

### 1. Introduction

We are already undergoing in the information society, which is administered by the modern Information Technology. As a result several new idea come into being in the Library and Information services eg. Electronic Library (EL), Digital Library (DL), Virtual Library (VL) and Library without wall etc. instead of Traditional Library (TL) services and or systems. Some questions are move here and they're in the Library society viz; Is Library profession going to lost its existence? What is the future of print media in the light of Electronic media? Does DL need any human being or Librarian? This last question threats me to pay attention to write down this paper. One should always keep in mind that without man machine is almost meaning less; again man was there, is there and also will be there. But it is right that, librarians are the main thing who determine that whether they will be in this fields / service or not? In library services there are two major components control the whole performance, they are 1) Document (both print and non-print) and 2) human being, (library personnel and users communities). On the way of offering better library services it is undoubtedly necessary to have well equipped as well as up to date library staffs. Each and every organization should have to initiate some strategy / technique (orientation, training & development, motivation, promotion, awards and rewards etc.) for the equipment of the library personnel, So that the library can achieve its pre-stated objectives smoothly.

### 2. Digital Library (DL)

The literature abounds with definition of Digital Libraries. However, the definition formulated by the DL foundation and cited by Waters (1998) is particularly broad-ranging:

Digital Libraries are organizations that provide the resources, including the specialized staff, to select, structure, offer intellectual access to, interpret, distribute, preserve the integrity of, and

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ensure the persistence over time of collection of digital works so that they are readily and economically available for use by a defined community and set of communities (2).

Common elements in the definition of a DL as identified by the Association of the Research Libraries include the following:

- The DL is not a single entity.
- The DL requires networking technology to connect many entities.
- All linkages are transparent to end-users.
- Universal access to digital content and information is a goal.

DL collections are not limited to document surrogates, but can include digital artifacts not extant in traditional format.

Digital Libraries (DLs), like traditional ones, will select, acquire, catalog, make available, and preserve collections. The major difference will be that DLs will consist of machine-readable data. This implies that traditional concept of a collection must be revised to accommodate materials that are accessible electronically. Digital content are of two types: items created and existing primarily in machine-readable format and materials converted from the traditional formats (1).

#### **Characteristics of DL:**

- a. DL's are the digital counterparts of the traditional libraries (TL's) and include both electronic as well as electronic and multimedia resources.
- b. DL may also provide access to digital materials and resources from out side the actual confines of any one DL.
- c. DL's support quick and efficient access to a large no of distributed but interlinked information resources that are seamlessly integrated.
- d. DL includes all the processes and services that are offered by TL's.

#### **Need and objectives of DL:**

1. The main objective is to develop information systems providing access to a coherent collection of material.
2. DL technology is to manage large amount of digital contents.
3. Manuscripts and archives should be digitized so that this rare material should be made available for extensive access.
4. There are electronic tools, which enable to be done quickly and easily by text search.
5. DL's enable greater access to the content.
6. Right management took as part of DL technologies, which provides ways to electronically identify an owner's content and its misuse.
7. It reduces the physical storage of information, less wear and tear of objectives.
8. The ability for several people to view the same item at the same time.
9. The ability to view content at home, office and other non-library location.
10. The potential for increased cost effectiveness.

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### **Advantages of DL**

- Accessibility from anywhere.
- Provide access to more information.
- Support both formal and informal learning.
- Media integration.
- Remote access to expensive and rare material.
- Generate opportunity for publishing.

### **Limitations of DL**

- Unlike print media, electronic media degrades quickly.
- Digitization violates copyright Act (5).

## **3. Role of Human in DL's**

While considering the future, it sometimes is helpful to take a look at the past. As such, it might be useful to reflect on Jesse Shera's oft-quoted definition of a library: "To bring together human beings and recorded knowledge in as fruitful a relationship as is humanly possible." [Dysart] Digital library proponents must consider the role of people (as users and service providers) if the digital library is to be truly beneficial. Technology and information resources, themselves cannot make up an effective digital library. While a good deal of the literature on digital libraries emphasizes technology and resources at the expense of the service perspective, a number of authors and researchers have considered human interaction in the digital library environment. A number of studies at Lancaster University [Twidale 1995; Twidale 1996a; Twidale 1996b; Crabtree; and Nichols] have considered the importance of human interaction in the digital library. These studies focus on the social interactions of library users with librarians, librarians with librarians, and users with other users. By studying these collaborations in physical library settings, the authors have drawn some general conclusions that might be applied to digital library design: [Twidale 1996b]

