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DIGITAL LIBRARY AND INFORMATION TECHNOLOGY

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Abstract: This work aims to present research results on the use of information technology by Digital Libraries in the field of Information Management. The project is structured in three phases: (i) Study of Search Models and Informational Behavior of Information Users on the Web; (ii) Technological Infrastructure and Computing Resources Applied in Digital Libraries; and (iii) Search Tools, Access, Appropriation, and Use of Information on the WEB. The aim of this study is to verify, based on the appropriation that Libraries and Digital Repositories have made of collaborative technologies in digital information environments and open systems, the best practices in the management of computational resources infrastructure with a focus on proposing methodological guidance that can indicate Information Technology Governance practices in Digital Libraries.
Keywords: Digital library. Information management. Information Technology. Lifecycle Management of Computing Resources. Digital Device Management.

INTRODUCTION

The Web is a network whose contents are interconnected through hypertext documents. Its study is possible through a process of analysis and successive collection of pages, from a set of previously known sites. This search is carried out automatically by a computer program usually called a crawler, collector or scout. Not all of the Web is interconnected, however, although most of it is: there are "islands" of varying sizes that are unconnected to the rest of the web. This means that the initial set of sites from which the search is made influences the result, and finding the right set, usually as complete as possible, is an important step. The first principle of the Web, proposed by the W3C Brasil (World Wide Web Consortium), states that "the main value of the Web is social. More than just technology, this is an environment for human communication, commercial transactions, opportunities to share knowledge and, to be a universal environment, it must be available to all people, regardless of the equipment and software they use, especially the culture in which they fall within, geographic location, physical or mental abilities, socioeconomic or educational conditions". The universality of the Web can only be guaranteed and deepened with a democratic and pluralistic governance model that focuses on access by all and on its own technological evolution. (. govbr, 2010).

The University acts as an organism that generates, transmits and receives knowledge and the university library becomes aware of its intermediary function, carrying out documentary processes and preserving information for its next transformation into knowledge in a spiral of scientific and technological evolution. In this context, the University focuses on the socialization of knowledge and the university library is the instrument of socialization. The basic functions of the university library derive from this social dynamic that, in a circular motion, provide inputs for its own continuity. Within this dynamic, we visualize the functions of:

- *Knowledge storage: development of collections, memory of scientific and technological production, preservation and conservation;*
- *Organization of knowledge: quality of thematic and descriptive treatment that favors the exchange of records between libraries and their recovery;*
- *Access to knowledge: the demand for information transcends value, place and form and requires access. That is why we must think not only about providing information, but also enabling simultaneous access by all.*

These three functions are present

throughout the evolution of the process of socialization of knowledge carried out by the University over time, even considering the permanent change in documentary formats for recording knowledge and its means of access. The university library is part of a university context whose main objectives are the educational, social, political and economic development of human society. (FUJITA, 2005)

The issue of digital inclusion has been treated since the 1990s as the need to allow access to computers and ICT tools (Information and Communication Technology). However, this reductionist perspective of digital inclusion has been replaced, in the new millennium, by propositions of inclusion that deal not only with access to digital tools, but also with the uses and appropriations of contents distributed on WEB 2.0 by Internet users. Promoting digital inclusion and, consequently, social inclusion does not only mean promoting the tools, but enabling their use in a critical way, stimulating the improvement of informational and cognitive potential and, citizen activities. In the network society two "waves" can be identified. In the first one, the central issue revolved around the need for digital inclusion. In the second, experienced today, the strong presence of a generation of digital natives is evident. Thus, the concern is no longer the learning of basic WEB navigation tools and shifts, more specifically, to different forms of appropriation and production of knowledge on the Internet. This new focus brings issues of social inclusion to the center of the debate through digital inclusion and the social and educational practices in force in connected cultures.

USER TRAINING AND INFORMATION COMPETENCY

Technological innovation is an essential tool to increase the productivity and competitiveness of organizations, as well as to boost the economic development of regions and countries. Development does not derive from a mere growth of existing economic activities, but fundamentally resides in a qualitative process of transformation of the productive structure in the sense of incorporating new products and processes and adding value to production through the intensification of the use of information and knowledge.

In the new world context defined by globalization and technological change, knowledge has become the main wealth of nations, companies and people, and may also become the main factor of inequality. The Information Society is the cornerstone of Knowledge Societies. The concept of "information society" is related to the idea of "technological innovation", while the concept of "knowledge societies" includes a dimension of social, cultural, economic, political and institutional transformation, as well as a more pluralistic and of development. The concept of "knowledge societies" expresses the complexity and dynamism of the changes that are taking place. The knowledge in question is not only important for economic growth, but also for strengthening and developing all sectors of society. (LISBON STRATEGY, 2019).

The expression Information Literacy has its origins in the emergence of the information society, characterized by the rapid growth of available information and the changes brought about by the technology used to generate, disseminate, access and use information. (MELO, 2007).

Information Competence or Information Literacy is linked to the need to develop in individuals aptitudes about skills and competences related to access, use and dissemination of information, aiming to make use of this in an ethical and efficient way, so

that the human being through his intellect and process knowledge can produce new knowledge. (CAMPELO, 2003).

