KNOWLEDGE MANAGEMENT, COMPONENTS, STAGES, TOOLS, AND THEIR STRATEGIES FOR ACADEMIC LIBRARIES IN MODERN ERA

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Abstract:

Development of Information Technology (IT) and its applications in Library and Information Centers, the concepts of document management has been changed to information management and again the entire scenario of information management has started its change to Knowledge Management. It has been observed that the knowledge which is embedded in people (their skill and expertise) as well as knowledge of working processes of libraries (explicit knowledge) recognized as the important sources of knowledge within libraries. Skills of LIS professionals in librarianship and information management can be very beneficial to KM, but these are not sufficient and there is a need to acquire additional competencies in the fields of communication, human resource management, change management, project management. Based on the extensive review of literature, this study provides a theoretical foundation for further research to investigate the problems and prospects of implementing KM in Academic Libraries.

Keywords/Descriptors: Knowledge Management, Components, Stages, Tools of Knowledge Management: Principles, Strategies & Customer Expectations, Academic Libraries.

1. Introduction:

The concept and name "Knowledge Management" was started and popularized in the business world during the last decade of the 20th century. It was the business world that first recognizes the importance of knowledge in the "global economy" of the "knowledge age". In the new knowledge economy, the possession of relevant and strategic knowledge and its unceasing renewal enables businesses to gain competitive advantage. The applications of knowledge management have now spread to other organizations including government agencies, research and development departments, universities and others.

"Academic Libraries deal with the knowledge and the mission of the libraries is the knowledge management. Knowledge can be divided in two categories, tacit knowledge and explicit knowledge. Tacit knowledge is the 'know-ho' acquired by persons. It is usually intuitive and generally demonstrated in how an individual makes accomplishment in this work, even though this knowledge is not recorded anywhere. But one of the goals of the knowledge management is to make tacit knowledge more widely available. Explicit knowledge is systematically documented records in any kind of format which guide the users to gain the knowledge as the individual need to expand the knowledge base further.

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"Academic Libraries, the institutions for knowledge management deal with both categories of knowledge, tacit knowledge for the library personnel and the explicit knowledge for the end-users. Library personnel must know the '|Know –how' of information sources, management, retrieval and dissemination, as well as global access to information. This tacit knowledge helps the end-user to gain explicit knowledge as any individual requires. They must be guided to the gateway of knowledge. Implementing knowledge management thus has several dimensions including;

- KM Strategy
- Organizational Culture
- Organizational Processes
- Management & Leadership
- Technology
- Politics

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1.1. Definitions of Knowledge Management:

- **Ron Young, CEO/CKO Knowledge Associates International:** "Knowledge Management is the discipline of enabling individuals, teams and entire organizations to collectively and systematically creates, share and apply knowledge, to better achieve their objectives".
- **West Midlands Regional Observatory, UK:** "Knowledge management will deliver outstanding collaboration and partnership working. It will ensure that the region maximizes the value of its information and knowledge assets and it will help its citizens to use their creativity and skills better, leading to improved effectiveness and greater innovation".
- **Care Services Improvement Partnership (CSIP):** "We recognize that our most important asset is people and their knowledge. We understand Knowledge Management (KM) as the cultivation of an environment within which people are willing to share, learn and collaborate together leading to improvement".

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1.2. Characteristics of Knowledge Management in Libraries:

The role of knowledge management in libraries will become more and more important along with the development of knowledge economy. It is a new management mode, boasts the following superiority and characteristics incomparable with conventional management.

