Chapter II
Review of Literature

2.1 Introduction

The needs of the users are not similar or identical, may be it for updating their knowledge for their professional interest or for academic, research and practice. Each user is trying to identify their gap in knowledge and detect connections and relations between different research results. There are many studies about the awareness towards the open access sources and services, attitude towards the open access sources and services, sharing of education resources, opinion on open access vs. commercial publishers and role of libraries. Also, many studies have found that library facilities are directly influenced by the user’s perceived needs and retrieval activity of the libraries. All these finding of the studies are treading the primary aim of the library to gather and organize information resources taking into consideration of users need and approach. Majority of the studies, generally agree that the library exists primarily to serve the needs of the users of its own institution, mostly for academic, research and clinical needs.

In general awareness and attitude towards open access sources and services is proportionately varied from one to another. Primary requirement of information resources for management professionals are dependent on their academic and research. The management college libraries, in a sense, are like a special library, as part of an institution, concentrate on particular subject(s) and rely heavily on materials such as textbooks, reference books and journals including manuals, colour atlas and drug information. To serve the users, librarian has to understand how users acquire information and frequency of use (library statistics) for various purposes in the professional activities.

2.2 Grouping of review of literature

The investigator has made an attempt to collect literature on the field of information seeking and search behavior. He has consulted several primary and secondary sources
of information for review of literature pertaining to the study. The important sources consulted for this purpose are Library and Information Abstract (LISA), LISTA, EMERALD and Internet sources. He has also scanned many printed national and international journals and books related to the study. The review of literature has been presented under the following subsections:

- Section I: Scholarly communication
- Section II: Open Access and Open Access Initiative
- Section III: Awareness regarding open access
- Section IV: Attitude regarding open access
- Section V: Open access vs commercial publishers
- Section VI: Role of librarians and library services regarding open access
- Section VII: Open access and other issues

2.2.1 Section I: Scholarly communication

Scholarly communication can be defined as “the system through which research and other scholarly writings are created, evaluated for quality, disseminated to the scholarly community, and preserved for future use. The system includes both formal means of communication, such as publication in peer-reviewed journals, and informal channels, such as electronic listservs (Association of Research Libraries, http://www.arl.org/focus-areas/scholarly-communication).” In this section studies regarding scholarly communication have been briefly reviewed by the researcher.

Hess and Hoerndlein (2015) found that rather than open access being the cause of the apparent and impending collapse of the scholarly publication industry, it is but one driver of a far wider change in scholarly publication. “That change will have effects that extend well beyond the simple decision of whether a publication should be available by subscription or by one of the forms of open access”. Kingsley and Kennan (2015) explained that “almost without exception, the rebuttals from the information systems researchers take an analytical approach to the question of scholarly communication in their field. As researchers in the field of scholarly
communications, while this was not how authors originally envisioned the debate, the rebuttals as a body of work have opened up some interesting themes, which authors explored in addition to responding to the individual rebuttals”. Doorenbosch and Sierman (2011) suggested that “the nature of publications in scholarly communication is changing. Enhanced Publications and Collaborative Research Environments are new phenomena in scholarly communication using the wide range of possibilities of the digital environment in which researchers and their audience act. This rapidly changing digital environment also affects long term preservation archives”.

Frandsen (2009) mentioned that greatest number of open access journals (OAJs) is found in the sciences and their influence is growing. However, there are only a few studies on the acceptance and thereby integration of these OAJs in the scholarly communication system. “Even fewer studies provide insight into the differences across disciplines. The multivariate linear regression reveals many similarities in citing behaviour across fields and media. But it also points to great differences in the integration of OAJs. The integration of OAJs in the scholarly communication system varies considerably across fields”. Johnson and Roderer (2008) analysed American Society for Information Science and Technology's (ASIS&T) scholarly communication survey and open-access journals. “It is stated that the establishment of open access journals serves as the answer for open access to information which is a crucial and relevant discussion in the field of library and information science.” Yiotis (2005) indicated that the crisis in scholarly communications and the reforms that OA can bring about in this regard are discussed. “The two systems for delivering research articles evolved by OA are: OA archives or repositories and OA journals. OA journals differ from the OA archives for the peer review conducted only by OA journals. In the academic and research community scholarly communications crisis has become a major concern”. The scholarship process depends upon the free exchange of information, distributing the latest research findings and preserving them for future use. Increased federal spending in support of higher education brought about an explosion in scholarly research and information in the 1960 and 1970. Electronic files were used by the scientific community for archiving scientific literature in 1994.
Correia and Teixeira (2005) analysed the continuing evolution of scholarly publishing, leveraged in the last decades by the tremendous potential of Internet technology. “The authors introduced “self-archiving”, the broad term often applied to the electronic publishing of author-supplied documents on the World Wide Web without commercial publisher mediation, and examined its impact on scholarly communication along with the Open Access Movement. The intensity of self-archiving and its pivotal role in scholarly communication is put into perspective through reference to some self-archiving initiatives set in motion in several countries”. Finally, the authors conclude by outlining the challenges for information managers in developing the full potential of Open Access. Prosser (2003) mentioned that current model of scholarly communications fails to meet the information needs of researchers world-wide. New technology (in particular the coming of the internet) allows us to revise or to reinvent scholarly communication. “The study discussed the new models that are taking advantage of the new technology and describes a possible future for scholarly communications. In particular, he focused on the development of institutional repositories and open access journals and the way their interaction could result in a future where the world's research is available to all”.