The notion of easy access to information through technology based on the establishment of networks, the Internet and telecommunications has created an erroneous notion of the technological imperative as a response to humanity's communicational and educational deficiencies. The knowledge and use of this technological tool are essential nowadays, but it is necessary to consider that technology by itself does not lead to communication and education. Informational competence is strongly related to the process of internalizing knowledge, skills and values related to information and learning. In a more practical context, it converges to a set of skills necessary to locate, interpret, analyse, synthesize, evaluate and communicate information in different tools and supports.

Human beings create their own reality and have their own internal stocks of information, which are used to understand external information and the different situations in which individuals find themselves at a given moment. Information search and use behavior are shaped by the individual's cognitive style and by factors that generate the user's encounter with information systems or the consequences of such confrontation. It is necessary to pay attention to the fact that it is no longer possible to limit oneself to the task of locating sources of information, not taking into account the tasks of interpretation, formulation and learning involved in the information search process. Increased access to vast amounts of information requires, however, services that focus on the meaning of the search rather than merely on the location of the source. From this perspective, information users cannot be seen only as one of the members of the system, but as the "reason for being" of the service. Information systems organized in this traditional perspective focus primarily on the acquisition and management of large collections of materials. It was assumed, for decades, that the technical activities of the systems were their core. Users were considered to be using the system exactly as it had been designed. It was unimaginable to ask systems essential questions about the identity and main purposes of their users. Since information was considered to exist outside people and be transferable from one to another, it seemed possible that the efficiency and success of a system's operations could be measured as a function of the number of sources of information retrieved by the system versus what really was of interest to the user. This, in reality, places the user once again as an imperfect information processor, since it is already known that not all people are interested in the same sources indicated. As a result of this procedure, today much is known about planning, acquiring, organizing, controlling and developing collections, but very little about how people use systems or for what purposes and how information _ which is the raw material of the systems _ is being used. (FERREIRA, 1995).

Considering the seven faces of Information Literacy: Information Technology, Information Sources, Information Process, Information Control, Knowledge Construction, Knowledge Extension and Intelligence, (BRUCE, 2013), we can say that in this context, libraries are seen as an informational environment model and as a learning space. Librarians are educators, actively involved in teaching and learning processes. His belief is based on independent, self-directed learning and learning based on informational resources.

Based on the premise that human beings constantly need to renew their concepts, a new form of interactivity between the user and the internet is emerging. The Semantic

(or Intelligent) Web. Building a smarter internet is moving slowly, but it could trigger a revolution. With the use of new technologies, it is imperative to use ICTs to make things easier and speed up the processes of searching for information and generating knowledge. The Semantic WEB is nothing less than a web with all its information organized in a way that not only human beings can understand it, but mainly machines. It is at this point that a new information user appears with new demands for computational resources and new capacities to produce new knowledge.

DIGITAL LIBRARY: IT LIFE CYCLE MANAGEMENT

The growing availability of technologies has demonstrated an ambiguity in their management. On the positive side, these new technologies have helped to increase the productivity of information professionals, improve the decision-making process and enhance information user satisfaction. However, managing and supporting these heterogeneous and complex environments - filled with different network devices and applications - has proven to be difficult and costly for Information Technology departments. Next we will discuss Figure 1, which presents the nine phases of IT lifecycle management.

In this context, it becomes relevant to assess the main challenges that digital libraries will have to face in terms of managing the life cycle of their technologies, consolidating and simplifying their processes within their computational environments, with the aim of increasing productivity and building environments that allow libraries to respond to the demands of digital information management. (PALETTA, 2007).

Consolidated workplace management requires digital libraries to adopt a holistic approach to people, processes, outcomes and technology across the entire computing environment. It also requires libraries to work with IT vendors who can analyze their operational needs, advise on implementation, and provide ongoing management and support for implemented solutions. The basic challenges that digital libraries face within computing environments include:

Cost reduction – User service environments are rapidly shifting to culturally diverse mobile, global and virtual research locations that are costly to maintain and support. By consolidating hardware, applications and support processes within their work environments, digital libraries can manage and reduce IT costs while enhancing user satisfaction and return on technology investment.

Increased productivity of information professionals - To accomplish this goal, digital libraries are looking for ways to increase collaboration and teamwork by creating a borderless, reliable and secure work environment, providing connection and access to information in real time.

IT complexity reduction – Lack of standardization within the computing environment can increase the time and cost required to manage and support this environment. At the same time, as computing environments become more complex, the level of knowledge and expertise required to support them increases. IT lifecycle management tools enable hardware platform standardization; reduction of redundant devices; simplifies and automates computational processes; in addition to managing the support functions and building the flexibility and stability that allows the creation of dynamic conditions for digital information management. (LAUDON, 2007).

