2. Literature Review :

2.1 Knowledge Management

Ikujiro, N.; et. al. (1996)\textsuperscript{14} : This paper proposes a theory of organizational knowledge creation, which is defined as the process that organizationally amplifies the knowledge created by individuals and crystalizes it as part of the knowledge system of an organization. The process is a never-ending spiral of tacit and explicit knowledge through four modes of knowledge conversion: i.e., Socialization (from tacit to tacit), externalization (from tacit to explicit), combination (from explicit to explicit), and internalization (from explicit to tacit). Each of the four modes of knowledge conversion is explained, using actual vignettes. Finally, a few implications are argued.

Jenny Darroch (1997)\textsuperscript{17} : This paper describes Knowledge Management (KM) as a new discipline. It is generating considerable interest among academics and managers. Though it is new, there is still little guidance in the extant literature on how to measure KM. It presents the first scale developed to measure KM behaviours and practices. Provides construct boundaries that should enable the development of theory of KM.

Studer, R; et. al. (1998)\textsuperscript{35} : This paper gives an overview of development of the field of knowledge engineering over the last 15 years. Paradigm shift from a transfer view to a modelling view is also discussed. It describes two approaches which considerably shaped research of knowledge engineering: Role-limiting methods and Generic tasks. It describes three modelling frameworks: CommonKADS, MIKE and PROTÉGÉ-II. It has given some important methodological developments in detail: specification languages for knowledge-based systems, problems solving methods and ontologies. The relationship of knowledge engineer to software engineering, information integration and knowledge management is concluded.

Zack, M. H. (1999)\textsuperscript{42} : Knowledge Management(KM) culture is lacking to have explicitly linked or framed by organization’s business strategy. KM initiatives are viewed primarily as information system projects. This article provides a framework for making link and assessing an organization’s competitiveness with its intellectual resources and capabilities. It recommends for knowledge-based SWOT (Strength, Weakness, Opportunities, and Threats) analysis. It concludes with several implications for competing on knowledge.
Marwick, A. D. (2001): Selected technologies that contribute to Knowledge Management (KM) solutions are reviewed using Nonaka’s model of organizational knowledge creation as a framework. It discusses the extent to which knowledge transformation within and between tacit and explicit forms can be supported by the technologies. Some likely future trends of technologies are identified. It is found that the strongest contribution to current solutions is made by technologies that deal largely with explicit knowledge, such as search and classification. Contribution to the formation and communication of tacit knowledge, and support for making it explicit, are currently weaker, although some encouraging developments are highlighted, such as the use of text-based chat, expertise location, and unrestricted bulletin boards. Through surveying some of the technologies used for KM, this paper serves as an introduction to the subject for those papers in this issue that discuss technology.

Ramasubramanian, S and Jagadeesan, G. (2002): Knowledge Management (KM) is important to software engineering because organizations need more than just human capital to successfully distributed and use their employees’ knowledge. Knowledge might be inexpensive, but effectively using and managing it is not. This paper reviews KM practices at Infosys, highlighting KM’s importance and benefits.

Massey, A. P.; Montoya-Weiss, M. (2003): This paper describes a framework that provides a holistic view of the performance surrounding organizational knowledge work. This study illustrates the efficacy of this framework to KM using two organizational case studies. Then, based on the framework and insights drawn from the case studies, this paper presents series of steps – a checklist for action – that may assist organizations and practitioners as they undertake KM initiatives. The paper concluded with a discussion of implications for practice and future research directions.

Fengjie, A.; et. al. (2004): Discusses about the reason why knowledge management is imperative to the modern enterprise. It focuses on knowledge sharing. It also analysed about the concept, process, as well as obstacles to knowledge sharing. Based on them, a case study illuminates how to carry out knowledge sharing inside enterprise is discussed. The case study illuminates how to carry out knowledge sharing inside enterprise according to the individual situation.

Gu, X.; et al. (2005): This paper defines knowledge chain and knowledge chain management from the approach of knowledge flow among organization. It expounds
the connotation, foundation and source of knowledge advantage. It points out that the core competence of organizations is foundation of knowledge advantage. It also analyses the formation of knowledge advantage by knowledge chain management through keeping and expanding core competence of organization and forming knowledge alliance capability.

