

RETHINKING OF INNOVATIVE LIS SERVICES FOR LIBRARIES IN DIGITAL ERA

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Abstract

The process of translating an idea or invention into a good or service that creates value or for which customers will pay is called an innovation; an idea must be replicable at an economical cost and must satisfy a specific need. It involves deliberate application of information, imagination and initiative in deriving greater or different values from resources, and includes all processes by which new ideas are generated and converted into useful products. In Libraries, innovation often results when ideas are applied by the Librarian in order to further satisfy the needs and expectations of the users. This paper is mainly highlights for Concept of Innovation, Types, Library Innovations, Innovative LIS Services, Trends, Tips for Creativity & Innovation, Change in Library Environment, Changing Library Service Needs, Collaborative Technical Services, Components of Quality Service, Six Essential Elements, Attributes, General Assessment, Core Quality Criteria for E-Library Services, Steps, Demands on Modern Libraries, Three Major Paradigm Shifts 21st

Century Library Setting, Revolutionary Changes, Library Roles, Millennial Generation, Cyber Infrastructure Characteristics, Major Challenges of 21st Century Librarian, Tasks, Library Should Be, Customers Expectations and so on.

Keywords/Descriptors: Innovation, Innovative LIS Services, Trends, Collaborative Technical Services, Components of Quality Service, Attributes, Core Quality Criteria for E-Library Services, Revolutionary Changes, Millennial Generation, Cyber Infrastructure Characteristics, Customers Expectations.

Introduction:

In the digital information age, we all need to learn how to use efficiently and effectively the huge diversity of information and communication technology for information search, finding, organization, analysis and assessment. Librarians need to develop innovative services in partnerships and reach to various target groups. By creating services that meet readers' information needs, they win their trust. There is no social development without libraries. In the present day, libraries are at the crossroads of development or decay. Librarians need to adopt new technologies, digitize the existing collections and select quality resources which are scattered in different libraries, archives and knowledge centers in the world. Information and knowledge technologies are changing and becoming more sophisticated day by day and librarians need to adopt them for providing better services to their users. There is a vast gulf between the new technologies and library professionals

which needs to be bridged through dialogue, debates and exchanges between IT/communication specialists and LIS professionals. Some of the important libraries hold rare resources which are tied up to their stacks or are getting destroyed with time. At the same time, major works are emerging only in digital form and can be accessed online. Latest developments in the knowledge sector take us to the knowledge discovery services.

The most Essential element in LIS Services is having the right people in the right place at the right time. To aid these process libraries must rethink not just the value of individual positions within a service but the whole structure of work itself to remove staff from repetitive tasks and use their skills, experience and training. The technology is now mature enough for an assessment of its impact on positions and procedures.

1.1. Concept of Innovation:

Innovation is most commonly defined as a change toward renovation or adoption of something new and useful in the practice. Joseph Schumpeter (1934) identifies 5 main cases of innovation:

- Adoption of a new product
- Creation of a new organization of work or relations among companies within an industry
- Discovering a new market
- Introduction of a new method of production
- Using a new source of raw material / production resources

1.2. Types of Innovations:

The Technological Concept of Innovation (Oslo Manual, 1995) links product and process innovations to research and technology transfer. According to the adopted classification principle, different type's innovations exist:

1.2.1. Product or Technical of Innovations: i.e. new products or new applications

1.2.2. Technological Innovations: a new method for production, supply and sale

1.2.3. Organizational Innovations: i.e. new methods of management

1.2.4. Social Innovations: i.e. creation of new values

1.3. What is an Innovative Service?

- Addressed to a new target group
- Brand new / never done before
- Created by means of new technology
- Created in a new partnership

2. Library Innovations:

- Innovation is a complex process of creation, distribution and usage of novelties in order to enable library development as a social institute and enhancement of library performance
- Library innovation is a system of new ideas proposed by creatively thinking professionals or by a team

- One of the main directions of innovative library activities is the automation and mechanization of technological processes
- The use of information and communication technology (ICT) modifies traditional services

2.1. Innovative LIS Services- (Val Skelton, 2011):

2.1.1. ICT Based Services: Use of internet, e-mail, ICT training, information literacy and job application classes; ask Librarian virtual reference service

2.1.1.1. Benefits of ICT based Products & Services:

- It provides efficient and accurate services
- It saves the time, space, energy and resources
- It helps for controlling the tremendous escalation of information
- It assist to provide high quality of services and increases the range of services
- It has invented the ways of resource sharing by co-operation and co-ordination
- It helps for the betterment of library image by providing better services in modern ways.