Based on this scenario, it becomes fundamental to analyze the critical factors that must be considered by digital libraries

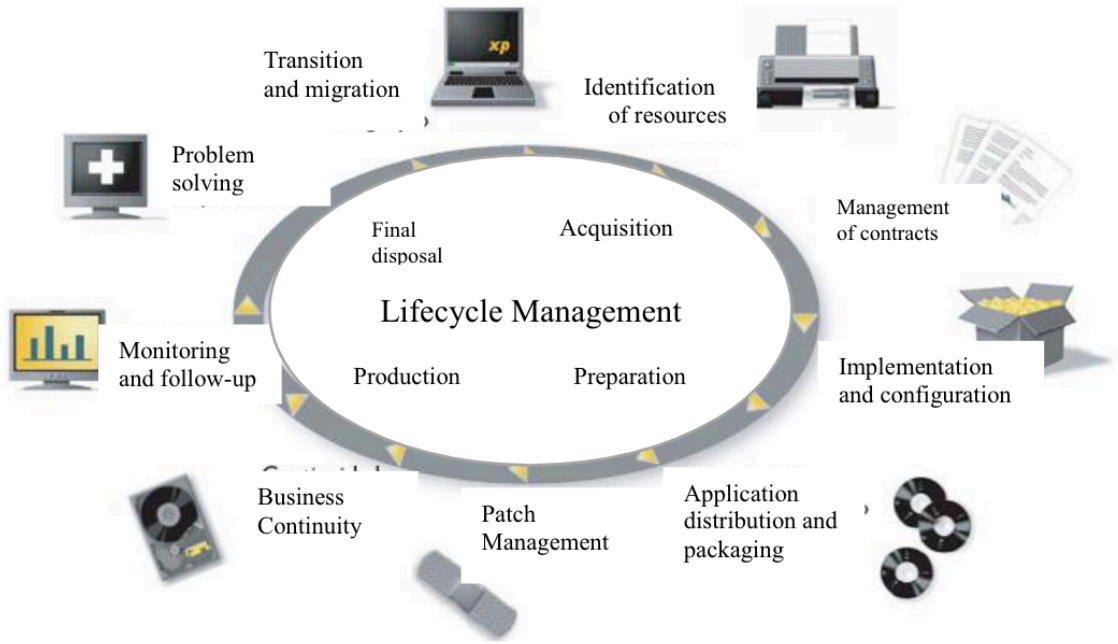


Figure 1 – Information Technology Life Cycle

Source: Altiris Inc - Redefinindo o Gerenciamento do Ciclo de Vida de TI

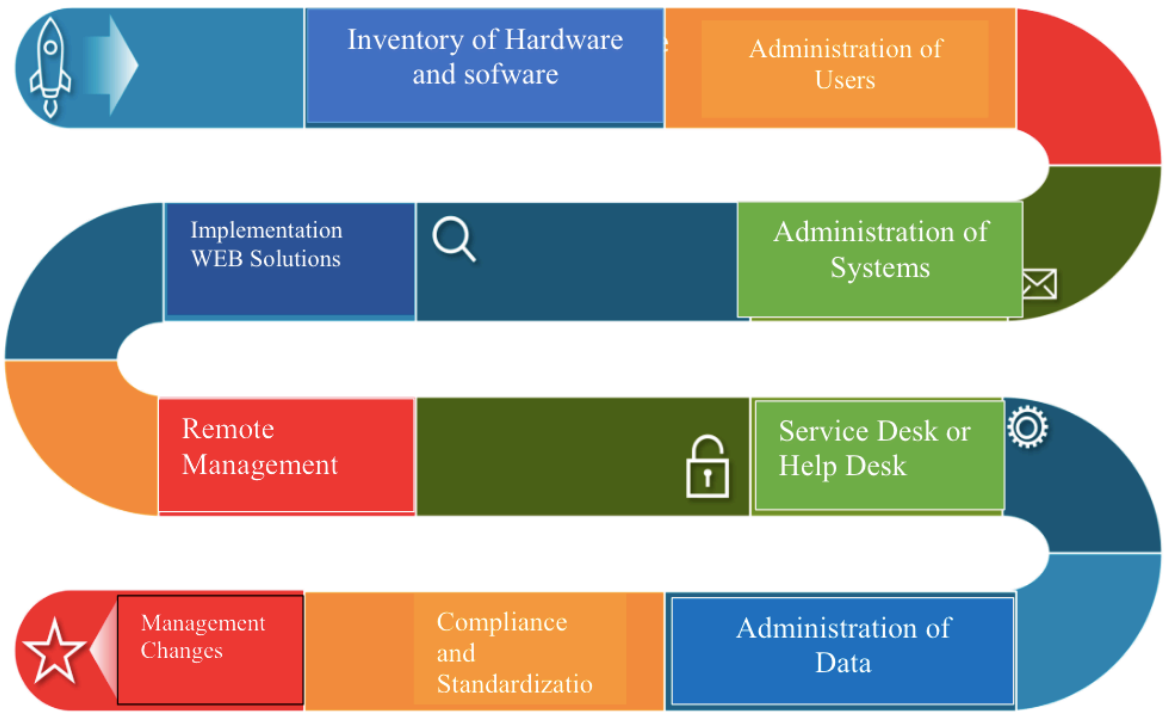


Figure 2 – Best Information Technology Management Practices

Source: Altiris Inc - Redefining IT Lifecycle Management

in the management of the life cycle of their information technology resources. IT infrastructure management is becoming more and more expensive and complex. Studies indicate that more than 50% of all IT spending is allocated to configure, upgrade, migrate and manage resources.

Asset lifecycle management solutions must allow for adequate handling of the complexities associated with managing IT resources. The systems must be modular, allowing the definition of a technological structure compatible with the computational needs of the library. Below we present the 8 best IT management practices with the greatest financial impact for organizations. (WEILL, 2006).