- Human resource management in KM
- Information technology is a tool for KM

- Knowledge Resource Management
- Resource Sharing and Networking
- User Services in KM

1.2.1. Nature of Knowledge Management:

- Creating a culture of learning and of sharing knowledge
- Dynamic process of creation, elicitation, and sharing (concern for life cycle information)
- Inclusive or enterprise-wide view of data, information, and knowledge
- Knowledge tends to happen in and among people; it is the social life of Information
- Managing expertise

1.3. Objectives of KM in Libraries are to Promote Knowledge Innovation:

The main objective of Knowledge management is to ensure that the right information is delivered to the right person just in time, in order to take the most appropriate decision. The objectives are as follows;

- Knowledge innovation is the core of the knowledge economy society. As bases for collection, processing, storage and distribution of knowledge and information, libraries represent an indispensable link in the scientific system chain, an important link in the knowledge innovation.

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- Libraries must pay attention to diffusion and conversion of knowledge. They act as bridges for turning the results of knowledge innovation into realistic productive forces
- Libraries take part in scientific research process directly. The library work is a component of knowledge innovation
- To create knowledge repositories and manage knowledge as an asset
- To organize the value of knowledge and improve effective research
- To promote collection, processing, storage and distribution of knowledge
- To promote relationship between library and users
- To promote scientific research
- To protect the intellectual property right, in information technology era

2. Types of Knowledge:

2.1. Implicit Knowledge: Implicit knowledge is visible and often, confined to the mind of a person. It is hard to codify and therefore, difficult to communicate to others.

2.2. Explicit Knowledge: Explicit is recorded and available in various media like books, periodicals, letters, reports, memos, literature, audio-visual material, CDs films, videos etc. or electronic formats like data, software, websites, etc.

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3. Components, Stages & Tools of Knowledge Management:

3.1. Components of Knowledge Management: The knowledge management environment centered round three components. They are,

3.1. 1. People: Technology experts, Knowledge professionals, Knowledge managers

3.1. 2. Process: Creation, capturing, storing, sharing, Application, and

3.1.3. Technology: Hardware and software packages

3.2. Stages in Knowledge Management System:

3.2.1. Identify Knowledge:

- Core Competencies
- Knowledge Domain
- Knowledge Gap
- People and skills

3.2.2. Collect Knowledge:

- Buying Knowledge – Recruiting
- Data entry
- Merging the Organizations
- OCR and scanning
- Outsourcing

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- Rending Knowledge – Consultant
- Searching for information to include

3.2.3. Select Knowledge:

- Assess the value of Information
- Find the insight

3.2.4. Store Knowledge:

- Expert System – Storing of expert knowledge
- Repository
- Keep and Index the knowledge dynamically

3.2.5. Share Knowledge:

- Selective Dissemination of Information
- SECI Model

3.2.6. Create Knowledge:

- SECI Model

3.2.7. Apply Knowledge:

- Perform Support System
- Problem Solving and Task analysis

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3.3. Tools of Knowledge Management:

- Agents' technologies

- Data analysis data ware housing
- Data ware housing: Meta data
- Electronic document management
- Groupware
- Help desk technologies
- Information retrieval tools
- Intranet/Extranets
- Machine learning
- Mapping tools
- Ontology's (Computer based)
- Portals
- Work flow management systems

4. Principles & Strategies of Knowledge Management:

4.1. Ten Principles of Knowledge Management-(Thomas H Davenport):

- Effective management of knowledge requires hybrid solutions of people and technology
- Knowledge access in only the beginning
- Knowledge Management benefits more from maps than model, more from markets than from hierarchies
- Knowledge Management is expensive
- Knowledge Management is highly political

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- Knowledge Management means improving knowledge process
- Knowledge Management never ends
- Knowledge Management requires a knowledge contract
- Knowledge Management requires knowledge managers
- Sharing and using knowledge are often unnatural acts

4.2. Strategies of Knowledge Management:

- Knowledge Management Strategy Intro
- Invest: Organizational Structures
- Invest: Organizational Culture Change
- Invest: Knowledge Retention
- Invest: Manage Core Competencies
- Invest: Manage External Network
- Invest: Knowledge Management Systems
- Knowledge Management Best Practices

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5.1. Knowledge Management in Academic Libraries:

Knowledge Management has been tooted and hyped since late 1990s, first in the business sector, and then in higher education and now in library management. The impetus for embracing knowledge Management in academic libraries is mainly from a combination of

library budget shortfall and higher user expectations. Rather than adopting an often-trumpeted high-tech approach, it is more practical to utilize the existing staffing, technology and management structure for academic libraries.