**Wirastuti, N. M. A.; et. al. (2006)**: This paper presents an innovative application of wireless, mobile and ubiquitous technologies to support informal and collaborative learning in Kenyan rural farming communities. It can be achieved by the development of a Knowledge Management (KM) system integrated with existing local community communication channels, together with experimental KM initiatives employing the VeSeL (Village e-Science for Life) distributed resource kits (DSKs). The initiatives support illiterate and semi-literate farming community groups, in learning new agriculture practices, and also enable the use of advanced digital technology to improve their agricultural practices and literacy levels. This paper concluded with the process of applying wireless and Internet technologies for the education of local farming communities, using irrigation and water management as the application.

**Pillania; R. K. (2008)**: Studies on Knowledge Management (KM) strategy and the role of top management have mainly focused in big firms. KM practices are different in SMEs as compared to big firm. This research work is an attempt to study strategic issues in KM in SMEs in India, with particular reference to the automotive component sector. Customer-focused knowledge is the most common KM strategy among Indian automotive component manufacturers. Top management is more active and supportive in KM initiatives in international auto component manufacturers. Indian SMEs need to focus more on the strategic issues in KM for reaping the benefits of KM for sustainable competitiveness.

**Zahrawi, A. A.; Yahya, Y. (2009)**: Knowledge Management Application (KMA) forms a channel for information exchange and its features allow capturing of people’s experience and expertise. As such KMA plays an important role in large corporations particularly higher learning institution (HLI) in ensuring relevant information are being kept and disseminated among the member of staff. HLI environment typically witness a huge amount of data and information in continuously updatable forms in which these can be fully utilized to enhance knowledge and business process of the institution.
However further study conducted had revealed that knowledge management is still at its preliminary stage for most HLI in Malaysia. As such the work conducted had analysed existing KMA in HLI in Malaysia particularly focusing UKM as the case study. Based on the review conducted, UKM has not embark on developing specific KMS although massive efforts have been geared towards developing main application systems for addressing key business processes. Therefore, the work then presents the framework for KMA development in the institution.

An, X.; Wang, W. (2010)²: This study aims to find out linkage between newly-developed KM theories and various technologies and their relevant applications. It explores various understandings on KM technologies, their functions and benefits to organizations, and several types of classification of KM technologies and their applications by reviewing literature. The authors designed some question and express the answer on (1) Definition on KM Technologies in according to their different perspectives or discipline, (2) The functions or the roles of KM technologies and their applications as enabling KM. (3) The way KM technologies classified in literature. This study may have implications to mapping, building and operating KM programs that need to have concerns about KM technologies. Different schools of thought on KM technologies, their functions and benefits; their strength and limitation as solutions to KM problems are taken into account.

Anand, A; Singh; M., D. (2011)³: This paper focuses on the strategy, implementation, technological and performance measurement & benchmarking issues regarding Knowledge Management (KM) in Indian SMEs. (Small and Medium Scale Enterprises). It is very important for SMEs to know what their knowledge assets are and how to management and make best use of these assets to get maximum return. This paper tries to identify the steps regarding implementation of KM in Indian SMEs for improving competitiveness of SMEs in globalised market.

Chung, Ting-Ting; et. al. (2012)⁷: This paper empirically examines the role of organization agility as a mediator between knowledge creation process and financial firm performance. The server study of 134 firms combined with objective measures of firm performance indicates that two forms of organizational agility – customer agility and operational agility, significantly mediate the effect of knowledge creation processes on firm performance. Findings confirm prior research results that were based
exclusively on survey data, and provide additional discussion on the role of organizational agility in facilitating the effect of knowledge creation processes on firm performance. Implications for researchers and managers are also discussed.

**M, Jennex (2014)**: This paper posits that KM researchers and practitioners also need to think security and explores how important security skills are to KM practitioners and researchers. A literature review is performed to determine how much attention is paid by KM researchers to knowledge security. Additionally, 50 KM job postings are examined to determine if security skills are considered important by those hiring KM practitioners. Finally, a survey is prepared for exploring security attitudes of KM practitioners.