When evaluating an IT lifecycle management tool, the following relevant characteristics of the solution must be observed:

- Lifecycle management of IT assets via WEB
- Identification and physical location of the asset
- Physical and logical configuration – hardware and software devices
- Monitoring software and hardware usage
- Management of HD and SW maintenance contracts
- Increased productivity of users, IT professionals and network devices
- Troubleshooting ensuring the availability of features and services to the user
- Real-time diagnostics and information for decision making
- Modular structure with deployment flexibility
- Integration via WEB with database and information repositories
- Technical Support and User Training

The growing complexity of technological assets has encouraged IT managers to seek ways to improve operational efficiency in order to reduce costs, comply with regulatory aspects and respond to the constant demands of digital libraries for a better response to the demands generated by the user. These factors have been a driving force for IT managers to look for efficient ways to have control of everything that exists in their network. We can list eight imperatives for a digital library to achieve operational excellence and maximize its performance. (Turban, 2005).

- Strategic alignment between computational infrastructure and perceived value by the user
- Develop relationship between service offered and demand for information
- Deliver and deploy new systems based on user demands
- Build and manage the infrastructure and ensure accessibility
- Retrain the organization in the use of computational resources and WEB solutions
- Redesign and administer the computing infrastructure in real time

Figure 3 below illustrates the modularity required for the development of the IT infrastructure needed to deploy an asset management solution:

An integrated asset management solution combines digital library resource and service management disciplines into a single web-based architecture, helping to unite disparate departments and processes. By managing activation throughout the resource lifecycle, the solution helps the digiatl library eliminate unnecessary SW and HW costs, proactively manage vendor contracts and align service

resources with ITIL to ensure the optimization of IT investments. (BALTZAN, 2012). Benefits include:

- Monitor configuration, deployed versions, relationships and historical information of IT resources
- Monitor software and hardware usage for relocation and contract negotiation
- Ensure resource availability through incident and problem management

Managing clients and mobile devices allows administrators to deploy, manage and troubleshoot systems from anywhere. Benefits include:

- Consolidated management of desktops, notebooks and handhelds
- OS implementation and PC personality migration with zero intervention
- Comprehensive HW and SW inventory with web-based reporting
- Assessment of system vulnerabilities with SW distribution and real-time security patch management
- Status management through self-correction and application rollback features

Server management provides deployment, management and monitoring functions from a centralized console, reducing overall infrastructure costs. Benefits include:

- Improve server reliability and stability, minimizing digital library outages and improving user satisfaction
- Automate IT operations management to respond quickly to changing digital library needs
- Monitor performance, restore operation and minimize security patches to ensure continued operation and availability

The biggest expense of owning IT resources is not the initial purchase of hardware and software, but the complexity of deploying and maintaining these devices. In order to reduce these costs, digital libraries must invest in systems management software to improve the reliability and availability of hardware and software through all phases of a resource's lifecycle.

Digital library managers are increasingly involved, to a greater or lesser extent, in the development, control and monitoring of their organization's technological assets. The constant pressure to keep IT investments efficient makes it a priority to manage these assets in two ways: as a function of the IT department as well as part of an integral digital library process.

IT lifecycle management solutions are organized into three tiers along a maturity model based on computing resource needs. (LAURINDO, 2002).

Applications are evolving towards comprehensive IT management solutions that use a single repository and a single interface, radically reducing the cost and complexity of managing your computing resources, including desktops, thin clients, notebooks, handhelds and networking devices. . It's critical to automate, simplify and integrate your IT management functions from a single web-based console. (SILVA, 2003).

INFORMATION USER AND KNOWLEDGE PRODUCTION ON WEB 3.0

Given that scientific knowledge and technological innovations are unequally distributed between rich and poor countries, by educational levels and age groups, the issue of cultural diversity and studies on it must be part of theoretical consideration, empirical research and policy planning in this field. It is also necessary to delimit the scope of the opposite position, which asserts, from