From the above it is evident that the environment of publications in scholarly communication is shifting. Electronic files were used by the scientific community for archiving scientific literature from 1994. But still number of open access journals (OAJs) was not found in the all subject categories. Some of the authors explained that research outputs should be available by subscription or by one of the forms of open access to users. So, scholarly communications crisis had become a major issue.

2.2.2 Section II: Open Access and Open Access Initiative

2.2.2a Open Access

The open access publication refers to the free availability of any scholarly literature and information without any access restrictions or fees (Johnson, and Roderer, 2008). In the following paragraphs, the researcher has made an attempt to comprehensively review the studies related to the topic mentioned above.
Moorhead et al. (2015) found that “those working in health fields will utilize more research in the course of their work as a result of (a) increasing open access to research, (b) improving awareness of and preparation for this access, and (c) adjusting public and open access policies to maximize the extent of potential access, through reduction in embargo periods and access to pre-policy literature”. Snijder (2014) found that no evidence that channel use was influenced by user groups or the state of users' Internet infrastructure; nor was any effect on channel use found for either the language or the subjects of the monographs. The results of his study shows that “most readers are using the "direct download" channel, which occur if the readers use systems other than the OAPEN Library Website. This implies that making the metadata available in the users systems, the infrastructure used on a daily basis, ensures the best results”.

According to Islam and Akter (2013) nowadays, open access (OA) in its diverse forms constitutes the most interesting and promising model for the research output of an academic or research institution. The authors was discussed the situation of OA in the developing world, with a focus on Bangladesh. “It is rather obvious that developing countries have always faced a lack of research information and were unable to afford sufficient subscriptions to journals. The other side of the picture is the poor dissemination of the research outcome in the developing world. In Bangladesh, only three organizations have their institutional repository and have a reasonable number of local OA journals”. Fabian (2013) explained that “the issue of open access has not been given appropriate attention in the Czech Republic. Therefore, most of the important activities have only recently been implemented, or are still underway. Open access is still being completely ignored at the level of Czech state offices and funding agencies, which leads to scientific institutions learning of this phenomenon individually. Compared to other Central European countries, the Czech Republic can be classified as average in certain respects, but it is no competition for developed West European and North American countries in terms of awareness, infrastructure and open access adoption”.

Jandoo (2012) found that “open access benefits researchers, innovators, teachers, students, media professionals, and the general public. It promotes global knowledge
flow for the benefit of scientific discovery, innovation, and socio-economic development. Open access journals are the ones which are available online to the reader without financial, legal, or technical barriers other than those inseparable from gaining access to the internet. Some of these scholarly journals are subsidised, and some require payment”. **Kumar et. al. (2012)** revealed that “India is continuously contributing in open access literature as some of the premier institutions, particularly in the agriculture sciences. The position of India in terms of number of journals in the Directory of Open Access Journals (DOAJ) is 5th and in Directory of Open Access Repositories (OpenDOAR) India has 11th place in the world repository”. **Tahira (2011)** explained “digital access culture of scholarly community. According to author these are not considered extremely important and nor, are fully exploiting. Yet both open access and subscribed resources are playing important and complementary roles in meeting the needs of this community. There is no significant difference that exists regarding the importance, use of both modes and adequacy level of subscribed sources among faculties”.

**McKay (2011)** found that “for many scientists and medics, especially those in lower-income countries such as sub-Saharan Africa, access to the latest research can be limited and restricted. In this age of technology sometimes users needs to pay to access research publication. To aid both the economic development of developing countries and to ensure a complete scientific record, scholarly research must be made freely accessible -- open access (OA) publishing provides free, immediate and permanent online access to the full text of an article, presenting researchers with easily accessible high-quality scientific resources essential to the rapid and efficient global communication of research findings”. **Dulle and Minishi-Majanja (2011)**, found that support for the application of the Unified Theory of Technology Acceptance and Usage (UTAUT) model in studying the adoption of open access in a research environment. Among the findings, attitude, awareness, effort expectancy and performance expectancy were established as the key determinants for the researchers' behavioural intentions of open access usage. Similarly, age, awareness, behavioural intention, facilitating conditions and social influence were found to significantly affect researchers' actual usage of open access. These factors should therefore be taken into account in the planning and implementation of open access projects.
Ngah (2010) described “the growth of Open Access (OA) repositories and journals as reported by monitoring initiatives such as ROAR (Registry of Open Access Repositories), Open DOAR (Open Directory of Open Access Repositories), DOAJ (Directory of Open Access Journals), Directory of Web Ranking of World Repositories by the Cybermetrics Laboratory in Spain and published literature. The performance of Malaysian OA repositories and journals is highlighted. The strength of OA channels in increasing visibility and citations are evidenced by research findings”. Chen (2010) explained that “online resources and references were ranked the first choice by the participants when searching for familiar and unfamiliar topics. The investigator found that participants' academic ranking status, frequency of e-mail use and academic discipline were related to their use of online databases, web-based information and directing students to information from the Web. Although the participants might often use online resources for research and teaching, Wikipedia's credibility was the participants' major concern”. Koch, Mey and Mruck (2009) mentioned in their study that the internet became part of everyday life of researchers, and so did retrieving articles, available for free -- nevertheless active usage (publishing within an open access paradigm) still seems to be an exception. “Possible reasons for this reservation are persisting prejudices about open access: most respondents expect impact and reputation of journals on the side of closed-access journals”.