- Collaboration between users, and between users & system personnel, is a significant element of searching in current information systems.
- The development of electronic libraries threatens existing forms of collaboration but also offers opportunities for new forms of collaboration.
- The sharing of both the search product and the search process are important for collaborative activities (including education of searchers).
- There exists great potential for improving search effectiveness through the re-use of previous searches; this is one mechanism for adding value to existing databases.
- Browsing is not restricted to browsing for inanimate objects; browsing for people is also possible and could be a valuable source of information.
- Searchers of databases need externalized help to reduce their cognitive load during the search process. This can be provided both by traditional paper-based technology and through computerized systems.

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In a paper presented at the Digital Libraries '94 Conference [Ackerman], the author stresses that, while the concept of the digital library "includes solving many of the technical and logistical issues in current libraries and information seeking", it would be a mistake to consider solely the mechanical aspects of the library, while ignoring the "useful social interactions in information seeking." Ackerman outlines four ways in which social interaction can be helpful in the information seeking process:

- One may need to consult another person in order to know what to know (*help in selecting information*).
- One may need to consult a person to obtain information that is transitory in nature, and as such is un-indexed (*seeking informal information*).
- One may need to consult others for assistance in obtaining / understanding information that is highly contextual in nature, rather than merely obtaining the information in a textual format (*information seekers often have highly specific needs and interests*).
- Libraries serve important social functions, e.g., students and/or faculty meeting each other in hallways, study areas, etc. (*socializing function*).

Ackerman notes that these points, "all argue for the inclusion of some form of social interaction within the digital library. Such interaction should include not only librarians (or some human helper), but other users as well."

In a paper for the Digital Libraries '96 Conference [Brewer, et al], the authors argue that intermediary services should play a crucial and essential role in the ongoing development of digital libraries, so as not to limit the digital library to the role of "passive warehousing." The authors identify three major purposes for intermediation in the digital library environment:

- Interaction with potential information beneficiaries. (A beneficiary is defined as "any entity acting as an information seeking agent", and can include users, organizations, and software).
- Interaction with information resources.
- Mediation between information resources and users to add value during the information transfer process. (Value added services could include "searching, categorization, filtering, translation, publishing, or some combinations of these activities.")

While the authors do not focus solely on human intermediaries (indeed, a great deal of the discussion focuses on software intermediaries), they do make a very strong case for the necessity of intermediaries in the digital library environment, and call into question the notion of a digital library as a passive warehouse. Noting that intermediation services "will be crucial to the development of effective digital libraries," the authors establish the importance of value-added services to the digital library.

Matson discusses the development of the National Drug Intelligence Center, within the U.S. Department of Justice. Based on these experiences, she outlines three roles that have been proposed for the librarian in the digital age:

- The librarian as enhanced service provider, in a proactive manner.
- The librarian as guru of copyright, licensing and electronic redistribution, i.e., the understanding of what users and organizations actually want to do with information.
- The librarian as system interface designer, making use of experience with how library users request use and process information.

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Rapple identifies a number of roles that academic librarians of the future must assume, such as fostering partnerships, providing outreach to students, supporting academic disciplines, and teaching and facilitating information access. In concluding, he notes that "librarians have a strong future in the networked environment...the experience and expertise of librarians will be invaluable for helping in the design of requisite software and hardware and, above all, for mediating, electronically and at a distance, between the information and the user. Their traditional role of assisting and instructing users will continue as, seeking to forestall user alienation, they endeavor to put a human face on information technology.

Abbas summarizes a number of roles that others have identified for future librarians:

- Librarian as gateway to future and to the past.
- Librarian as teacher
- Librarian as knowledge manager/worker.
- Librarians as organizers of networked resources.
- Librarians as advocates for information policy development.
- Librarians as community partners.
- Librarians as "sifters" of information resources.
- Librarians as collaborators with technology resource providers.
- Librarians as technicians.
- Librarians as individual information consultants.