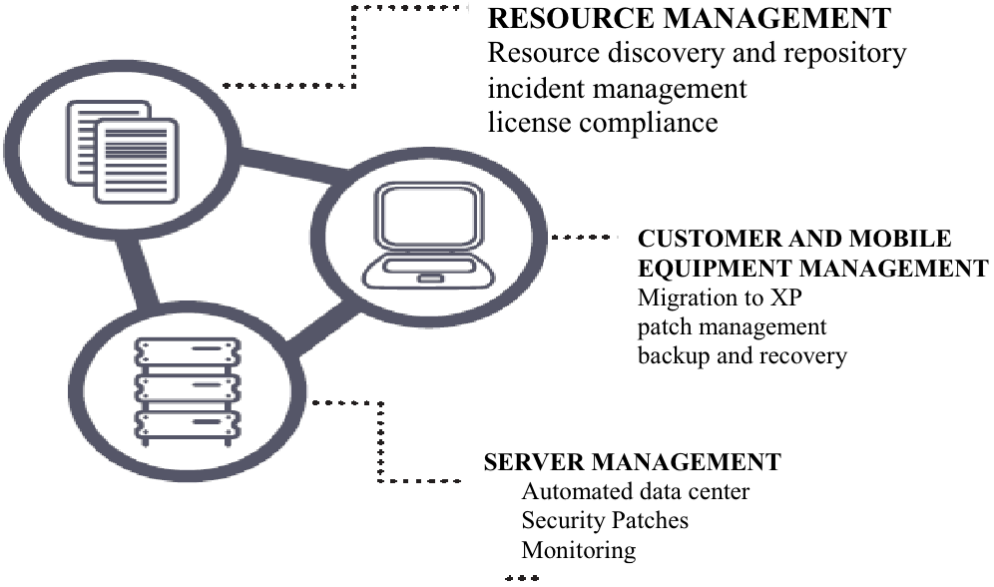


Figure 3 – Modularity IT Infrastructure

Source: Altiris Inc - Redefining IT Lifecycle Management

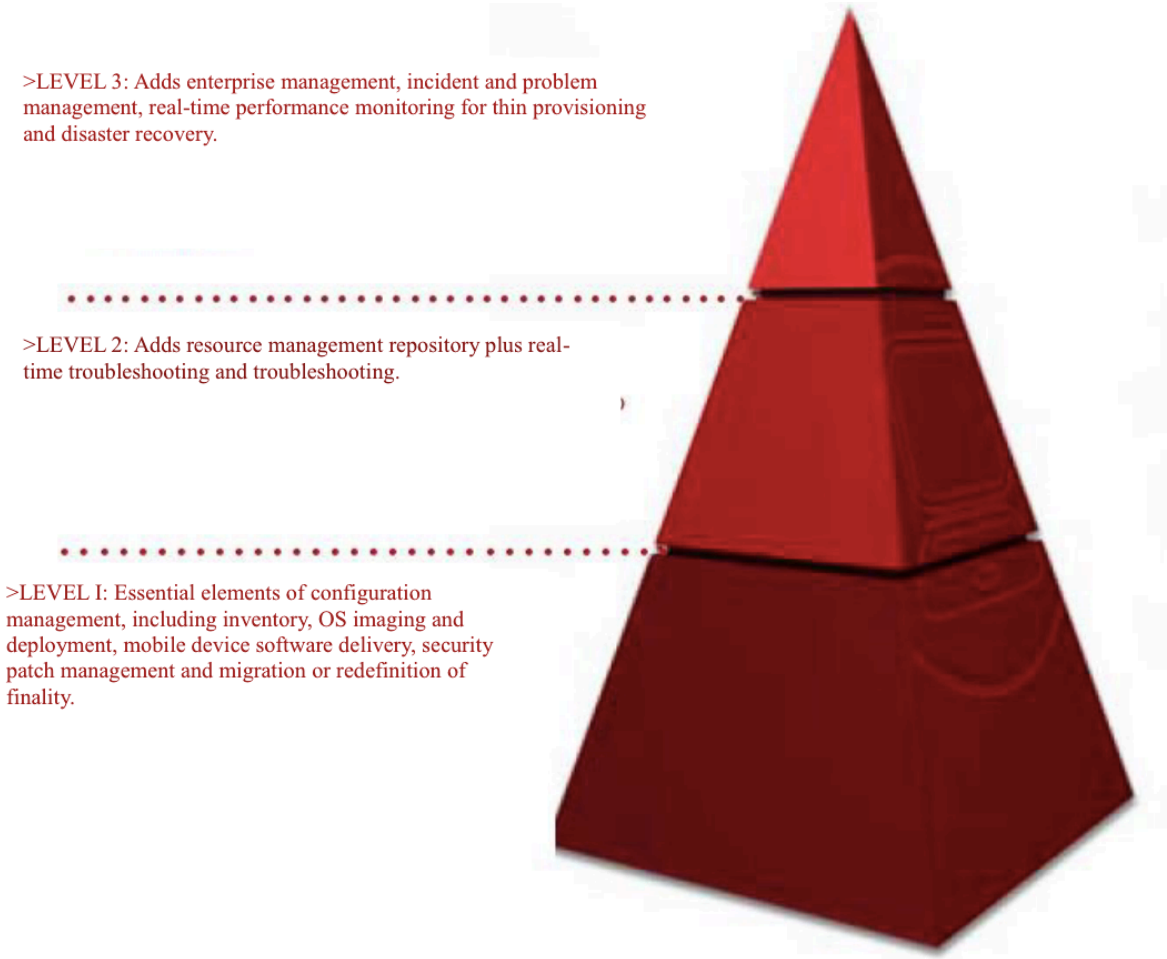


Figure 4 – Modularity IT Infrastructure

Source: Altiris Inc - Redefining IT Lifecycle Management

anthropology, that all societies, at all times, were societies of knowledge, that is, that every human group had a set of knowledge appropriate to its context and its historical challenges. (CHOO, 2003).

