Internet Technologies: Changing Role of Information Professionals

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Abstract
The growth in the field of Internet and information technology has created challenges and more opportunities for information professionals. As time is advancing the role of information professional is being redefined and there are new avenues where information professionals can contribute and be a part of the process. This paper discusses the new changing roles of information professionals, the work areas that influence the creation of the new roles and provides tips on how to develop the skill sets to fit into the new roles. It also discusses other roles related to knowledge management in the IT industry.
1 Introduction

Information professionals have always been considered as knowledge workers, providing value added services to their organizations. However, when viewed from the top management perspective, they have been considered as overheads, though there always will be value added to the overall growth in the knowledge perspective of the organization, which of course is not deemed as a tangible profit.

The explosion of the Internet and information technology in general has created challenges and more opportunities for information professionals that are re-defining our roles for the present and the future. The present phase with all the rapid developments in digital computers and telecommunication technologies and the networking power of Internet, Intranets and Extranets seems to be a period of rapid change – a paradigm shift – for information professionals and information centers. This possibly can be viewed as a beginning of a new age for the profession where information professionals are at an intersection of applying information science to information technology. This is a challenge facing our profession.

There are advancements every day in the field of information technology and everyday brings us new evidence about the importance of e-commerce, e-business, e-governance and the general shift towards a digital economy. Information plays an important role in all this and forms the central, creative and supportive part of business, government and education. Apart from information itself playing an important role Internet, which forms the most important media of presentation of information in various forms has actually influenced the roles of information professionals. Internet presents lots of challenges to our profession and it is up to us to accept these challenges and re-define our roles in the new era. Internet represents the most fertile and untapped frontier where information professionals can add value for the Internet related industry to realize the potential of our profession. They need both content and context, two attributes that are part of the domain knowledge of the information professionals.
This paper attempts to discuss the changing roles of information professionals in the awe of digital era, most importantly the paper discusses the roles an information professional can play in the Internet related industry and attempts to answer the question “what different roles can an information professional play in enterprise-wide internet projects?”

2 Work areas that influence creation of new roles

Some of the work areas in the IT industry that have influenced new opportunities and roles for information professionals are:

Information handling made better

As a professional community we sometimes overestimate and sometimes underestimate our abilities to effect changes and help re-invent the applications of information handling. As information forms an important part of Internet, using the techniques of library and information science to collect and organize this information and in general handling information can be done in a better way by applying the principles and techniques of our profession.

Content in context

The information professionals are uniquely positioned to play a major role in the new Internet avenues, which involves mostly content presented in context. The context of a web site for which content is required can be designed and presented in a most useful way to the users. It can be made accessible through search engines and other tools by defining access points/keywords to the content in context by using sophisticated text analysis techniques.

Content – its design, organization and management

Any Internet related project, like designing web sites, web portals, e-commerce sites, etc. requires designing the content related to the type of web application.
Information professionals are entitled to involve themselves in this role, they can use their expertise to collect information based on the context organize it to suit best the needs of user community and design the content for the web application.

**Content management**

Some web applications on the net are content driven or it could be that some parts of a web site are based on content. This involves managing the content, for example, subject specific information portals, news portals are more content driven and could be available in various formats. Depending upon its nature, such content needs to be managed, this could involve adding markup language tags like HTML, XML to including sophisticated meta tags to storing and retrieving content from database repositories.

**Evolution of e-commerce**

Information development comes so fast, from so many directions that its difficult to define its patters and trends. The rise of “dot coms”, shift of buying/selling to the web, Internet-based banking and stock trading, “B to B”(business to business), “B to C” (business to commerce) information interchange, the growth of wireless communication and a rising tide of “Personal Digital Assistants” have all been little short of breathtaking. Information professionals – through their associations, other discussion forums, writing in popular journals, letters to the editor, and conversations within their home institutions – can help put change in perspective, identify salient issues and trends, help bring order out of confusion, and stress certain themes e.g. the need to distinguish authentic, genuine, reliable information from other information.

**User Orientation**

As Internet is for the user community the web sites/portals have to be oriented to the requirements of the user community. This requires designing the web
application keeping the needs of users in view. Information professionals, like in any business should orient their thinking in terms of customer/user centric. Much more analysis and testing are needed to look through just the scope of the type of web application in context but also to define the scope with a user perspective.