2.1.2. E-Library:

The innovative libraries were delivering digital content, and were creating as well as stewarding content and managing licensing and copyright for their organizations. Examples of e-library activities include:

- Providing access to e-books via intranets
- Managing all internal electronic documents and business records, as well as copyright of internally produced content that is available for the public

2.1.3. E-Services:

- E-Business
- E-Culture / E- Science
- E-Education
- E-Employment
- E-Health
- E-Society
- E-Government

Libraries are delivering their virtual services via many channels. Library employees are embedded in project teams. More emphasis is given to training employees in the use of content tools, whether face to face or virtual learning. E-services enable 24/7 service delivery. Examples of e-services activity include:

- Using social computing and semantic computing to connect like-minded people
- Creating data visualization tools

2.1.4. Digitization: Libraries are focusing on the conversion of print to e-formats, particularly in the public sector that are focusing on both access and preservation. Corporate services tend to digitize on an as-needed basis.

2.1.5. Physical Space Management: Spaces are being downsized and reconfigured as physical collections are digitized, off sited or weeded.

2.1.6. Technology Tools for Service Delivery: A number of technology tools are discussed, including Wi-Fi, single sign-in, e-books and a varied approach to social networking tools.

2.1.7. Procurement & Acquisition: Negotiation skills are critical for libraries. Many work with vendors to integrate widgets to facilitate easier information access.

2.1.8. Library Automation: It fulfills the implications of Ranganathan's 'the five laws of library science', especially the concept of the fourth law i.e. 'save the time of the reader'. In addition there many benefits of library automation such as:

- Owed to the automation, circulation is one of the most affected area of library services, which saved a lot of time of users as well as staff
- Staff can set fine rules only one time and S/w will provide results automatically
- With the help of WEBOPAC, users can search information from anywhere at anytime
- Users can easily do the reservation of library sources

- Check out process of library document is very easy or it may be self check out process, so there will be no queue of users in library
- Users can do self circulation of library resources
- It helps to avoid the theft of library resources with RFID system
- It provides the multimedia facility, some automation S/w gives the image of resources in OPAC (such as Alice for Windows S/w)

2.1.9. Digital Archives:

Some basic benefits of digital archives, which are as follows:

- Ability to provide a large number of users' at single time access to unique or special collections, this is the most attractive feature of digital archives
- Digital archives are very useful to save the place
- Easily accessibility to information and content can be delivered directly to end-users and retrieve remotely
- Flexibility of the digital material, since the data is not "fixed", as with paper or printed text, it is easy to reformat, edits and prints
- It saves a lot of time of the users in searching of information
- Providing access to primary material can help to "publicize" the material to other departments and peers, and to demonstrate the importance of the collections

2.1.10. Library 2.0:

- CAS can receive in very effective manner.
- A very quick communication can possible with library staff.
- Library can easily get users feedback in minimum span of time.
- It can keep update to library's users regarding its daily activities.
- Multimedia data can be accessing by user and able to give feedback.
- Users can have Chat referencing/ instant messaging with library staff

2.1.11. Mobile Phone Services in Libraries:

- Short Message Services (SMS) facilities available on all mobile phones, could be use to create awareness amongst the academic library users about upcoming events and new arrivals
- With the help of GPS, users can find the location of multiple branches of the central library
- Libraries can provide to access their digital library on users' mobile phones
- Web OPAC on mobile phones; it can help users for searching the information from anywhere
- Users can subscribe to RSS feeds using software on mobile phones. When library updates any information, phone will be able to receive the new information
- Library S/W can configure as automatically to send text message alerts for hold, overdue materials and reserved resources available