5.1. Purpose of implementing knowledge Management in Academic Libraries:

Academic Libraries are pinched n both sides: reduced budget and increased demand from faculty and students. To implement knowledge Management in academic libraries is mainly driven by its mission rather than by the competition from internet-based reference services or electronic books.

5.1.1. Impetus:

Where there is a new phenomenon emerged, there must be an impetus. In knowledge Management, the driving force is the necessity to survive in the business sector in face of the fierce competition with rival firms or other competitors.

5.1.2. Mission:

Libraries depend more on the support from their parent institution and immediate user constituents. To survive or thrive, libraries should constantly gauge and cater to users' needs.

5.1.2.1. Our Mission Should Be:

- Capture the Institutional best practices

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- Create an institution's output
- Encourage open access
- Help libraries to meet the challenges of the digital world
- Increase an impact of research and development
- Manage learning materials
- Organize digitized collections and services
- Provide value added services to stakeholders
- Raise visibility/prestige of institution
- Utilization of information literacy

5.1.3. Human Factor:

Knowledge Management is a new paradigm in academic libraries in the sense that concerted efforts need to be exerted to manage knowledge systematically. Instead of establishing a new network of Knowledge Management managers under a Knowledge management CKO (Chief Knowledge Officer). It is more practical to utilize the current management structure.

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5.1.4. Technology:

Now how to record knowledge pertaining to library operations? What is more: How to retrieve such Knowledge when needed? Many advocators of Knowledge Management stress the importance of using advanced technology to store and retrieve knowledge.

5.1.4.1. Technologies for Knowledge Management:

- Intranet within an organization
- Document management systems
- Information retrieval systems
- Relational and object databases
- Electronic publishing
- Groupware and work flow systems
- Push technologies
- Help desk applications
- Brain storming applications
- Data warehousing and data mining

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5. 2. Need for Knowledge Management in Academic Libraries:

Knowledge management is the most important asset for a company/ organization institution because KM provides access to various aspects like experience, knowledge and expertise that create new capabilities which enable better performance, encourage innovation

and enhance customer value. Today every organization needs to know their knowledge assets, how to manage and make use of these assets, how to manage and make use of these assets to get maximum benefits. Environmental pressure, technological advancements and the ability to create valuable information are responsible to adopt knowledge management. Globalization and geographical library and information centers, KM needs to be knowledge, improve services to users and enable users to share and learn. The need of KM is arising due to following reasons.

- Accelerating rate of innovations that need to be assimilated at an even faster rate
- Competitive market place
- Competitive pressures leading t reduction in the size of the work force holding special and strategic knowledge
- Increasing mobility among employees leading to loss of knowledge
- Majorities of the employees have less and less time to acquire knowledge.

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5.3. Benefits of Knowledge Management in Academic Libraries:

Km applications could benefit in research process, curriculum development process, student and alumni services, administrative services and strategic planning in the following ways:

- Enhanced ability to develop up to date and market focused strategic plans
- Enhanced faculty development efforts, especially for new faculty
- Facilitation of interdisciplinary research in libraries

- Improved effectiveness and efficiency of administrative services
- Improved responsiveness and communication capabilities
- Improved services for students
- Improved speed of curriculum revision and updating
- Improves service capability of faculty and staff

5.3.1. Significance of Knowledge Management in Programme in Academic Library:

- Analysis of documents, organization, classification and sorting, and their archiving for easy retrieval and faster dissemination
- Communication in the hierarchical structure of management to keep track of the process of workflow in the libraries
- Creating new knowledge through filtering, consolidating and repacking information
- Development/deployment of tools for information customization
- Digitization of various in-house documents like project and research reports by students and faculty
- Imparting information literacy instruction to the users
- Management of contents from licensed online resource like e-books
- Training the users to maximize use of the knowledge repository
- Understanding needs of the helping them to locate and retrieve information of their own