The knowledge organization connects the three processes of strategic information use – meaning creation, knowledge construction and decision making – in a continuous cycle of learning and adaptation that we can call the knowledge cycle. Among the most important elements that influence the use of information are the individual's attitudes towards information and its search, attitudes that are the result of education, training, past experience, personal preferences. The risk here is of oversimplification, of seeing the information user as someone who wants to extract specific and definitive information in the shortest possible time, or as someone willing to invest effort in searching and exploring. The truth is that people continually oscillate between extracting and exploring, and that the use of information is a messy, disorderly process, subject to the vagaries of human nature, like any other activity. (CALCLINI, 2009)

Information has always been an important source of power, responsible for controlling and managing people. We observe that information technology aims to integrate the operations of organizations and between organizations, with gains in agility and reduction of operating costs. Integrating the flow of information, the new systems assume certain tasks, eliminate controls on process inputs and outputs, reducing the duration of operational cycles. Although the choice of system is fundamental for the generation of competitive advantage, exercising the capabilities of choosing between systems is still not enough. Regardless of the system, operations can be improved from a reengineering process, through process mapping, critical evaluation, redesign and implementation of the improved flow. Such a process usually reveals inefficiencies that can be corrected quickly, generating immediate results. (SOUZA, 2010).

There is currently consensus to characterize three generations of the Web. Web 1.0 to designate the first commercial generation of the Internet with low-interactivity content. The Web 2.0 generation currently among us, characterized by social networks and folksonomies (sites where users add value to content with personal valuation) with tools such as YouTube (site for video sharing). Web 3.0 was also called Semantic Web by Tim Berners-Lee at the end of the 90s, to designate a Web with greater search capacity and self-recognition of contents through metadata with descriptions linked to the original contents.

The internet is probably the most sophisticated information and communication technology currently available to society, due to its form of organization and its impacts in the technological, social, economic and political spheres. It is also the necessary infrastructure for one of its largest and most well-known applications: the Web, largely responsible for the popularization of the internet, to the point that today it is confused with it. Internet and Web are, therefore, different concepts.

The Web can be roughly defined as the part of the Internet accessed through browsers. The impact of Internet and Web use on society, individuals and organizations has become an object of research, going beyond the specialized field of applied computing and reaching areas of organizational and sociological studies. As it is essentially dynamic and borderless, both from a physical and virtual point of view, it is important that it be known in detail, both to ensure its free transformation and to allow its availability, reliability and accessibility by all. Web 3.0 is the third generation of the Internet. This

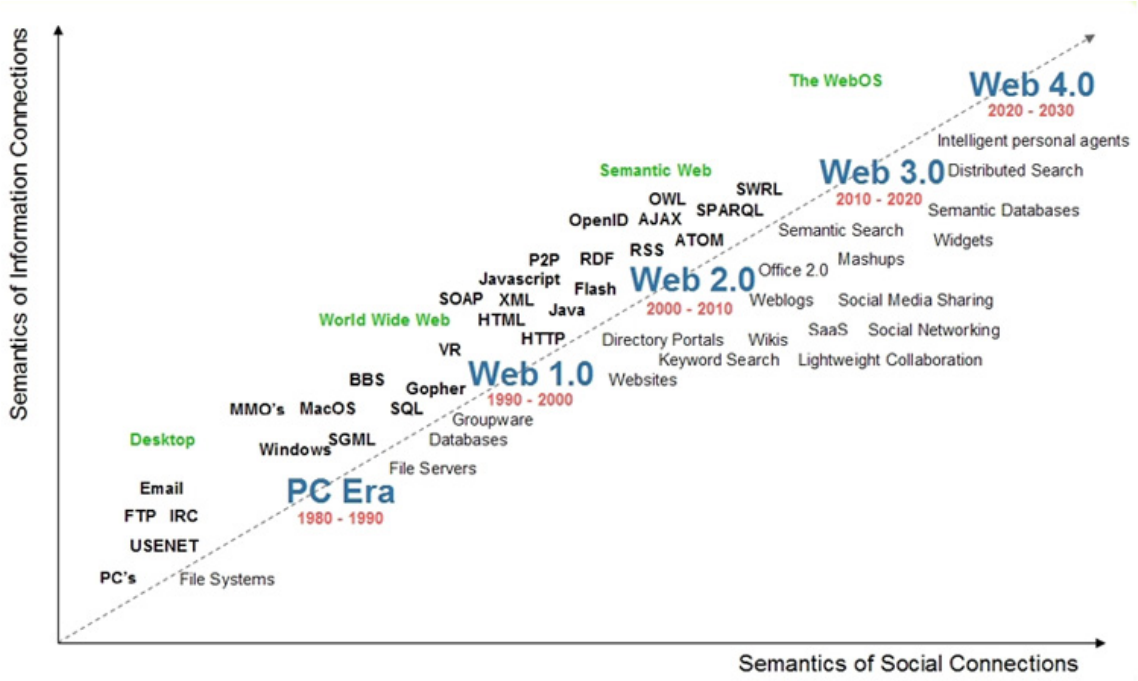


Figure 5 –WEB evolution

Source: Google Imagens

new generation predicts that online content will be semantically organized, much more personalized for each user, intelligent websites and applications, and advertising based on searches and behavior. This new Web can also be called the "Smart Web" (MATTOS, 2013).

The constant changes in the traditional forms of organization of information present in digital informational environments are reflections of the incorporation of Information and Communication Technologies (ICTs), as in the case of libraries and digital repositories, which store, preserve, disseminate and allow access to production of the academic community, aiming to contribute to increasing the institution's visibility and value by adding resources that enable the knowledge construction process, based on collaborative participation applied in different environments.