**Bimbe, N.; et. al. (2015)**: The context for creating, sharing and accessing knowledge is rapidly changing at global and local levels as new technologies and approaches are introduced. These changes are driven and enabled by digital technologies, but who wins and who loses, and how do we ensure that development takes place in an equitable manner in Africa. This paper draws on the data from a horizon scanning study led by IDS, which used foresight methodologies and tools to explore future scenarios for knowledge sharing in Africa over the period to 2030 which corresponds with the time frame for the Sustainable Development Goals. In particular, it sets out a range of perspectives on the future that were shared during the study, making use of the ‘7 questions’ foresight tool.

### 2.2 Knowledge Management in Library:

**Girgis, N. W. (2004)**: This paper explains Knowledge Management (KM) in relation to information users services and whether our libraries/information centres could benefit from KM, the factors that can make or break successful KM execution, how our libraries/information centres can ensure the on-going success and the role of information professional in KM. KM is a methodology for capturing, optimizing, delivering and maintaining a collection of information that provides guidance or action, and is of value to the organization. When the information professional has access to knowledge, they can quickly assist users with problems and inquiries. As a result KM has become an
essential practice within today’s libraries and information centres. When combined with KM, the libraries and information centres are able to improve efficiencies, increase satisfaction, and reduce the cost of service.

**Rayner, E.; Piper, I.; and Bunder, M. (2005)**: This paper identifies and defines the Knowledge Library Application (KLA) class. KLAs are an important class of information resource/knowledge management applications. It will be clear from the definition that KLAs are highly relevant to both the commercial and academic worlds and existing techniques such as keyword and tree classification, on-line analytical procession (OLAP) and formal concept analysis (FCA) do not provide key KLA features. N-tree-space (NTP), a technique detailed in this paper, enables the provision of these features and should facilitate the development of a range of KLAs that offer significant advantages over currently available software tools.

**William, N.; Amin, G. (2006)**: This paper is an attempt to examine the applicability of the concepts of Knowledge Management (KM) to higher education institutions in the Sudan. This paper identifies a number of existing facilities, systems or projects which contribute to KM in higher education, such as libraries and electronic collection of learning material, networks for e-mail communication and management information systems which provide data on the student profile. Then it considers the challenges associated with the creation of knowledge environment in higher education, and explores the opportunities offered by viewing knowledge as an asset. It discusses the distinction between knowledge, information and date, definition of knowledge (explicit and tacit knowledge and the distinction between them). This paper elaborates brief information about KM; background information about higher education in Sudan.

**Doctor, G.; Ramchandran, S. (2007)**: The creation of Digital Institutional Repositories for Knowledge Sharing (KS) and management in Academic Institutions in a developing country like India is a growing requirement. This paper briefly describes a study conducted to determine the need of an Institutional Repository and implementation using Open Source Digital Repository Software, DSpace, at a Management Institution in India to enable KS.

**Shaohua, H.; Hongtao, Z. (2008)**: This study analyses the motivations of library tacit knowledge transfer and explores how it utilize them to improve efficiency of tacit
knowledge transfer. It discusses the scope of the library tacit knowledge. This paper constructs a motivation model based on analysing the process of library knowledge transfer. Then the two aspects of the mode, including intrinsic motivation and extrinsic motivation, are discussed. In conclusion a few measures are brought forward in order to accelerate and utilize motivation to improve efficiency of library tacit knowledge transfer.

**Yang, Z; Bai, H. (2009)**: Many college libraries have implemented Knowledge Management (KM) which has emerged as an issue that library administrators have to deal with. In order to evaluate the difference among college library’s KM practices, it is necessary to build a KM maturity model. Based on the concept of continuous process improvement and the Capability Maturity Model (CMM) of the Software Engineering Institute (SEI), in this paper, a new KM maturity model is constructed, which can be used to describe how college libraries support the practices at each maturity level, and provide maturity paths that college libraries can follow. A college library will be taken as an example to illustrate the application of this model and discuss how to support the practices at each maturity level in a certain college library by using model.