Greyson et. al. (2009) explained that open access (OA) is one method being employed to maximize impact. OA articles are online, free to access and use. The author contributes to the growing body of research exploring the "OA advantage" by employing an article-level analysis comparing citation rates for articles drawn from the same, purposively selected journals. “Adjusting for potential confounders (number of authors, time since publication, journal, and article subject), we found that OA archived articles were 60% more likely to be cited at least once and, once cited, were cited 29% more than non-OA articles”. Frias and Travieso (2008) analysed open access, dissemination and the impact of information research in Spain. An exploratory study was carried out using data from the E-LIS repository and IN-RECS, which is a source of bibliometric data. The results show that in the Spanish field of information science the use of repositories and self-archiving is only just beginning. Therefore, it was not possible to establish a direct relationship between open access and the impact
of research for the period in question. **Lone, Rather and Shah (2008)** revealed that “India is continuously contributing in Open Access literature, particularly in the science and technology area, are providing Open Access to their research publications. The position of India in terms of number of journals in the Directory of Open Access Journals (DOAJ) is 7th, well ahead of countries such as China, Australia, and Japan and is sharing 10th position with the Sweden and Spain in Directory of Open Access Repositories (OpenDOAR) in terms of number of repositories in the world”.

**Nicholas, Huntington and Jamali (2007)** analysed the impact of this move to OA on the use and users of the journal. Surprisingly the findings showed that “although there was a 143% increase in use from early 2003 to January 2005, it was search engines and robots that accounted for a high proportion of the increased use. Robots were responsible for half of sessions in the second quarter of 2005, compared to 1% in the second quarter of 2003”. **Poynder (2005)** mentioned that the growing conviction that scientific progress will significantly benefit if scholarly articles and research papers are made freely available on the World Wide Web has given rise to the Open Access (OA) movement. “While there is some awareness that OA articles may require digital rights management (DRM), there is currently only low-level interest in the topic, with many OA advocates maintaining that it has no relevance to OA”.

**Gadd, Oppenheim and Probets (2003)** conducted study on 542 academic authors as to how they expected to use open-access research papers. The author concludes that “academics-as-users do not expect to perform all the activities with open-access research papers that academics-as-authors would allow. Thus the rights metadata proposed by the RoMEO Project would appear to meet the usage requirements of most academics”. **Bolman (2003)** explained that “the access situation has improved dramatically over the past 7 years and that there is little evidence that the current players (authors, readers/users, librarians, publishers, etc.) were dissatisfied to such an extent that the Open Access revolution will fill the deeply felt need it claims to do”. **Umstatter and Rehm (1982)** carried out study at Ulm university library into the frequency of use of open access periodicals. Among an international range of 60 publications, the latest editions were each found to be used, on average, once every 5
days. “The periodicals located at eye-level were found to be the most used, so those most rarely used can be placed near the ground. These statistics were compared with citation frequencies in Science Citation Index, thus revealing the 6 periodicals most in demand and those of limited interest. If literature stocks have to be stored in several different places, this type of investigation can reveal the most suitable storage place for each item”.

Though studies are reviewed plenty above, there is a dearth of studies from Indian scenario, as the researcher could get only few studies even after a thorough search in the literature. This clearly brings out a need for such studies in Indian context. The result of the studies shows that while there is some awareness that OA articles may require digital rights management (DRM). Open access are playing important role research community. Now it is getting boom at present days.

2.2.2b Open Access Initiative

Open access initiative means plan to promote open access at any place. In the following paragraphs, the researcher has made an attempt to comprehensively review the studies related to the open access initiative.

Steele (2014) explained that “the stop-start nature of early initiatives demonstrates that institutional leadership is essential for the successful deposit of academic content in an institutional repository. Similarly, OA policies from the two Australian Research Councils were delayed for nearly a decade, partly due to publisher pressure and bureaucratic conservatism. More successful has been the development of full, or hybrid, open access university e-presses. These presses, usually embedded in the scholarly infrastructure of the university, provide monographic models for wider global consideration. Australian universities are now reflecting, partly through recent Research Council edicts and monitoring global OA developments, greater awareness of the need for action in scholarly communication change”.

Kusekwa and Mushowani (2014) found that “the current initiatives in the universities involved in this survey indicate that most universities in Zimbabwe are going to have institutional repositories that promote open access to information. Most
institutions in Zimbabwe are already working on putting open access policies in place in a bid to promote open access”. Pinfield et.al. (2014) reviewed the worldwide growth of open-access (OA) repositories, 2005 to 2012, using data collected by the OpenDOAR project. “Initial repository development was focused on North America, Western Europe, and Australasia, particularly the United States, United Kingdom, Germany, and Australia, followed by Japan. Since 2010, there has been repository growth in East Asia, South America, and Eastern Europe, especially in Taiwan, Brazil, and Poland. During the period, some countries, including France, Italy, and Spain, have maintained steady growth, whereas other countries, notably China and Russia, have experienced limited growth. Globally, repositories are predominantly institutional, multidisciplinary and English-language based. They typically use open-source OAI-compliant software but have immature licensing arrangements”.