In the last role mentioned above, Abbas touches on some parallel points made by other authors.[Bush, Miksa]. Vannevar Bush, in "As We May Think," discusses a world of information overload, a world where "even the modern great library is not generally consulted; it is nibbled at by a few." Bush describes a world of increasingly privatized information spaces, a world enabled by his Memex, a world very similar in basic respects to the current/coming-networked world of information. In his Memex scenario, Bush does see a new profession opening up that is strikingly similar to what some others have forecast for the role of the future librarian as individual information consultant: "There is a new profession of trailblazers, those who find delight in the task of establishing useful trails through the enormous mass of the common record." Bush did not appear to fond of libraries, noting that "our ineptitude in getting at the record is largely caused by the artificiality of systems of indexing." While his image of the "profession of trailblazers" did not seem to include librarians, his description of the "trailblazer" seems to very closely parallel the roles that many librarians are assuming as access to information becomes more and more privatized.

Miksa arrives at much the same conclusion, albeit coming from a slightly different direction. Miksa contends that the modern library is an era-specific phenomenon. The privately held libraries of the past gave way to the publicly held library in the mid nineteenth century, through a combination of economic and social forces. He contends that the contribution of the modern library is not so much a physical institution as it is an idea or concept: "that making available to the members of a society the widest possible array of information bearing entities and doing so in a value-added but efficient way with respect to the selection, organization, and delivery of those entities, and with respect to aiding in their use, is absolutely necessary for the society's survival." While Miksa sees the centralized physical library gradually fading into the background, and being replaced by the privatized information

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space, he also sees a role for future librarians as "enablers." Miksa sees the role of the enabler as "a person who can help others create their own personal space libraries, or families make their own family-space library systems with individual modes for family members, or businesses any one or more necessary personalized information systems." He equates librarianship to the writing profession. While once there were scribes who did all the writing, the ability to write has now spread through society...but there are still those who make their living as writers. He notes: "even though such library creating skills will spread throughout society, so also will specially educated and skilled people who can create such libraries not only be needed, but will become very important (12).

#### **4. Human component in general**

Human occurs in a number of freely interbreeding races and are the sole recent representatives of the family hominidae. The term 'Man' has traditionally referred to the human race in general, or a 'mankind', though in the term's modern and more limited usage, a "Man" simply an adult male / female Human (10).

Human beings constitute the most important and valuable resource of an organization. Based on the belief that employee commitment to work in an organization is a fundamental prerequisite to organizational success. Such commitment can be ensured only if actions towards personnel are undertaken with the highest degree of integrity and respect. This presupposes a continuing healthy relationship between employees and employers. Consequently 'Human Resource Management' (HRM) places an emphasis on strategic thinking towards employees, personnel planning, extensive personnel and organizational development and such others (4).

#### **5. Concept of HRD**

Human Resource is a collective term for all the people employed by an organization, agency, or institution. Also, the administrative department responsible for matters pertaining to employment (hiring, evaluation, promotion, termination, etc). Large independent libraries and Library system have their own human resources office. Libraries that function as a unit within a larger organization may rely on the parent organization for such services (8).

Human Resource Development (HRD) is a process of raising productive potentialities of manpower resources in terms of knowledge, skills and capabilities through appropriate mechanisms such as education & training, counseling, career planning, performance or self appraisals, awards or rewards etc. among all these, education and training play a vital role in strengthening both academic and professional capabilities of human resource to meet the goals of an organizations. This is also true in case of Library and information profession to develop appropriate human resources to work in different types of libraries / information and documentation centers and in different environment as well. Therefore, library and information science education is the strong motivator behind not only to improve professional knowledge and understanding different concepts but also to up skill the abilities, capabilities and competencies in a complex working environment (7).

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## 6. Historical background of HRD

Historically, before the advent of the Industrial Revolution, attention given to human resources in organizational management is generally attributed to the organization of workers' guilds to protect their interests. The drastic changes in technology, the growth of organizations, labour Unions and professional associations, government concern and intervention in working class welfare etc. resulted in the development of personnel departments in the organizations. Around 1920s more and more organizations seemed to take note of to do something about conflict between employees and management.

All these developments necessitated, at the turn of this century, initiation of in depth studies in manpower, their behaviour and full utilization in organizations. During 1960s, the importance of planning and then integrating personnel strategies within a coherent framework was emphasized. In 1970s, work to improve the planning and a strategic framework to personnel management found expression in manpower planning. There was the need felt by personnel of organization to overcome the tensions & contradictions within their jobs. During 1980s further research was carried out to find new methods of managing human resources efficiently and also effectively. The following are the outcome of the different research work:

- It was essential that organizations need for people oriented approach;
- The theoretical framework had to be seen in practical operational contexts;
- The recognition of the discerning users who look for quality.