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5.4. Application of Knowledge Management in Academic Libraries:

In the present age libraries are considered as knowledge resource centers. The knowledge generated from these resource centers may be utilized by the number of peoples of different discipline. Hence, proper application of knowledge management is essential. The knowledge in libraries resides in databases, knowledge bases, text bases, and World Wide Web. The effectiveness of libraries may be measured not only on the provision of needed information to their users but also on the knowledge about related resources, skills and technologies involved in it. Knowledge Management in libraries includes following aspects.

- Human Resources Management
- Knowledge Application Management
- Knowledge Dissemination Management
- Knowledge Innovation Management
- Knowledge Resources Management

5.5. Procedures for Implementing Knowledge Management in Academic Libraries:

Most researches consent that Knowledge Management consists of two components: human factor and technology. And most proponents of Knowledge Management advocate a top-down approach under a chief knowledge officer (CKO). While a top-down approach is preferable, a bottom-up approach might be more practical in many instances.

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5.6. Implication of Knowledge Management in Academic Libraries:

- We must concern ourselves with a broader range of information resources and services
- Create a culture and environment for active learning and information sharing
- Collaborative much more proactively and deeply with other libraries, information technology services, and users

5.7. Two Examples of Knowledge Management Practice in Academic Libraries:

- Managing Print and digital Collections in new and cooperative ways
  - Future of print Collections
  - Managing storage and access to print Collections
  - Ohio Link and deep Cooperation

- Creating an institutional repository program for collecting a broad range of digital assets
  - Digital Content management
  - New Competencies and services models for Library and Information Science specialists

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6. Comparisons:

6.1. Table.1. Explicit (Information) versus Tacit (Information):

Explicit (Information)	**Tacit (Information)**
Tangible	Intangible
Physical objects, e.g. in documents or databases	Mental objects, i.e. it's in people's head's
Processing changes representation	Processing changes understanding
Context independent	Context affects meaning
Easily shared	Sharing involves learning
Reproducible	Not identically replicated

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6.2. Table.2. Knowledge Management versus Librarianship:

Sl.No.	Knowledge Management Practice	Librarianship Practice
1.	Internal knowledge	External knowledge
2.	Tacit knowledge	Explicit knowledge
3.	Knowledge creation	Knowledge retailing
4.	Organization strategy driven	User needs driven
5.	Linked to Organization culture	Not linked to context
6.	Collective knowledge	Individual recorded knowledge
7.	Tools to share knowledge	Tools to retrieve in format

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7. Role of Library Professionals in Knowledge Management:

The conventional role of library and information professionals was to collect, process, disseminate, store and utilize information to provide multi-disciplinary services to the personal and professional needs of the library users. But now their role is not restricted to information management only. They play major role in knowledge management programmes and identifying, acquiring, developing, resolving, storing and sharing of knowledge. Library and information professionals have to manage relationships with external providers of information and knowledge and should negotiate with them. Knowledge management has

created new ground in the field of library and information science. The library professionals should have following types of knowledge;

- Creativity and ability to learn and adapt the new technologies to provide better services to its clients and ability to create, share, harness and utilize knowledge
- Information literacy skills creating, finding, sharing and using
- Knowledge about library's information sources for assets, products and services
- Knowledge about users including teaching staff, researcher and, who is using these sources and how to increase its uses
- Knowledge about where these sources stored are and what is its use
- Understanding of knowledge creation process and impact of knowledge
- Understanding of the principles of Organization of Knowledge
- What are the current usage of these sources and how to increase its use?