Pinfield et.al. (2014) explained although the size of repositories is difficult to assess accurately, available data indicate that a small number of large repositories and a large number of small repositories make up the repository landscape. “These trends are analyzed using innovation diffusion theory, which is shown to provide a useful explanatory framework for repository adoption at global, national, organizational, and individual levels. Major factors affecting both the initial development of repositories and their take-up include IT infrastructure, cultural factors, policy initiatives, awareness-raising activity, and usage mandates. Mandates are likely to be crucial in determining future repository development”. Togia and Korobili, (2014) mentioned that “a total of 15 articles published in scholarly journals since 2002 (when the Budapest Open Access Initiative was released) were included in the study and five major themes emerged from their examination and analysis”. The literature indicates that attitudes and perceptions of OA are varied across countries and across disciplines. Free access, which is perceived to facilitate wider dissemination of research outputs, is a strong incentive for publishing in OA. However, quality and reputation are the most important factors in selecting a journal and take priority over the availability of free access. “Although OA is perceived to have many advantages over the traditional publication model, it raises some concerns too, especially in regard to the author-pays model, the quality of peer-review and the impact of the journals”.
Kocken Gregory and Wical (2013) stated that “small colleges and universities, often late adopters of institutional repositories and open access initiatives, face challenges that have not fully been explored in the professional literature”. Agyei and Pullen (2011) was mentioned in their study that mostly peer-reviewed articles published between the years 2000-2006 that discuss the Open Access (OA) Movement and its effects on the quality of scholarly communication were used. “The peer-review process was critically analyzed for the importance it plays in scholarly literature. The authors indicated that the present business model of the OA Initiative gives cause to doubt the quality of research articles published in the medium (OA). As much as advocates of the OA Movement do not approve of this opinion, they acknowledge this as a major challenge facing the movement”. Ludwig (2010) studied the faculty-initiated open access (OA) policy was adopted by the University of Kansas (KU) requiring faculty to make research articles available through its repository, KU ScholarWorks. This made KU the first public university in the United States to pass an institutional mandate for OA deposit. “The successful passage and revision of the OA policy can be attributed to three factors: leadership by faculty and for faculty in crafting the policy; strong institutional support for OA scholarship; and significant participation of faculty in educated discussion and debate about the implications of OA scholarship over time”.

Sawant (2009) was analysed the current scenario of open access journal initiatives in India. The author indentified that “all 178 open access journals were peer reviewed, indexed and abstracted in various indexing and abstracting services, listed with DOAR and O-Jgate”. Utulu and Bolarinwa (2009) were revealed in their study that the “respondents were aware of the pre-print and open access journal initiatives than the post-print initiative. In terms of the use of open access initiatives, although the study revealed insignificant use among the academics, academics in sciences showed more promise of adopting open access initiative as authors and readers of scholarly resources than their counterparts in the humanities”. According to the Christian (2008) “in a world of inequality, the open access initiative seeks to provide people all over the world (irrespective of where they live) with equal access to knowledge and information. At this study the author examined the concept of open access initiative from the perspective of the developing world, highlights the benefits developing
countries stand to gain from the open access initiative, as well as the obstacles to the realisation of the initiative, in the developing world. Further recommended that as to what governments, educational and research institutions in developing countries, as well as organisations and groups in developed countries, need to do in order to facilitate the realisation of the noble objectives of the open access initiative in the developing world”.

Silio (2005) described that both “the Open Archives Initiative (OAI) developed to facilitate the discovery of content stored in distributed archives by standardized metadata harvesting and interoperability; and the Reference Model for an Open Archival Information System (OAIS) created to ensure long term access and preservation of information, regardless of future technological changes”. According to Willinsky (2005) “a number of open initiatives are actively resisting the extension of intellectual property rights. Among these developments, three prominent instances: open source software; open access to research and scholarship; and open science; which share not only a commitment to the unrestricted exchange of information and ideas, but economic principles based on: the efficacy of free software and research; the reputation-building afforded by public access and patronage; and the emergence of a free or subscribe access model”. Banhegyi (2003) overviewed the issue of open archives and open access together with a survey of major initiatives in the field in Hungary and abroad. “The Open Archives Initiative was promoted at a Budapest conference in 2003. The goal was to encourage the academies of Central and Eastern Europe to claim back substantial rights of scholarship from commercial publishers and major database providers. Subsequent exploration is in 2 major areas; institutional repositories and the release of alternative electronic journals”. Machovec (2002) reported on the Budapest Open Access Initiative (BOAI), a shared statement signed by participants at an Open Society Institute (OSI) meeting in Budapest, Hungary, in Dec 2001. “The BOAI aims to make scholarly research more freely accessible over the Internet. It recommends the strategies of self archiving (providing scholars with the tools and assistance to deposit their refereed journal articles in open electronic archives) and alternative journals (launching a new generation of journals committed to open access). As price is a barrier to access, these new journals will not charge
subscription or access fees, and will turn to other methods for covering their expenses”.

The results show that scholarly world still in process to promote open access. The only few studies has done at India. According to some of the authors leadership is essential to demonstrates concept of open access. Most of the researchers have doubt about quality of articles which published in open access platform. So there is need of conducting research at this point. Some of the institutions/colleges/universities have begun to promote open access by implementing institutional repositories.

2.2.3 Section III: Awareness regarding open access

In the following paragraphs, the researcher has made an attempt to comprehensively review the studies related to the awareness towards open access.