3 What roles can they play?

When we talk about a web based development industry, we have just seen in the previous section the opportunities available for information professionals, and the areas where we can play a role. This section of the paper discusses the actual roles and openings that are available in the IT industry with respect to web based development and in IT related firms.

3.1 Metamorphosis in web based industry

The main role of information professional must be to effectively and efficiently “bring content to the forefront” and work in conjugation with the other groups as a team to make the content readily available and for the web project to be a success. They have to work closely with programmers to get out the best design for the content and the layout of the web project.

The overall responsibility of information professional in the process of designing a web-based project involves:

- Understanding the overall requirements of the website/web portal
- Understand the focus and scope of the website/portal, which includes the client requirements and the user community requirements.
- The most challenging part involves the organization of the contact. This involves some points to be taken into consideration based on the requirement:
  - What information should be presented in the main pages, like the landing page and the next level of pages in the navigation
- How best a piece of information can be presented.

- Organizing information in the best way which is convenient to the users (best in terms of usability and user accessibility i.e. from the user point of view and usability point of view)

  - Gather information and design the architecture, content and flow of the site.
  - How users might search the content and the access points or keywords to precisely access the site.

Some of the key roles where information professionals have been involved in relation to a web-based development industry are:

**Information consultant**

This would involve more of remote support to end users and managers with organization consultation based on the reference and research done on behalf of end users. It also involves consultation for complex search strategies.

**Information analyst/architect**

Information professionals can form good information analysts where they can have value-added contributions in the form of analyzing and integrating information that is presented to the end users.

**Internet/Intranet content manager/developer**

With the development of e-publishing web sites and web portals on the internet and with the integration of external data into corporate Intranets, a key function of the information professionals is to source and manage the content that is accessible through the Internet/Intranet systems.
3.2 Metamorphosis in IT industry

Along with the new roles, also comes interacting with different groups of people who contribute to the process such as programmers, developers, clients, the creative team, etc. When we talk about redefining the role of information professionals, it also involves making the team understand the importance of information architecture and design and the expertise that does into it.

In the IT industry many Information professionals already have been “transformed into knowledge professionals. According to David Skyrme and Debra Amidon, authors of creating the Knowledge-based Business, the emerging roles of knowledge professionals in the IT industry include:

Knowledge editor

Refines explicit knowledge into formats, which make subsequent access and use easier. The knowledge editor selects information from external and external sources, synthesizes and adapts it to standards for sharing across the organization.

Knowledge analysts

Acts as a link between the customer (internal or external) and the knowledge base. They have good interpersonal skills, a willingness to help others, and good communication skills.

Knowledge navigator

Understands where the repositories of knowledge are within the organization. In some cases knowledge navigators act as mentors to new knowledge analysts.
Knowledge gatekeeper

Accesses external sources of knowledge and directs it to customers inside the company. Knowledge gatekeepers describe the functions of traditional librarians. However, many teams inside companies also have such gatekeepers - the subject expert.

Knowledge asset managers

Identifies, evaluates and manages a portfolio of knowledge assets, such as patents, trademarks, copyrights, etc. The knowledge asset manager's role is modeled on that of the financial controller.

Knowledge management

Increased recognition of knowledge as a valuable strategic resource could heighten the importance of the information professional. The transformation from librarian to knowledge manager is clearly underway; however, a deeper look at the direction that the Internet is taking business reveals the possibility of more far-reaching changes. As many business processes (transactions, supplier-customer interactions) move to the Internet, the use of information will become integrated with these processes. In this environment, information as a distinct function or resource may no longer exist. To adjust to these more far-reaching changes, information professionals must search beyond current bounds (e.g., librarian, information, knowledge management) and think in terms of organizational benefits and must think beyond their current roles and responsibilities and develop the necessary skills.

This is a function of where organizations are in their overall evolution of knowledge management. KM has focused on technology solutions, which really is only stage one in a four-stage evolution, which involves integration of technology, content, process, and people through the four stages of KM:
In many instances, the technology view of KM came first. Stage two is a convergence of content-related functions. In the context of KM maturity, things will continue to look a bit disorganized, but KM isn't passé but rather a phenomenon still in very early development.