These lead to the twin pillars of modern organizations:

- Creativity and flexibility to the unforeseen.
- User service and the need for quality.

### 6.1 Definition and activities of HRD

A formal definition of personnel / HRM is that, it is a function performed in organizations that facilitate the most effective use of employee to achieve organizational i.e. Library and Information centers and individuals goals.

- It comprises the number of activities. They are as under;
- Equal employment opportunity programs;
- Task analysis;
- Human Resource Planning (HRP)
- Employee Retirement, selection and orientation;
- Career development & counseling, performance evaluation and training & development;
- Compensation and benefit;
- Safety and health;
- Employee relation;
- Discipline and control;

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- Work scheduling
  - Quality of work etc.

There are three aspects of personal / HRM are usually stressed as being fundamental to this thinking. They are as;

- I. Action oriented,
- ii. Individual oriented and
- iii Future oriented

Any discussion of library personnel needs must be concerned with an analysis and forecast of the field's need as well as summation of the economic situation and an assessment and inventory of the skills and abilities of existing staffs. Manpower needs an employment forecast for the right number and right kinds of people at the right places and the right times to perform activities that will benefit both the profession and the individual also (9).

## **7. Human Computer Interaction**

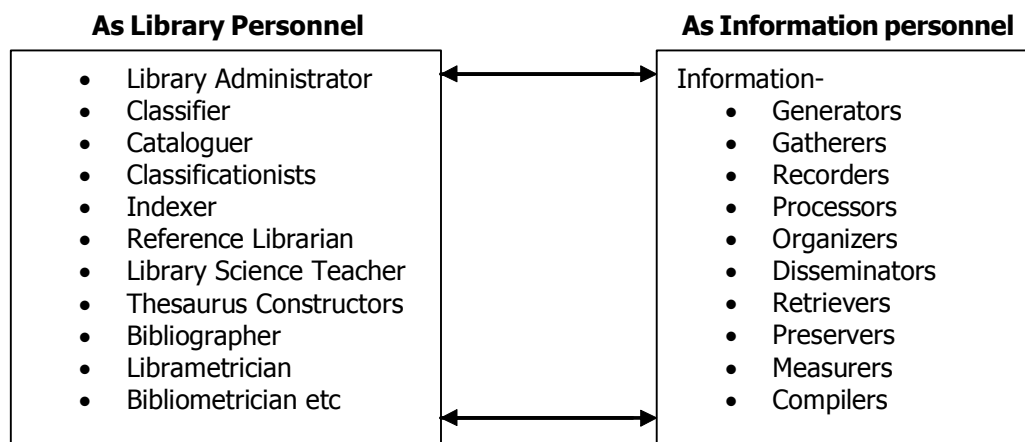
Human computer Interaction (HCI) is a generic term that describes all activities concerned with the research, design, analysis, development, evaluation and implementation of the interactions across the interface between the computer applications and human beings who are interacting with the application. The main emphasis of HCI activity is on designing safe, reliable and usable systems, thus there has been an increasing emphasis on 'user centered' design where the requirements, objectives and limitation of the intended users drive the design of the interface. HCI has wider applicability; covering Hardware design, interface engineering and social and organizational issues.

### **7.1 Evolution of the term HCI**

The original term used was Man-Machine interaction (MMI), which came into prominence in the 1970s as computer processing power and memory became available for supporting interface design, initially through an alliance of computer scientists and psychologists. The term has fallen out of favour because of its gender specific implications. Two other related term are Man Machine System (MMS) still in common use in the process control area, and Human factor (HF), which evolved out of ergonomics. However, both these terms has wider application than HCI or MMI, since they cover interactions with machines and systems, rather than with computers alone. In the USA, HCI is often known as Computer-Human Interaction (CHI) (2).