Zheng and Yu Li (2015) found that “respondents indicated their willingness to publish in an OA publication. Being unaware of the IR deposit process stood out as the greatest barrier that accounts for the low IR participation rate at TAMU. In line with previous studies, copyright concerns, as well as the perception of IR contents as being of lower quality, are the second most significant barriers. Workshops or seminars on copyright, data management, and the IR are badly needed. Several participants appreciated this survey because it provided many web links to the resources mentioned for them to explore further, and as a result they learned a lot from the survey. Despite our best efforts to make faculty aware of the abundance of resources made available by the Libraries, it seems that our audience continues to remain unaware of some of our services and resources”. Reed (2014) tried to use findings to inform future OA marketing strategies to faculty. The author concludes that “the level of awareness related to OA issues must be raised. They ponder how university and college administrators regard OA publishing, and the influence this has on the tenure and promotion process”. Dechman and Sym (2014) reported that “collaborative research study from a small university. Twenty-seven faculty members were interviewed to determine attitudes and behaviors pertaining to using data in the classroom and whether easier access to secondary data allows for integration into a
broader range of courses. The results of the study was suggested a lack of awareness and skill deficits among faculty”.

**Hahn and Wyatt (2014)** conducted study on “business faculty were surveyed to determine their attitudes toward institutional repositories, disciplinary repositories, and open access journals. The majority of faculty was unaware of institutional repositories at their local institutions. However, approximately one third are using disciplinary repositories and are receiving encouragement from their departments to do so. Likewise, many faculty are unaware of open access journals. Open access journals are seen as lacking prestige and being lower quality publications in the business field due to the lack of prestigious publishers and editors. Many faculties believe their prestige would fall if they published in an open access journal”.

**Poulin and Tomaszewski (2014)** investigated the degree of indexing of gold open access (OA) journals within the field of communication studies in five major commercial bibliographical databases commonly subscribed to by academic libraries and used by researchers and students. Results of the study indicate that 32 percent of the 147 gold OA journals identified were indexed in the five target databases. The communication studies databases provided the most complete indexing, while among the multidisciplinary databases, Scopus provided more coverage, compared to Academic Search Complete and Web of Science. **Sahu and Arya (2013)** analyzed the growth of open access initiatives in India and researchers of IITs and IIMs in July-August 2012 through data collected from secondary sources, i.e. the websites of Ulrich’s, DOAJ, ROAR, and OpenDOAR. “The results showed that India's contribution has increased in the last few years. It was found that the awareness about such open access information sources and initiatives among the research community is increasing”.

**Kocken, Gregory and Wical (2013)** stated that “faculty members at University of Wisconsin-Eau Claire (UWEC) do not share the same level of awareness concerning open access and institutional repositories that was found in the existing scholarly literature”.

**Singeh, Abrizah and Karim (2013)** revealed that the “majority of academics in this study have no or little knowledge of, or experience with, institutional repositories and are unfamiliar with self-archiving opportunities. However most of them endorse the principle of Open Access and are willing to contribute content to an institutional
repository if an opportunity arises or if mandated by their funding institutions. Those who agree to self archiving see it to be beneficial in the author's life. The major barrier to self archiving is fear of plagiarism. In light of these results, there is a need to create more awareness and to educate authors on the importance of self archiving”.

Ivwighreghweta (2012) revealed that “majority of the respondents indicated overwhelmingly that they were not aware of open access journals. It was found that the attitude of the students towards the use of open access journal was low. The majority revealed that they do not like to reference, publish their work and print open access journals articles. Inadequate knowledge of the existing of open access journals in the internet was identified as one of the problems militating against the use of OAJ by undergraduate students in the selected departments in the Delta State University”.

According to Doorenbosch and Sierman (2011) “raising awareness of long term preservation in the research community is important because researchers are responsible for public dissemination of their research output and need to understand their role in the life cycle of the digital object. Researchers should be aware that constant duration and preservation actions must be undertaken to keep the research results fit for verification, reuse, learning and history over time”. Grgic and Barbaric (2011) explained that “the biggest problems are the lack of administration support and the researchers’ unawareness of the benefits of OA, especially OA repositories. Based on their research, some steps regarding OA could be done on a national level, e. g. guidelines for establishing OA repositories could be created and the obligation of self-archiving should be regulated. This research could be a valuable tool for developing new OA repositories”.

Fowler (2011) found that most “mathematicians have papers in the arXiv, but posting to their own web pages remains more common, a third of mathematicians have published papers in open access (OA) journals, with speed of publication being seen as the primary advantage over traditional journals, but there is substantial philosophical opposition to OA journal models that charge author fees, tenure and promotion criteria influence publishing decisions even among most tenured faculty members, mathematicians want to keep more rights to their publications than they have been allowed, but they have a high success rate in negotiating with publishers
for more and online collaboration tools, such as Google Groups, are not yet widely used for research but their use is expected to rise in the near future”. Mischo and Schlembach (2011) showed that “engineering faculty do not extensively publish in author pays Gold journals and had limited plans to do so in the future. In line with other studies, the survey revealed that there was a lack of familiarity with campus IRs and a very small uptake rate for depositing research output in institutional repositories”. Gul, Shah and Baghwan (2010) stated “the majority of the scholars consulted both open access as well as library-subscribed resources. Among the OA resource users, four-fifths consulted journals and two-fifths consulted books. Colleagues (57.14 per cent) were the main referral sources of OA awareness with the least intervention from library professionals. Scholars (95.23 per cent) retrieved OA content via search engines. About 21 per cent remarked above 60 per cent relevancy of OA content related to their research need. The majority of scholars considered OA useful to publish their work quickly, boost their productivity as an author and increase citations of their work. One third reported awareness of more than two OA journals. About 30 per cent reported OA journals as a source of publishing their work, whereas just 10 per cent deposited their works in OA repositories. Overall, Science scholars had the edge over their Social Science counterparts in acceptance of open access”.