As content groups work together and with IT departments on content and pipeline issues, they'll be forced to address process and behavior--people issues--to be successful. Ultimately, KM is about continuous learning. And continuous learning involves people actively engaging with information and knowledge, then applying it. Companies are increasingly interested in improving information literacy, shown by the dramatic growth of distance and e-learning initiatives.

4 How to develop to be a player

Information professionals have always taken it upon themselves to eagerly learn new skills and technologies. As technology continues to escalate, it's unreasonable to believe that one will be able to do it all. It is imperative, however, that technologies are understood in order to collaborate with and manage experts in those areas. According to Howard McQueen, there are four areas where most information professionals will need to improve their skills and gain new knowledge within the next year.

Partnering – identifying expertise

Internet development is a cross-disciplinary, holistic endeavor that encompasses indexing, searching, user interfaces, web design, and all kinds of emerging tools and skill sets. Since no one excels at all of it, it is better to begin building a network of experts from inside and outside the company. Partnering is the way of the future. Potential partners can often be identified as a result of networking with peers and speakers at various conferences.
Technology personnel to set up and maintain the server so that it is both robust and reliable

Content management expertise

Internet application development expertise

**Context management/metadata standards**

Context management is the practice of applying context to information so that the information is more readily discoverable, retrievable, and ultimately, more relevant to the person seeking it. Metadata schemes are often the foundation for context management. Metadata standards, as they apply to content and context management will need to be exploited from the perspective of the business vocabulary, not LC subject headings. If information assets are what ultimately drive an organization to remain competitive and innovative, departmental and enterprise-wide context management investments will be made. Whether this is called context management or knowledge management its our job/opportunity is to be prepared to manage these initiatives.

**Content management and XML**

XML has been described as lightweight SGML. Even though SGML was ratified as an ISO standard in 1986, substantial intellectual work to create Document Type Definitions (DTDs) is required, along with software tools and user training to mark up documents into SGML. XML shows great promise for its inherent ability to allow a "document" to be marked up in a way that pieces of the document (objects) are internally defined and then "nested" within other objects to show related attributes. XML tags also allow you to apply different style sheets, i.e., to create a Web site; create a CD-ROM publication; and create a printed source. XML is on the horizon and offers new opportunities for managing content.
No doubt, the reusability of objects with XML is very attractive. And, so is the promise of using XML as a standard for Electronic Data Interchange (EDI). Brushing aside all the hype, there is still significant intellectual work required to think through how data needs to be structured for optimal use. Information professionals will have to compete with talents in other areas, so we will have to choose opportunities and create the tool sets to compete in this field.

**Application development**

Most organizations have valuable and compelling content in databases and other machine-readable formats (or can easily be converted) that are required to be made available via the Internet. The technology category generally used to describe pulling content from various repositories into the Internet is known as middleware, which requires technical programming and database skills. Information professionals should watch for opportunities to assert the application development capabilities of their team.

5 Conclusion

Like it or not, new technologies are changing the information professional’s role and the opportunities to enhance one’s role have become boundless. To take the advantage of the opportunities, information professionals must keep up with the emerging technologies, recognize the opportunities to utilize our skill sets, and work with MIS to effectively implement change. At times it could be frustrating and overwhelming but the opportunities to grow and learn over weigh any negatives.

According to Rory Chase, "To welcome the Internet as a new professional opportunity" - was really concerned with "justifying your role in an increasingly virtual world of information resources." Generally every one wants to publish content on the net and every one wants to use the net for advertising, commerce,
business and information publishing, and with this situation context is falling into the catch-all banner of content management. Every information professionals is responsible for the content that goes for e-publishing.

Libraries and information centers are not immune to the forces that are transforming organization. In fact they are at the forefront of digital revolution. The traditional view of libraries as physical structures housing the wisdom of the ages is being swept away now by the cold reality of the Internet, Intranet and multimedia technologies. It is the knowledge workers/Information workers – not the offices where they work, or the supporting IT technologies – who are the wealth creators in the knowledge age.

Many organizations are now struggling to transform themselves into knowledge creating business. Information professionals have been trained to work with information and knowledge in a variety of formats. They understand the difference between knowledge and information and have the background, technical skills and ability to take a leading role in creating the intelligent enterprise. For farsighted librarians, becoming information knowledge professionals is just a step towards becoming knowledge navigators – they can contribute and play a major role in the success of the intelligent enterprise.

6 References


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