2.1.12. Information & Communication Innovations:

- Digital resources
- Electronic catalogues
- Online electronic document delivery form
- Online interlibrary borrowing form
- Online reference form
- Online resources, accessible 7/24, a different type of communication: e-mail, Skype, Facebook
- Virtual reference services: Ask a Librarian
- E-government – integrated public services via the world wide web addressed at service provision (to citizens and the business) without reference to time and place
- E-publications

3. Trends:

- Libraries address the groups and communities they serve
- Libraries provide access to diverse collections and services
- Users – participants in the choice of provided services
- Libraries – centers for information literacy, catching up with technology advancement, a key factor for human capital development
- Libraries – centers for transfer of expensive digital information inaccessible to citizens
- Libraries – an economic development factor

3.1. Mega Trends:

- Data as a reusable resource
- Digital Preservation
- E-publishing & born digital materials

- Mass & custom digitization
- Network support of teaching, learning & research
- New forms of discovery
- New models of Scholarship systems
- Reduction of digital divide

3.2. Key Trends:

- A move away from quick fix' content to providing more analysis/research content
- A move towards supporting colleagues in the use of content and resources
- Creating unique, bespoke high value services
- Developing digital content/managing digital collections
- Managing centralized e-services
- Managing content licensing
- Using social network tools or similar behind firewalls
- Virtual delivery of services and content

4. Tips for Creativity & Innovation:

- Take a risk
- Visualizing
- Daydream
- Be Curious
- SWOT Analysis
- Learn from your mistakes
- Fresh view

4.1. Change in Library Environment:

- From a physical place where basic traditional services of acquisition, storage, preservation, retrieval, access and display are provided to on-site library patrons
- To an electronic space where these same services have been enhanced by technological innovations

4.2. Changing Library Service Needs:

- Online/offline access to digital information resources
- Online access to library catalogs, databases and the Internet
- Database searching
- Public access services
- Electronic reference service
- Public relations services
- Library promotion and marketing
- E-publishing
- Information literacy programs
- User Services, and queries

4.3. How to create Collaborative Technical Services Environments in Libraries?

- Acquisitions
- Bibliographic Control
- Collection Development
- Inventory
- Preservation
- Selection/Deselection
- Stacks Management

4.4. Components of Quality Service:

4.4.1. Tangibles: Appearance of physical elements

4.4.2. Reliability: Dependable and accurate performance

4.4.3. Responsiveness: Promptness; helpfulness

4.4.4. Assurance: Competence, courtesy, credibility, security

4.4.5. Empathy: Easy access, good communication, understanding of customer

4.5. Six Essential Elements for Quality LIS Delivery:

- Cataloguing the web
- Digital document delivery
- Digital technical services
- Electronic resources in collection development
- E-mail
- Staffing

4.6. Attributes of Service Quality in LIS:

- Aesthetics
- Conformance
- Durability (obsolescence / update ness)
- Features
- Perceived quality
- Performance

- Reliability
- Serviceability (time & cost)

4.7. General Assessment of Library Quality- (Tann, 1993):

- Faultless delivery of service
- Good accommodation
- Reliable equipment
- Efficient administration
- Efficient back-up service
- Feedback loops to build in improvement procedures

4.8. Quality Criteria for LIS Services:

- Completeness
- Distribution flexibility
- Precision and relevance of information
- Reliability
- Speed
- Topicality

4.9. Core Quality Criteria for E-Library Services:

- Completeness
- Distribution flexibility
- Precision and relevance
- Reliability
- Speed
- Topicality

4.10. Quality Standards for a Traditional Library:

- Silence
- Neatness
- Slowness
- Discipline
- Tidiness

4.11. Steps to Improve Service Quality:

- Create a 'customer focus & care' culture
- Determine the target group's expectations
- Develop appropriate service products
- Encourage 'word of mouth' about quality with staff & users
- First sell the idea of 'quality' to the internal audience (staff)
- Improve physical evidence
- Invite complaints from dissatisfied customers
- Look for customer-oriented measures to improve 'quality'
- Make the service easily understood
- Promise what can be delivered
- Recognize 'quality' problem
- Tangibles the service offered