The present study aims to verify the appropriation that libraries and digital repositories have made of collaborative technologies in digital information environments. Web 2.0 follows a philosophy with principles of reading and writing of a participatory nature, in which each user can directly intervene in the choice and introduction of data within each site; it is cooperative, as it shares ideas, preferences, information and knowledge; it is interactive, insofar as, through the full range of multimedia resources, a simultaneous dialogue with users is possible; it is democratic, because under this philosophy there is freedom of expression, thought, and, above all, the transit of information, regardless of the interests of each one; it is also sociotechnical, since, through all its characteristics, an exchange of cultures, religions, ethnicities and others is possible.

In the context of Library 2.0 most researchers would agree that much of what libraries embraced in the first Web revolution is static. For example, online public access catalogs (OPAC) require users to search for information. Although many are starting to incorporate Web 2.0 techniques related to data mining, they do not respond with recommendations, such as Amazon, which presents itself with greater dynamism.

Likewise, the first generation of online libraries was created using static tutorial texts that did not respond to users' needs or allow them to interact with each other. Libraries, however, have begun to evolve into a more interactive structure, social media and rich in tutorials, programming and animation with the use of more sophisticated databases.

Web 2.0 in libraries can be a tool that enables the genesis of a knowledge base from collective intelligence, as well as a tool for knowledge management that facilitates, in an interactive way, their discovery. We have moved from a library for the user to a library with the user.

In order to integrate and complement these two paradigms, we must also consider, know, explore and evaluate the new tools for communication, organization, participation and collective construction of knowledge that are available on the Web. They are applications, in our favor, mostly intuitive, free and that respond to the new information and participation needs of the community. This way, the transformation is clear, that is, the new approach to the relationship between information and knowledge in the context of libraries and repositories, contrary to traditional environments that only allowed the user a single way of relating to the physically stored content. . Today, not only the user participates, but also adds contents that, when shared in other collaborative resources, begin to receive comments from members linked to their community, adding value to the shared information, in addition to creating several paths for the location of the resource

itself. Thus, we have a new relationship and interaction in which the sophisticated level of electronic social attitudes increases. (CITILAB, 2013).

Web 3.0 is one of the great proposals for the future of the internet, as it will definitely organize all the information that is on the internet, make all web-based applications Open-Source and enable great interactivity in various areas of the internet. Web, among the novelties that will make the evolution of the internet, the use of cell phones will be a great and strong aspect for digital inclusion, although Web 3.0 will still take a few years to arrive, organizations are already starting to develop applications that will be present in this future . Every day the number of internet pages that are created daily are immense, with this the search for information becomes more difficult every day because of the amount of information placed to the user in a disorganized way. Web 3.0 will come with the objective of organizing this information so that users have an easier time finding information.

Library 3.0 refers to libraries leveraging technologies such as the semantic web, cloud computing, mobile devices, and reimagining our use of established technologies, such as federated search (RFID), to facilitate the dissemination of user-generated content and the collaboration to promote and make library collections accessible. The result of Library 3.0 is the expansion of the "borderless library", where collections can be made easily available to library users, regardless of their physical location. Library 3.0 is a virtual complement to the physical library spaces. (BELLING, 2011).

Source: Library 3.0

Semantic search, as Web 3.0 search engines are called, organize information by specific subjects, something much more complex than what is currently used around the world. The world wide web has not yet consolidated Web 2.0 and companies are already starting to develop Web 3.0. It will be a more organized way of looking for information on the Internet, an example is the Semantic searches, for example, this type of search will divide the results into Categories, if you are looking for a certain subject the Semantic search of Web 3.0 will divide the results into categories so that the search for such information is faster and more organized than the current Web 2.0. (MATTOS, 2013).

METHODOLOGY

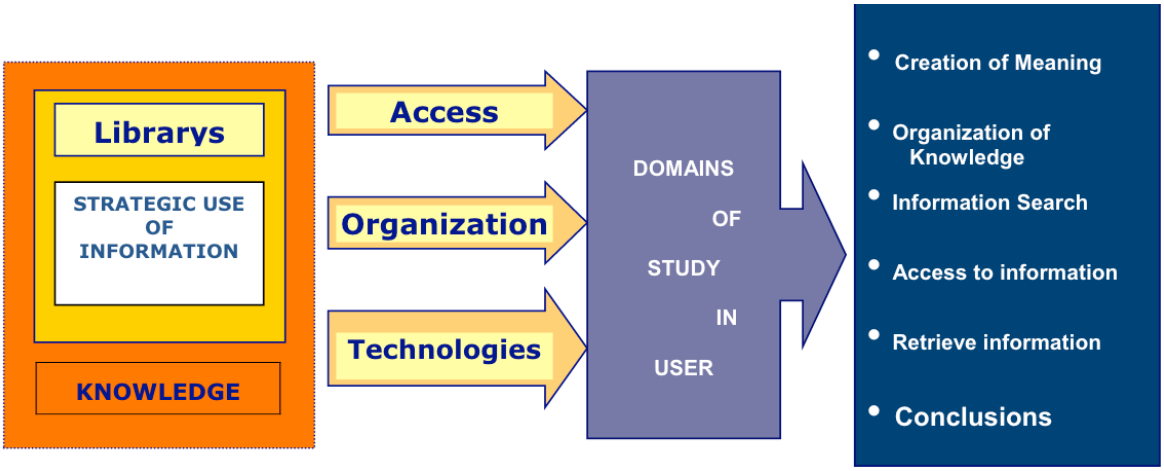
This Research Project is aligned with the objectives of the Library and Documentation Department of the School of Communications and Arts of the ''Universidade de **São Paulo**" and is structured in the following phases:

- User Study
- Computational Architecture of Digital Libraries
- Information Systems Infrastructure
- Model of Search, Access and Retrieval

of Information on the WEB

- Information and Knowledge Organization
- Library 3.0
- Digital Curation

User Study - Library 3.0: Research Project Model centered on the Information User Study domains in the Data WEB.