**Zhao, H. (2010)**: Taking the principle of practicality, novelty, scientific and timeliness, the paper introduces knowledge based and knowledge excavation in college libraries, analyses the related theories of Knowledge Management (KM) in college libraries, library knowledge process, technology infrastructure and knowledge excavation, explores knowledge excavation and its process of KM and knowledge service in college libraries, proposed double bases cooperating mechanism and illustrates the application of knowledge excavation in college libraries to make a research of related issues of knowledge excavation of knowledge base in college libraries.

**Awan, A; Daneshgan, F. (2011)**: This study is a part of a larger project that ultimately aims to enhance effectiveness and relevance of academic libraries in today’s ubiquitous and highly networked environments. The current study asserts that management of customer knowledge, enabled by appropriate customer knowledge taxonomy, will potentially lead to both enhancements in current customer services as well as identification and design of new and innovative customer services in general and in academic libraries in particular. As the first stage of the larger project, the present
study provides a high-level methodology for development of a model warehouse as a precursor for attainment of the above higher goal using the theoretical perspective of KM. Findings of the current study are expected to benefit knowledge-based organizations that may already have implemented some kind of customer.

Jingna, W.; Juan, L. (2012)\textsuperscript{19} : Combining the current theory research and practice on Knowledge Management (KM) and library knowledge services this paper introduces the definition and the characteristic of library knowledge service, analyses the feasibility and strategy for library knowledge services based on KM. Depending on the research, the thesis put some feasibility suggestion and put forward through building the information resource sharing system to improve library knowledge service.

Nazim, M; Mukherjee, B. (2013)\textsuperscript{23} : This paper is to examine librarians’ perceptions of Knowledge Management (KM), including its concept, potential applications, benefits and major challenges of its application in Indian academic libraries. With structure questionnaire, was sent by postal mail to 30 librarians of academic libraries in India. Librarians have positive attitudes towards the applications of KM into academic practice and not only because this can bring academic libraries closer to their parent organization, but also because it may help them to survive in an increasingly challenging environment. Although, librarian in the present study acknowledged that they are involved in the practices of KM but these were perceived as basic information management activities

Jain, P. (2013)\textsuperscript{16} : This paper focuses on university libraries and presents the partial findings of a study carried out to investigate and explore Knowledge Management (KM) practices in Southern African Development Community (SADC) university libraries. Main reasons for practicing KM is to improve library services and productivity, produce more with less, avoid duplication of efforts and leverage existing knowledge. The major challenges were identified as constant budget decline, lack of incentives, inadequate staff training and expertise, a lack of KM strategy, insufficient information and communication (ICT) infrastructure and a lack of knowledge sharing culture. This paper puts forward some recommendations and a framework for KM implementation in university/academic libraries.
Jindal, G.; Tyagi, J. (2014): Combination of academic, socio-economic, cultural and technical government perspectives will curtail the gap between theory and practical implementation of Knowledge Management (KM) practices in various universities. Presence of challenges and pressures like globalization, lack of financial budget, competitiveness etc. makes cumbersome to implement KM practices in higher educational institutions. The paper focuses on impact of e-governance model on basis of KM prototypes. It studies various KM practices in libraries of institutions and explores views of librarians regarding KM. The paper also presents conceptual framework to describe elements of KM. A research methodology has also been conducted regarding various KM practices in Delhi universities and their results, analysis are presented in following paper.

Sakarkar, S. (2014): The emerging field of Knowledge Management (KM) offers academic libraries the opportunity to improve effectiveness, both for themselves and their parents institutions. Actually KM is a part and parcel activity of all kinds of libraries. While providing keen services in the diversified subject environment, basically the libraries has to acquire the information form the recorded or unrecorded sources of information. The factor of quality and authenticity are also important in procuring the information. Hence, at nutshell, one can derive that to assess the source of information for KM in libraries. Particularly the author has claims that it is an unavoidable piece of work in KM in libraries.