7.1. Today's Knowledge Management Challenges:

- Determining where in the organization KM should reside
- Getting people motivated
- Interpreting data effectively
- Keeping data accurate
- Keeping up with technology
- Making sure information is relevant
- Measuring knowledge

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- Overcoming shared leadership
- Rewarding active users
- Security

7.2. Tips for Creativity & Innovation:

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

7.3. Future of Knowledge Management:

In the next several years ad-hoc software will develop into comprehensive, knowledge aware enterprise management systems. KM and E-learning will converge into knowledge collaboration portals that will efficiently transfer knowledge in an interdisciplinary and cross functional environment. Information systems will evolve into artificial intelligence systems that use intelligent agents to customize and filter relevant information. New methods and tools will be developed for Knowledge Management driven E-intelligence and innovation.

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7.4. Suggestions:

The IT and knowledge need to work together and focus on getting the right information to the right people at the right time. The entire librarian and information scientist community should have knowledge management strategy or framework to use the IT to disseminate the information as demanded or required. The following points are identified for the better implementation of knowledge management in libraries mostly in Academic Libraries:

- To provide sufficient budget
- To provide special fund for the new technologies
- To equip library with new technologies with network facility
- Inter change of technical staffs among organization/libraries
- Staff sharing to develop their professional skills
- Organize a training programme and inter-change of staff for time being on National level (at least once in every two year for two months)
- UGC may establish a monitoring centre specially for libraries to monitor the standardizations of library and provide assistance

7.5. Customer 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;

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- 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

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8. Conclusion:

Knowledge Management can help libraries to develop into more efficient organizations, taking advantage of the new demands of the Knowledge Society leading to the improvement and development of new services to users, in addition to increasing the use,

creation and sharing of knowledge among the library staff. Implementing KM in academic libraries leads to perfecting the ability of these organizations to learn, The KM in academic libraries will also lead to the generation of new knowledge, development of new procedures and practices to improve the integration and sharing of knowledge within organizations. A Knowledge Management program tailored specifically to libraries can reduce costs, increase revenue and staff efficiency, improve the activities, products and services, improving library performance and guaranteeing a position in the knowledge market.

References:

- Biosot, M. (1987). "Information and Organizations: The Manager as Anthropologist", Fontana/ Collins, London.
- Davenport, T.H. and Prusak, L. (1998). "Working Knowledge: How Organizations Manage what They Know", 1st ed., Harvard Business school press, Boston.
- Drucker, P.F. (1999). "Knowledge Worker Productivity – The Biggest Challenge", *California Management Review*, Vol.41 No.2.
- Easterby-Smith, M., and M. Lyles. (2003). The Blackwell handbook of organizational learning and knowledge management Oxford: Blackwell.
- Enkel, E et al., (2000). MERLIN- Materializing, Experience, Refining and Learning in Knowledge Networks."
- Gronroos, C. (1994). "From Marketing Mix to Relationship Marketing Towards a Paradigm Shift in Marketing", *Management Decision*, Vol.32 No.2.

www.klibjlis.com

- Jantz, R. (2001). Knowledge management in academic libraries: special tools and processes to support information professionals. *Reference Services Review*, 29(1), 33-39.
- Muthu, M & Murugan, K. (2014). "Multimedia: A Play for Vital Role in Education & Libraries". *Vidyawarta-Interdisciplinary Multilingual Research Journal*. Vol.2. No.5. Jan-Mar. pp. 94-101.
- Muthu, M & Sivaraman, P (2013). "Online Public Access Catalogue (OPAC): An Overview". *International Journal of Digital Information & Knowledge Management*. Vol.1. No.2. pp.79-89.
- Muthu, M & Sivaraman, P (2013). "Online Public Access Catalogue (OPAC): An Overview". *International Journal of Digital Information & Knowledge Management.* Vol.1, No.2, pp. 79-89.
- Muthu, M & Veerapandi, M (2014). "Benchmarking: A Play for Vital Role in Libraries". at *National Conference on Information Management in the Knowledge Era* on 25th October 2014 Paper presented at DRBCCC Hindu College, Chennai-72. Ed by P Ganesan and K Sridhar. pp. 454-466.
- Muthu, M (2013). "User Education and Their Innovative Strategies in Libraries: An Overview". *International Journal of Professional Development*". Vol.2. No.1. Jan-Jun. pp.46-54.