The Research Project aims to study how the use of technologies and Web applications constitutes a significant and essential change in the management model of libraries. Through a literature review in indexed databases, in the last ten years, identify the paths adopted by the library in becoming more interactive and fully accessible.

Study how the changes brought about by the technology used to generate, disseminate, access, retrieve and appropriate information demand skills and competences related to accessing, using and disseminating information. It is at this point that a new information user appears with new demands for computational resources and new capacities to produce new knowledge. As a result of this procedure, today much is known about planning, acquiring, organizing, controlling and developing collections, but very little about how people use systems or for what purposes and how information, which is the raw material of systems is being used.

We believe that the best conception of Library 3.0, at this moment, would be a social network whose interface is built by the user, related to the functionality demonstrated by its popularity, multifaceted, social, flexible, dynamic, fast, simple and ready-to-use characteristics. Although this change fits so well with the history of libraries and their mission, it is still the great paradigmatic transformation for the librarian, not only in the sense of opening access to their catalogs and collections, but also allowing their control. . Library 3.0 demands that libraries focus less on inventory systems and more on collaborative systems.

RESULTS

As a result of this study, we present a contribution to the understanding of collaborative technology resources used in digital informational environments. Based on the resources identified and collected in libraries and digital repositories, it is intended to observe how collaborative technology resources are applied in the context of WEB

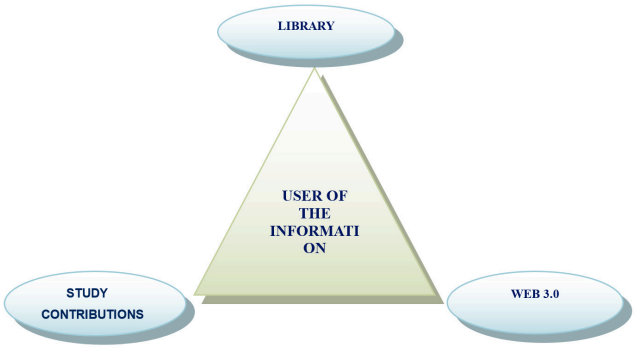
3.0. The insertion of these technologies is presented as an innovation that must be linked to the tradition and mission of libraries and repositories. Evaluate the flexibility of computational structures, their attractiveness and dynamics in which the user becomes the main actor in the construction of his environment, made possible by customization and personalization resources.

We propose a managerial and strategic vision associated with the use of Information Technology in the appropriation and generation of knowledge in the context of WEB 3.0.

In Web 1.0 the user plays the role of spectator, the content is not very interactive. In Web 2.0 the focus is on the collective construction of knowledge. The essence of Web 2.0 is to allow users to no longer be just spectators, but to become contributors. In Web 3.0 programs will be able to interpret our preferences and guide our navigation through the Web. It is linked to a set of technologies with more efficient ways to help computers organize and analyze the information available on the network.

We present the trends in this field that are already or that will influence the context of the computational infrastructure of the Library 3.0 so that, more and more, technology can provide the creation and attainment of value to the information user.

The research is in line with the mission of the School of Communication and Arts of the ''Universidade de São Paulo" and with the Pedagogical Political Project of the Department of Librarianship and Documentation, since its objectives are based on the following principles:



- Promoting teaching and research in the areas of communication, information and the arts, with a view to training people capable of carrying out research, teaching and a professional career, in line with time demands and human development needs.
- Promote and develop, through research, instruments for reflection and understanding of issues and conflicts in their areas of activity, as well as seeking new forms of expression, expanding the frontiers of knowledge and invention, and making them useful to the social enviroment.
- Stimulate cultural creation, scientific spirit and reflective thinking.
- Promote the dissemination of cultural and scientific knowledge and communicate knowledge through teaching, publications or other forms of communication.
- Promote and develop, through research, instruments for reflection and understanding of issues and conflicts in their areas of activity, as well as seeking new forms of expression, expanding the frontiers of knowledge and invention, and making them useful to the social enviroment.

The research seeks to understand the need for new proposals for managerial and

strategic approaches associated with the use of Information Technology in the appropriation and generation of knowledge in the context of the WEB. In this Research Project, the proposal is to identify and discuss the trends in this field, in particular those that influence the context of the so-called Digital Library, so that, more and more, technology can provide the creation and attainment of value to the user of the information. It is expected that the development of this area will lead to a greater understanding of the resources of collaborative technology used in digital information environments. In any case, the insertion of these technologies consists of innovation that must be linked to the tradition and mission of libraries and information repositories.

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