Garanayak, S.; Sonker, S.K. (2015): Traditional libraries have changed to paperless library due to the growth of Internet and the World Wide Web. Since advent of Information and Communication Technology, the information explosion have been taken place which force to library to collect, organise and provide right information to right users. The development and management of knowledge in recent years has become one of the challenges for librarianships and libraries. Knowledge management provides opportunities to use and enhancement of intellectual knowledge. The main objective of this paper is to analyse what kinds of skills and competencies are required to librarians for the process and management of various kinds of knowledge available in individuals which fulfil the diverse information needs of the users.

Islam, Md. S.; et. al. (2015): This paper aims to explore the use and application of Knowledge Management (KM) for improving Library and Information Services (LIS)
in Bangladesh. It seeks to address the following questions: How KM can be used efficiently in the libraries of Bangladesh for the improvement of LIS performance? What KM tools and techniques are being used in the libraries of Bangladesh? What difficulties are faced by the information professionals for applying KM tools and techniques in the libraries of Bangladesh? What are likely to be the means or ways to overcome those difficulties? This study shows that document management is the highly used KM tool used in the libraries in Bangladesh followed by intranet, telephones, instant messenger, groupware, digital warehouse and web conferencing. Results also reveal that the use of KM in LIS supports improve access to information resources and services enriched professional knowledge of information professionals, enhanced environment and culture of knowledge sharing and changed work behaviour of information professionals.

2.3 Knowledge Management in Industrial Library:

Abram, S. (1997): Author argues that special librarians are not fact keepers but “catalysts in the knowledge continuum”. This paper examines special librarians, the information business and knowledge management; the knowledge continuum (data, information, knowledge, behaviour) and strategies for successful “transformational librarianship”: organizing information, learning organizations, turning information into knowledge, learning the tools. Lists selected knowledge management Web sites.

Razzouki, N. H. J. (2004): As we live in the Knowledge Management (KM) era of today, the e-learning revolution, doubtless, will complement the conventional learning system. Based on that, sooner or later e-learning through the Internet, e-class, e-chalk, CDs, mobile technology, or any other e-tools will become a common practice to most organizations. While KM, from the other side, is concerned with transforming tacit knowledge which reside in the heads of the experts to explicit knowledge so that it can be stored, processed, utilized, etc. Such transformation exists through discussion, meeting training, learning, and in job communication. In such a case, the integration is necessary for both following up the new knowledge and utilizing it all over the organization's members.

Singh, M. D.; et. al. (2006): Knowledge Management (KM) involves strategies and processes of identifying, capturing and leveraging knowledge to enhance
competitiveness. The new world of knowledge-based organizations is distinguished from the organizations of the last millennium by its emphasis on monitoring and controlling the organization by shared knowledge derived from internal and external data sources. The paper is to understand the KM practices in Indian manufacturing organizations, which are going through a major transition. This is a postal survey for 71 industries. Culture and financial constraints are amongst the highest ranked barrier for KM implementation.

Wang, L.; Liu, X. (2007): This paper explores determinants of knowledge transfer in the process of university-industry cooperation. This paper constructs knowledge transfer theory model from five aspects: university transferring knowledge factors, firm receiving knowledge factors, knowledge ambiguity, mutual technology matching and interactive factors (i.e. trust and communication). Data from 169 research project groups in China is collected, and empirical research is conducted. Through statistical analysis, it is found that, from the view of university knowledge transfer factors, distinct positive correlative elements to knowledge transfer effect are university knowledge transfer ability and experience. From the view of firm receiving knowledge factors, distinct positive correlative element to knowledge transfer effect is firm's knowledge receiving experience. Knowledge ambiguity is distinct negative corrective element to knowledge transfer effect, and mutual technology matching is weakly positive corrective element to knowledge transfer effect. From the view of interactive factors, trust and communication are distinct positive correlative elements to knowledge transfer effect.

Pillania, R. K. (2008): Knowledge creation is important for Small and Medium Size Enterprises (SMEs). Indian automotive components sector is one the fastest growing sectors of Indian economy and is dominated by SMEs. This paper seeks to study the knowledge creation and categorization in SMEs in Indian automotive components sector. Knowledge about customers is given most importance. Research and development spending on knowledge creation are very low. International automotive components manufacturers have a better perception about knowledge creation compared to the prevalent view in Indian firms.