5. Functions of Modern Libraries:

- Application of new technologies in libraries
- Computerization and networking of all library operations, resources and services
- Build both print and electronic information resources
- Providing an access to the content of local and global resources and services
- Provide guidance and training in the usage of digital resources
- Provide responsive products and services to meet the user needs and expectations

5.1. Demands on Modern Libraries:

5.1.1. Speed: fast acquisition of the information required

5.1.2. Usability: provision of full texts, graphics etc. (electronically, if possible)

5.1.3. Innovation: application of modern means of information and communication

5.1.4. Publicity: support in publishing scientific Papers

5.2. The Library of 2014 is profoundly different from the Library of 2004:

- Collections are different
- Modes of research are different
- Scholarly communication is different
- Users are different
- Users expectations are different

6. How Library should deal with these Changes?

6.1. Libraries Need a Shift from:

- Emphasizing the value of collections to emphasizing the value of expertise
- Supporting information description and access to taking responsibility for greater information analysis
- Serving as a support agency to serving as a collaborator
- A facility based enterprise to a campus wide enterprise
- Need a new agenda
- Infrastructure
- Technological expertise
- Bold leadership
- Library Education
- Greater collaboration
- Work with scientists and engineers
- Digital environment more pervasive

6.1.1. Three Major Paradigm Shifts 21st Century Library Setting:

- Transition from paper to electronic media as the dominant form of information dissemination, storage and retrieval
 - ❖ Convergence of different media, such as text, graphics, and sound, into multimedia resources, has direct impact on this transition
- Increasing demand for accountability, with focus on quality customer services, performance measurement, bench marking, and continuous improvement
- New forms of work distribution (work-teams) resulting in downsizing, re-engineering, outsourcing etc.

6.2. What does this Imply?

- New models of knowledge organization
- New collaborations across academic boundaries
- New international cooperation for data preservation and access
- New research methods and strategies
- New curriculum for library education

6.3. How?

- Libraries must adopt a cyber-infrastructure model with deep functional collaborations
- Shared collections: discarding duplicates
- Shared staff: working toward the collective goal
- IT infrastructure shared across several institutions
- University presses form coalition on single software platform
- Digital object is the official scholarly; and representation: no warehouse, no press, no out of print, no inventory
- Digital library activities and projects must widely federate
- Scholarly environments must emerge from digital libraries
 - ❖ Background data
 - ❖ Notes
 - ❖ Instrumentation
 - ❖ Methodological descriptions
 - ❖ Comprehensive references and bibliographies
 - ❖ Large datasets of audio, visual, multimedia materials
- Centers for instruction and collaborative research in synch with the shared mission

- Centers that explore the changes that are affecting them and what they are becoming: a collective autopsies
- Create an audit authority to assure perpetual persistence and access to the myriad data and information layers (articles, research statistics, course information, archival drafts, pre publications)

6.4. Revolutionary Changes:

- ATM Revolution
- Authorship Revolution
- Cellular Revolution
- Digital Reservation Revolution
- Electronic Revolution
- Information as Commodity Revolution
- MTV/Video Games Revolution
- Mutability Revolution
- Network Revolution
- New Majority Student Revolution
- Personal Computing Revolution
- User Expectation Revolution

6.5. Open Revolution:

- Open Research
- Open Reference
- Open Aggregation
- Open Storage

- Open Course
- Open Content
- Open Source
- Open Standards
- Open Archives
- Open Text
- Open Linking
- Open Design
- Open Access

6.6. Changing Library Roles:

- Libraries as Consumers
- Libraries as Intermediaries & Aggregators
- Libraries as Publishers
- Libraries as Educators
- Libraries as R&D Organizations
- Libraries as Entrepreneurs
- Libraries as Policy Advocates

6.7. Our Users-The Millennial Generation:

- Get their information and content online
- Get their information and content for free
- Manage large amounts of content themselves
- Create, aggregate, & customize content themselves
- Act as distributors and marketers

- Are always connected
- Want to find it fast
- Are always on

6.8. User Driven Culture:

- 24/7/365
- Mobility & Convergence
- Amazoogole Effect: Recommender Systems
- Social Software (Blogs, Tagging/Folksonomies)
- Customization & Contextualization
- New Tools