www.klibjlis.com

- Muthu, M (2014). "Competencies, Types and their Strategic thinking for LIS Professionals in Modern Era". *International Journal of Librarianship and Administration (IJLA.).* Vol.5. No.1. pp. 61-80.

- Muthu, M (2015). "Role of College Librarians for the Qualitative Improvement of Education: A Modern Era" "*Transformation of Knowledge Resource Centers in Collaborative Era*". Vol.I. 1st Ed., Edited by Dr. Dharmaraj K Veer & Dattatraya T Kalbande, pp. 1-20. New Delhi: Agri-Biovet Press.

- Muthu, M et al., (2013). "Knowledge Management in Libraries". *Pearl: A Journal of Library and Information Science*, Vol.7. Issue.1. Jan-Mar. pp.17-27.

- Muthu, M et al., (2014). "Information Resource Management (IRM), Principles, Process, Key Concepts and their Strategies for Libraries in Modern Era" at *National Conference on Information Management in the Knowledge Era* on 25th October 2014 Paper presented at DRBCCC Hindu College. Chennai-72, Ed by P Ganesan and K Sridhar. pp. 403-415.

- Muthu, M et al., (2014). "Knowledge Management, Principles and their Strategies for Libraries in Modern Era". Proceedings of the UGC Sponsored National Seminar on Knowledge Management in Electronic Environment: Opportunities and Challenges. pp. 160-165, held on 21-22 March, Paper presented at Alagappa University, Karaikudi.

www.klibjlis.com

- Muthu, M, et al, (2013). "A Changing Role of Libraries in Digital Era". *International Journal of Emerging Trends in Library and Information Society*. Vol.1. No.2. pp. 55-71.
- Muthu, M, et al., (2013). "Information Literacy and their Strategy: A Play for Vital Role in Libraries & Higher Education". *International Journal of Emerging Trends in Library & Information Society*. Vol.1. No.3. pp. 171-192.
- Muthu, M, et al., (2013). "Librarianship, Competencies and their Traditional Roles for Libraries in Digital Era". "*International Journal of Digital Information and Knowledge Management.* Vol.1. No.3. pp. 191-212.
- Muthu, M, et al., (2014). "Information & Communication Technology (ICT): A Play for Vital Role in Educations & Libraries". *World in the Digital Age: Digitization and Preservation.*. Edited by Syed Ahtisham Raza Naqvi & Dr.Rishi Tiwari. pp. 71-99. Delhi: INMANTEC Institutions & Shree Kala Prakashan.
- Muthu, M, et al., (2014). "Leadership, Professionalism and their Strategies for LIS Services in Modern Era". *Dynamics of E-Resources and Digital Libraries.* Edited by Dr.P.Sivaraman, New Delhi: Avon Publications. pp. 108-122.
- Muthu, M, et al., (2015). "Stress Management: A Play for Vital Role in Libraries". *Vidyawarta Research Journal [Interdisciplinary Multilingual Research Journal]*. Issue-09. Vol-01. Jan-March. pp. 189-195.

www.klibjlis.com

- Muthu, M. (2012). "E-Books: An Overview", *Information Studies*. Vol.18. Issue: 4. Oct. pp.253 -276.
- Swan, Jacky & Scarbrough, Harry. (2001). knowledge management. Concepts and Controversies. *Journal of Management Studies.* 38(7).
- Wilig, K.M. (1995). "Knowledge Management A Trilogy – Volume 3. Knowledge Management Methods: Practical Approaches to Managing Knowledge, schema Press" Arlington.

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