Human component in DL may broadly be categorized as below depending upon their job / activities they have to performed (3);





## 7.2 Utilities of HRD

HRD is the process of helping employee in an organization to acquire competencies. This help is given to employee in a planned and continuous way to,

Acquire and sharpen capabilities required to perform various tasks associated with their present and expected future roles;

Develop their general capabilities and discover and exploit their inner potential for their own and or organizational development purposes;

Develop an organizational culture in which supervisor-subordinate relationship, teamwork, and collaboration among sub-units are strong and contribute the professional well-being, and pride of employees;

Facilitate up skilling and improved abilities by the introduction of mechanisms such as, training, performance appraisal, organizational development, feedback, counseling, career development, potential development, job rotation, incentives, awards and rewards.

## 7.3 Need for and purpose to HRD

Personnel constitute the most important and vital key to effective functioning of an organization. Their skill and knowledge have to be constantly upgraded to handle new tasks to achieve pre-stated objectives of any organization. Not only employee's competencies and abilities have to be enhanced but their motivation, dedicated involvement, sense of personal participation and above all full commitment of organizational goals, objectives and targets are absolutely essential.

Therefore, HRD is necessary due to the followings:

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- Survival and stability;
  - Growth and development;
  - Change and diversification;
  - Returning activities to become more effective;
  - Providing highest quality in products and services;
  - Playing a leadership role in the field;
  - Obtain goodwill and reputation through users satisfaction.

HR is the most important factor for a Library regardless its nature (DL or TL) using diversity of resources to achieve the targets successfully. There must be, therefore, well thought out means, mechanism, instruments and systems for HRD.

#### **7.4 HRD as a process**

HRD is a continuous process and not merely a set of mechanism, instruments, techniques, such as training, performance appraisal, counseling, etc are meant to initiate, facilitate and promote the process. However these mechanisms, instruments, techniques needs to be constantly reviewed for their effectiveness. Organization can facilitate this process of development by planning for it, by allocating organizational resources and exemplify HRD philosophy that value human being and consciously promotes their development.

The premises to this thinking are based on three basic concepts of HRD:

1. Persons working in an organization are regarded as valuable resources implying that there is a need to invest time and effort in their development;
2. They are HR with all the special characteristics and hence cannot be treated in the way other resources are handled. This focuses human value in the organization;
3. HR handling does not merely focus on employees as individuals, but also on other human units and processes in the Library.

This human approach to HRD, therefore deals with six concepts, which should determine HRD process in relation to HRD systems and activities. These concepts are:

- Individual employee : Self-management, Competence Building, and Advancement.
- Role : Optimum Stress, Linkage and Autonomy.
- Dyad : Trust, Mutuality, and Communications.
- Team : Cohesion, Resource utilization.
- Inter team : Identity, Collaboration
- Organization : Growth, Impact and self-renewal.

These concepts are superimposed on HRD systems namely Appraisal Career, Training, Work, Culture and self-renewal systems.

## 7.5 HRD in Libraries and Information Centers (L/ICs)

As L/ICs are growing, particularly with reference to collection and services and sophistication in terms of computerization and networking, it is necessary to give full attention to personnel development. Some of the aspects, among others that might help L/ICs to contribute substantially their share in supporting efforts towards socio economic activities, may include:

- Personnel planning.
- Orientation, introduction to L/IC's goals objectives, targets and activities.
- Productivity; users satisfaction.
- Quality of collections and services.
- Acquisition of new knowledge and skills.
- Task analysis for proper deployment of personnel.
- Performance review and appraisal.
- Motivational aspects.
- Developmental supervision.
- Counseling and monitoring.

Professional education and training institutions also should share responsibilities to induct research in HRD. Initiate efforts for plans and program to study the diversified requirements of personnel in both DL's and TL's. Studies are necessary to assess the manpower needs for the present and future activities and regulate the supply of the different categories of the personnel required. Quality and value added information systems and services and achievements of excellence are to be inculcated in to the profession through appropriate motivation programs by professional associations and societies. MLIS

## 8. Conclusion

From the above it is crystal clear that Human component is an indispensable part of the DL services. Apparently it seems to some one that, the Librarians days are going to be numbered. To proved it totally wrong being a librarian each and every library professional should be active in their day to days work and also try to match with the modern Information Technology. To sum up, the HRD strategy for the 21st century should be bold in conception, encourage risk taking, have a high tolerance for failure and false starts, it must have adaptability and it must be based on a culture which rewards rather than punishes, which takes recourse to praise more often than punishment and which is built on faith in the most abiding resources of all-the human resource (6).

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