6.9. Our Reality:

- We no longer have monopoly over the provision of trustworthy, authoritative knowledge
- Development is happening outside the academy and libraries
- Libraries are in a transition period, many are dealing with it incrementally and alone
- Our organizations are caught between traditional and iconic values of libraries and the pace of development

6.10. Technology is Impacting Libraries through:

- Cyber infrastructure
- Data science/mining
- E-Scholarship & new methods of conducting research

- E-Science & new questions and paths of inquiries
- New shape of the scientific article
- New sophisticated tools for cooperation
- Transformation of teaching & learning

6.11. Library must have Cyber Infrastructure Characteristics:

- High level of shared expertise
- Integral research and its strategies
- Involved with data analysis, visualization, mining, semantic search
- Multidisciplinary
- Responsibility for data curation & persistence
- Tremendous amounts of data
- Wide community of interest and collaboration

7. New Roles:

- Act as Information Advocates
- Advising Role
- Cultural Role
- Information Mining
- Information Organization and Retrieval
- Knowledge and Digital Management
- Providing Access to Information
- Space Provision
- Teaching Role

7.1. The 21st Century Librarian Will...

- Be confident and claim the future
- Believe in themselves and what they can offer
- Develop themselves
- Get out more and engage
- Learn from each other
- Lift up their heads
- Not take their existence for granted
- Seize the opportunities
- Stay in advance of need

7.2. Major Challenges of 21st Century Librarian:

In a fast-changing, expanding diverse global digital information environment, libraries are facing a variety of complex challenges from multiple sectors of knowledge society in the 21st century. The major challenges are:

- Development of digital, virtual, and hybrid libraries
- Growth and usage of web resources
- Information and Communication Technology (ICT)
- Information explosion
- Online bookshops and information services
- Use of digital resources
- User's expectations
- Virtual educational institutions
- Virtual learning environment

These challenges have called for orientation, reengineering, transformation, and great changes in the information environment, library functions, and the roles of library and information service professionals.

7.2.1. Challenges before Librarians of Libraries:

Library Managers are facing various Challenges. Some of them listed below;

- Availability of full-text materials on the Internet
- Better abstracting and indexing systems
- Better document delivery systems
- Changed users information behavior and reading habits
- Collection development
- Concept of 24 hours and 7 days library and information services
- Demand for web based products and services
- Demand for effective monitoring and feedback system
- Demand for quality based library and information products and services
- Demand for the creation of culture for creativity
- Diversity of programs and emerging thrust areas
- Emergence of library networking and networks
- Expectation for resource generation
- Explosive growth of electronic information and products
- Faster direct communication among scientists and researchers
- Impact of ICT on library practices
- Increased and diversified users information thrust and need
- Increased cost of information materials
- Marketing of library and information products and services

- Need for effective and efficient users interface
- Need for interaction with external environment
- Need for the development of information infrastructure
- Need to create specialized databases
- Need to develop sustainable collection building strategy
- New electronic information environment
- New roles and responsibilities
- New tools and techniques of information handling
- Philosophy of information at door
- Resource sharing through networking
- Responsiveness and dynamism in special library systems and services
- Timely delivery of information materials to end-users
- Virtual vs. onsite reference service: push and pull technologies

7.2.2. Tasks for Librarians in the Digital Era- (Zhou Futhermore, 2005):

- Describe the content and attributes of items (metadata)
- Design the technical architecture of digital library
- Design, maintain and transmit add-valued information products
- Ensure information security
- Establish friendly user interface over network
- Plan, implement, and support digital services such as information navigation, consultation and transmit services
- Protect digital intellectual property in network environment
- Select, acquire, preserve, organize and manage digital collections
- Set up relative standards and policies for the digital library

7.3. Six Basic Skill Categories for Librarians- (Ashcroft, 2004):

- Censorship
- Communication – negotiation – collaboration
- Evaluation
- Marketing and promotion
- Personal transferable skills
- Professional

7.4. Support Globalization Goals of their Institution:

- Challenges of language
- Challenges of law & culture
- Challenges of standards
- Faculty research collaboration
- International collections
- International students/researchers