Chawla, D; Joshi, H. (2010): This paper is to study Knowledge Management (KM) implementation in Indian manufacturing, Information Technology (IT) and IT Enable
Services (ITES) and power generation and distribution companies. Various aspects of KM, namely: leadership, process, culture, technology and measurement are compared across the three industries to understand the differences in KM practices. Statistical difference is found on the remaining two aspects namely, leadership and measurement.

Sharma, A. K. (2010)\textsuperscript{33} : The library will play a very crucial role in the extension and modification of knowledge. The growing need for Knowledge Management (KM) has influenced every component and operation of a library. KM requires more effective method of information handling, speedy transfer of information and linking of information with individuals and their activities. It demands library patron centred development of information systems and services and customization of information at the individual level. Libraries have been thought of as being expert at collecting and organizing published information. This paper is intended to be an overview to assist KM in relevance for library and information science professionals. Development of information technology and its application in Library and Information Centres, the concept of document management has been changed to information management and again the entire scenario of information management has started its change of KM. This mainly focuses on the concept of KM and the role of library and information professionals in managing the knowledge and information in the digital environment. It also highlights the importance of library and information professionals in the organizations such as knowledge creation, acquisition, preservation and sharing knowledge and information. This paper also describes the development and use of information and communication technologies (ICT) in the library and information centres.

Nazim, M.; Mukherjee, B. (2011)\textsuperscript{23} : This paper explore library professionals’ perceptions of Knowledge Management (KM) concepts, its applications and their perceived challenges to incorporate it into academic library practices. It is done through review of literature and the results of web-based survey of sixty-four library professionals of thirty academic libraries in India. KM is familiar to most library professionals but the ways of knowing and their understanding are varied. They primarily focused on management of explicit knowledge and their roles were perceived as basic information management activities. Professional education and training programs, community of practices, information technology and knowledge sharing were identified as the important tool of KM in academic libraries. Misunderstanding of KM
concepts, lack of knowledge sharing culture, top management commitment, incentives and rewards, financial resources and IT infrastructure are the major challenges faced by library professionals to incorporate KM into library practices.

**Hui C.; et. al.(2012)**: This paper reports on a research project that aimed to identify the different aspects of knowledge management (KM) in the software (SW) industry sector. The study employed an inductive qualitative approach based on a single case study of a successful SW development company in Taiwan. The company was selected as it is already explicitly using knowledge sharing (KS) through story telling in their practices. The findings of the study show that it is tacit knowledge that is more difficult to share and that this type of knowledge is of a very different nature depending on the stages of design and development. The study showed that tacit knowledge in the SW process ranges from very soft skills of dealing, dialoguing and negotiating with users to the very technical aspects of programming. This clearly represents a serious challenge to professionals in this sector and requires inclusive KM and KS processes based on an in-depth understanding of both the process and tacit knowledge involved. This paper aims to provide an extended and revised taxonomy and model for KM and KS in the sector.

**Nazim, M.; Mukherjee, B. (2013)**: This paper is to identify and validate the competencies perceived to be essential for Library and Information Science (LIS) professionals keeping in view the need of Knowledge Management (KM) application in Indian academic libraries. The study found a minor difference in the man scores of five categories of competencies, but all the competencies were validate as needed. Respondents of this survey were of the opinion that development of competencies in the field of management by LIS professionals is the most essential requirement for effective application of KM in Indian academic libraries. This study provides guidelines to modify existing LIS curricula or LIS educational programmes to impart skills and competencies as validated by the academic community.

**Vasudevan, H.; Chawan, A. (2014)**: The purpose of this research work is to explore various insights on Knowledge Management (KM) in the Indian manufacturing Small and Medium Scale Enterprises (SMEs). This study also includes a brief review of KM practices in SMEs and covers various barriers to KM. It concludes that the in-depth study of market orientation, which is one of the subsets of KM, learning from consultants, attending conferences/workshops outside India specific on a particular topic
& subtopic of manufacturing processes, extensive use of internet and frequent interactive sessions with employees are seen as key driving factors of KM. This research study also suggests few managerial implications for owners of SMEs for the effective use of KM in their organizations.