Erturk and Kucuk (2010) mentioned that “the scholars are beginning to place their works into the open repositories or open access journals as well as their personal web sites. In the international arena, the open repositories contain a total of 14,000 Turkey-based scholarly contents. It was found that 50% of scholars are aware of the open access concept and 92% of the scholars are willing to place their works into the institutional repository of their university. According to study result, different types of works such as articles and assertions can be placed in the institutional open repositories in Turkey and their functionality can be increased in a short time”. Nwokedi (2010) indicated that “respondents were unaware of the existence the university's institutional repository as their major reason for not participating in the development of the institutional repository. It was therefore, recommended among others that the university's management through the Directorate of ICT unit in association with the university's library should continue to organize conferences, capacity building workshops and seminars to educate the lecturers on the relevance of
the institutional repository to the academic community. In this way, their knowledge of the open access institutional repository will be enriched and they will then be willing to contribute to the development of institutional repository in the university”.

Creaser et. al. (2010) found that “although there was a good understanding and appreciation of the ethos of open access in general, there were clear differences between scholars from different disciplinary backgrounds in their understanding of open access repositories and their motivations for depositing articles within them. This research forms the first part of a longitudinal study that will track the changing behaviors and attitudes of authors toward open access repositories”. Vlachaki and Urquhart (2010) found that “open access models vary considerably. The bibliometric research indicates that Greek biomedical publication is increasing, but that coverage of Greek medical journals in databases such as MEDLINE is decreasing. The picture is mixed with some evidence of open access journals (published in English) from Greek publishing bases. Awareness of open access among Greek biomedical scientists in date was comparatively low (58 per cent aware, n=70)”. Kennan (2007) found that “while there was a high level of engagement with scholarly publishing, there was a low level of awareness of, or concern with, either open access ('green' or 'gold') or the roles repositories can play in increasing accessibility of research. Practically, this indicates that much work needs to be done within this university to increase knowledge of, and change behaviours with regard to, open access and repositories if the university and its academics are to make the most of new funding requirements and research evaluation processes”.

Huntington, Nicholas and Rowlands (2004) found that “a low level of awareness of the OA issues; but that, with considerable geographical variations, attitudes to OA were generally positive, if uninformed. Older authors were more wedded than younger ones to the traditional print and subscription model”. Brown and Swan (2004) explained “awareness of open access journals among those who had not published in them was quite high; awareness of "self-archiving" was less. For open access journal authors the most important reason for publishing in that way was the principle of free access; their main concerns were grants and impact. Authors who had not published in an open access journal attributed that to unfamiliarity with such
journals. Forty per cent of authors have self-archived their traditional journal articles and almost twice as many say they would do so if required to”.

From the above literatures researcher found that there are only few studies conducted in India. According to the authors level of awareness related to OA issues must be raised. They had unawareness about benefits of open access. Many faculties thought that their prestige would fall if they published in an open access journal, but they are agree to self archiving but they have fear about plagiarism. Some of the authors assume that workshops or seminars or conferences can improve the level of awareness about open access, copyright and other related issues. Government bodies/University and its academics are to make the most of new funding requirements and research evaluation processes.

2.2.4 Section IV: Attitude regarding open access

Attitudes towards open access varied depend upon interest and knowledge. In the following paragraphs, the researcher has made an attempt to comprehensively review the studies related to the attitude towards open access.

Mammo and Ngulube (2015) explained on the whole, “they have a perceived positive attitude towards open access journals and would like to use them in the future. Moreover, they have been using open access journals as an alternative access model to the conventional journals subscription model; and yet to optimize the benefits of open access among academics, they expect university librarians to promote and enhance the accessibility of open access journals in their respective university libraries and in Ethiopia in general”. Bhardwaj, Raj Kumar and Madhusudhan (2013) mentioned that “majority of the respondents have stated that legal information available in open access resources are not organized properly and was a hindrance in usage”. Ogbomo and Iwighreghweta (2013) investigated the awareness, attitude, and level of usage of open access (OA) journals by master's degree students of the Department of Library, Archival and Information Studies at the University of Ibadan in Nigeria. “The study also looked at the benefits derived from using OA journals, the level of use of OA journals and the problems faced by students when using the OA
journals. The findings show that master's degree students frequently use OA journals and that they have positive attitude towards such journals. The study offers recommendations on how to increase utilization of OA journals”.

**Arndt (2012)** found that “doctoral students in New Zealand have low awareness of Institutional Repository existence, but positive attitudes toward Open Access Publication of their work”. **Sandhu (2012)** explained that “respondents' attitudes towards open access varied, but most agreed that open access resources are of high quality and that open access would benefit them. In helping researchers find open access information, more respondents had used open access journals than institutional repositories or self-archived materials. Some of the challenges faced by the student fraternity in accessing these resources have been enlisted and appropriate recommendations have also been given”.