7.5. Prepare For Accountability & Assessment:

- Government/funder mandate
- Institutional expectations
- Measures of cost effectiveness
- Measures of market penetration
- Measures of success & impact
- Measures of user satisfaction
- System design for usability

7.6. Establish an R & D Agenda:

- Creation of new knowledge
- Laboratory for experimentation
- Magnet for new skills
- Potential for capitalization/tech transfer
- Support for decision making
- Organizational risk taking
- Federal, foundation, & corporate

7.7. Advance the Repository Movement:

- Discipline Repositories
- Institutional Repositories
- Consortium Repositories
- Departmental/School Repositories
- Individual Repositories
- National Repositories

7.8. Mine the Full Potential of Digital Information:

- Accessibility
- Availability
- Collaboration
- Currency
- Dynamism/
- Encyclopedic

- Fluidity
- Immediacy
- Interactive
- Interdisciplinary
- Linkability
- Multimedia
- Procedural
- Researchability
- Searchability
- Spatial

7.9. Develop the Library Workforce:

- Recruitment strategies
- Planning
- Role of professional education
- Employment strategies
- Development strategies
- Retention strategies
- Leadership development/succession

7.10. Qualities of Library Space-(McDonald, 2003):

- Accessible
- Adaptable
- Conductive
- Efficient

- Environmentally suitable
- Functional
- Interactive
- Safe and secure
- Suitable for information technology
- Varied

7.11. Capacity Building - A Conceptual Framework:

Broadly the competencies can help individual and Organization in the following ways.

- Clarification of behaviors that support important values and principles
- Creating interest for continuing development
- Establishment of standards of excellence
- Facilitating self-directed work culture
- Helping to improve difficult relationship
- Inculcating open learning culture and environment
- Promoting continuing professional education Programme
- Providing a base of feedback and evaluation of performances
- Shifting the focus on organizational development
- Translating strategic direction into action

7.12. Library Should Be:

- Accessible
- Comfortable
- Compact

- Constant in environment
- Economic
- Extendible
- Flexible
- Organized
- Secure
- Varied

7.13. Changing Information Needs:

The Changing information need is a great challenge to the LIS Professionals in all libraries in India and abroad. It helps the users in the following ways;

- Developing effective and efficient literature search techniques
- Effective use of modern information handling tools and techniques
- Enabling the users to do critical analysis
- Generating the capacity among users to raise queries
- Identifying information as the key for decision making
- Identifying various related information sources and services
- Integrating information with practical utility
- Organization and manipulation for different applications
- Realizing the need for information
- Understanding the utility of information in related applications

7.14. Customers Expectations in Libraries at Present:

The Expectations of Users vary from one environment to another environment, Institutional programs, priorities, vision, activities and specialization. Based on the experience and exposure in the area of Libraries, it has been observed that the expectations of Users in Libraries generally are;

- Clear directions and way guides
- Continual improvement
- Continuous interaction
- Disaster Management
- Display and demonstration of information about staff
- Effective & Efficient workflow
- Electronic resources access and delivery
- Information literacy
- Proper communication facilities
- Proper documentation of facilities and services provided
- Quality initiatives and accuracy
- Speedier service delivery mechanism
- Web based initiatives and resources
- Well organized collections
- Well placed users complaints system
- Well-designed forms for availing services

7.15. The Future Library:

- The primary definition of the “library” will change, but I trust it will remain the intellectual hub of its community
- The next generation will define the “library” as content and services available on the Internet or its incarnation

8. Conclusion:

LIS Professionals need to use Innovative and Creative ways to meet diverse information needs of their users. It is particularly important as the work environment is becoming increasingly complex and competitive, and companies need to react immediately to changes happening in their external environments. It is, therefore, crucial for employees in these companies to have quick access to high quality, accurate, Up-to-date and reliable information to make timely and well-informed decisions. Information professionals, in addition to providing traditional library services, need to use non-traditional and innovative methods to meet highly specialized information needs of their users. One such service which is becoming popular in almost all types of organizations is providing access to environment intelligence. As standard information sources are relatively less useful in gathering environment intelligence, LIS professionals need to identify and use a variety of non-traditional information sources. Library and information education programs also need to look beyond the traditional LIS jobs and start preparing professionals for emerging job roles.

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