**Manjunatha and Thandavamoorthy (2011)** revealed that “the majority of the science, technology and medicine scholars positive towards deposit institutional repositories and arts. However, the humanities and social science professionals are found to have a low level awareness of the institutional repository but were interested in contributing their research work to the University Institutional Repository and have a positive attitude towards providing free access to scholarly research results of their University”. **Mourad (2010)** investigated students' adoption of an open access online education service in higher education and their perceptions of its attributes as an innovation in an emerging market. The results indicated that, “besides the perceived attributes of the innovation being the main determinant of the students’ adoption of it, a number of internal factors within the university and external factors within the educational market in Egypt directly influence the adoption process”.

**Dulle and Minishi-Majanja (2009)** revealed that the majority of the researchers were positive towards open access. The author found that “the majority of researchers in Tanzanian public universities used open access outlets more to access scholarly content than to disseminate their own research findings. It seems that most of these researchers would support open access publishing more if issues of recognition, quality and ownership were resolved. Thus many of them supported the idea of
establishing institutional repositories at their respective universities as a way of improving the dissemination of local content”. **Abdullah (2009)** indicated that, as users, the academics wanted to find many more types of material in the repository and as authors, they were willing to deposit. Complete theses, post-prints and conference papers were acceptable to be deposited in the IR. “Respondents' support of open access principle and altruism in making their scholarly work publicly accessible were the most important motivators for the academics depositing their work, closely followed by the prospect of an increase in the accessibility of their work. The greatest deterrents were the ownership of copyrights and plagiarism. Findings indicated that faculty who planned to contribute to the IR in the future agreed with of the concept of open access and had a greater altruism in making their work publicly accessible”.

**Julibert (2008)** interviewed the employees about the advantages of information sharing and expressed the need for greater access to information as well as more open communication with colleagues. “The fear of disruptive intrusions to the creative process and the influence of personality and national culture on the willingness to share were raised by some interviewees. The participants' agree to information sharing with colleagues”. **Cassella (2008)** explained that open access discussion has dominated the STM field to date while in Arts and Humanities the scholarly approach to professional and intellectual practices has moved researchers away from Open Access ideas. In spite of this, Open Access is now a far full-grown movement and is suggesting new opportunities for scholars in Humanities. Author discusses such opportunities in relation to the Green and the Gold Road. “Researchers in Humanities can profit from retaining copyright, from publishing most of their articles or monographs with university presses as Open Access resources, comparing themselves in an international arena. Open Access offers new distribution and publication channels to out-of-print works and to first books by young scholars in Humanities. New collaborative scholarly writing and innovative peer-review systems can also be experienced and developed”. **Gayatri (2008)** indicated that faculty in business schools from different academic areas and teaching experience do use digital resources for scholarly publications and teaching material, they do indicate a knowledge sharing culture and tend to show a positive attitude towards the need and use of a Digital institutional repository. According to the Implementing the pilot
institutional repository using Open Source DSpace software was an experience and provided visibility to the institutional intellectual capital.

From the above literatures researcher found that scholarly world had positive attitude towards open access. The authors mentioned that open access sources are alternative access sources to the subscribed sources. The researcher’s access the open access outlets more frequently to disseminate their own research findings by searching at internet. The adequate information is available but open access sources are not organized properly. Further the authors agree to share their resources with others.

2.2.5 Section V: Open Access vs Commercial Publishers

In the following contents, the researcher has made an attempt to comprehensively review the studies related to the open access and commercial publishers.

Sato (2013) overviewed the background and the history of the open access (OA) movement, and summarizes current issues of OA. It has been revealed that “Gold OA is sustainable business model. Whereas Green OA with institutional repositories has not been a success, there are some successful examples with funder mandates for OA. In addition, funders, institutions and governments which mandate OA for researchers have been increasing. Commercial publishers adopt Gold or hybrid OA in their business and compete librarians for initiative of the OA movement. In this situation, availability of OA contents and embargo periods have been the issues of today’s OA movement”. Borrego and Fry (2012) found that published journal articles are by far the most popular type of source bookmarked, followed by conference proceedings and books. “Commercial journal publisher platforms are the most popular type of information resource bookmarked, followed by websites, records in databases and digital repositories. Usage of open access information resources is low in comparison with toll access journals. In the case of open access repositories, there is a marked preference for the use of subject-based repositories over institutional repositories”.

Berge (2012) explained that “sustainable development represents a different, qualitative economic, social and environmental evolution. In this very broad framework, the Open Access movement (OA) can be placed as a counter-movement, as a response to an out of control situation particularly the exorbitant prices for access
to the scientific information provided by some large commercial publishers”. To the extent that the two movements advocate a profound change, they continue even after their pioneering stage, to remain somewhat utopian within themselves.

**Little (2012)** explained that “new institutional repositories are being launched every month and the number of OA journals is growing at the same time that more and more commercial publishers are undertaking OA initiatives of one kind or another. In the meantime, librarians should be excited to start, manage, and promote their institution's institutional repositories. It speaks to our proven skills in organizing, disseminating, and preserving information and in forging partnerships across campus and beyond”. **Kuhlen (2010)** found that open access is an appropriate means for institutionalizing knowledge as a commons in electronic environments. Both monopolistic commercial information markets and copyright regulations are disabling rather than enabling factors in the open and free access to knowledge and information that is necessary in science and education.

**Du et. al. (2010)** found that “outlined are the measures taken by international academic institutions and libraries, such as Max Planck Society (MPS) and Yale University Library, to resist the escalating price of journal databases developed and printed journals published by commercial and OA publishers, as well as problems found in OA models. The conclusion made by the authors is that OA model has become the inevitable trend in academic publications and further study is needed on problems such as finances”.

**Harris (2009)** found that “open access (OA) to scholarly information has been the subject of considerable debate. Subscription publishers might disagree that OA is a viable business model, while commercial OA publishers have an opposite view. Some researchers propose self-archiving as the best solution for providing access to everyone, even though they may differ on the best place to do this archiving. The US House Science and Technology Committee Roundtable on public access hopes to resolve the many issues causing the OA standoff by formulating recommendations that should satisfy the middle ground. The group includes representatives from across the industry -- publishers, libraries, and the academic community -- and represents the diverse viewpoints on OA”. According to **Murphy (2009)** just over two years, in the
heart of the Nordic countryside, three women embarked on a new venture: to launch a journal publisher and consultancy service. As well as its all-female founding team and base away from any established commercial or publishing hub, the new publisher, Co-Action Publishing, has bucked tradition by opting for the open-access (OA) publishing model.

Bjork and Hedlund (2009) found that “the slow growth can to a large extent be explained by the fact that open access has predominantly emerged via newly founded journals and startup publishers”. Established journals and publishers have not had strong enough incentives to change their business models, and the commercial risks in doing so have been high. In this paper the authors outlined and discussed two different scenarios for how scholarly publishers could change their operating model to open access. The first is based on an instantaneous change and the second on a gradual change. The author proposed a way to manage the gradual change by bundling traditional "big deal" licenses and author charges for opening access to individual articles”. Matsubayashi (2009) indicated that “more than 70% of the OA articles were provided through journal websites. Mid-rank commercial publishers often provided OA articles in OA journals, while society publishers tended to provide OA articles in the context of a traditional subscription model. The rate of OA articles available from the websites of individual authors or in institutional repositories was quite low. In 2005, OA in the biomedical field was achieved under an umbrella of existing scholarly communication systems”. Typically, OA articles were published as part of subscription journals published by scholarly societies. OA journals published by BioMed Central contributed to a small portion of all OA articles.

Rodriguez (2008) presented that together with interests associated with this model and with commercial publishing. It was found that “the initiatives, declarations and projects of Open Access favour the unrestricted access to information by the scientific community”. Joint (2008) mentioned that developments in the research landscape have important effects on grass-roots LIS practice, and have given a great boost to open access repositories while preserving the traditional role of commercial journal publications. “This complementary relationship was completely unexpected at the outset of the open access movement, which was specifically intended to reduce the importance of commercial journal publications”.

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Masango (2006) explained that “commercial publishers in the digital environment have introduced licences to govern licensed digital content; scholars believe that the introduction of licences to govern licensed digital content flavours the interest of commercial publishers and may result in reduced access to information. Among the possible solutions found is to promote initiatives aimed at giving free access to digital information, this is known as "open access". Robinson (2006) reported that “a commercial publisher's comments on open access and argued for a delicately balanced system that allows research published in journals to flow rapidly and efficiently to the organs that need it. He supports a process of evolution and a spirit of experimentation. He cites the need to safeguard what currently works well and to ensure that neither sustainability nor quality is compromised”.

Form above studies researchers found that commercial publishers are trying to adopt Gold or hybrid OA in their business and restriction periods have been the major issues of at present OA movement. According to the authors commercial publishers disagree that OA is a viable business model. Mid-rank commercial publishers often provided OA articles in OA journals. Too much of rules and regulations of commercial publishers may result in reduced access to information.
Role of libraries and library services is more important to promote open access concepts. Libraries are heart of the any institution/colleges/universities. In the following contents, the researcher has made an attempt to comprehensively review the studies related to the Role of libraries and library regarding open access.

Clobridge (2015) explained that “open textbooks refer to peer-reviewed textbooks that are available online for free and are released with a Creative Commons or other open license. Libraries have a role in helping to raise awareness and facilitate discovery of open textbooks. While there has been an increase in interest and pockets of activity around open textbooks, adoption has generally been slow without a targeted push such as the one at Tidewater Community College”. Todd (2014) identified three major needs: “1) Expanded LIS education in Micronesia (particularly at the graduate level), 2) Increased awareness and inclusion of island modes of communication in library and archival services, 3) Expanded opportunities for academic publication and research through the establishment of an Open Access journal of Micronesian Library and Information Science”. Dechman and Syms (2014) found that “librarians interested in working with faculty in supporting and promoting the use of open data online analysis, along with traditional quantitative data services in the social sciences and professional disciplines”.

Paul and Singh (2014) found that based on the primary goal of libraries, i.e. to increase their global visibility and the ultimate purpose of such digital projects is to provide greater access to their collections to promote research activities. The paper summarized that “increased accessibility is the most preferred objective; content value is most preferred criterion for digitization. The paper further identified factors that motivated users to use digital resources”. Allen and Weber (2014) explained that “reference lists of 382 students were collected between 2005 and 2013, and reviewed for inclusion of articles from open access journals. Of 594 unique journal titles, 68 (11.45 percent) were available under various open access conditions. Findings suggest that graduate students are using both library collections and Web crawlers to satisfy literature search assignments when not directed to specific portals. Consequently, librarian knowledge of open access empirical literature may be of much value when
providing resource instruction within the current information environment”. Ezema (2014) found that “15 local content materials were identified as relevant for publication in institutional repositories. Similarly a major method of acquiring these local contents is by encouraging staff to deposit their publications in the university libraries. It was also found out that providing a subject index to the local contents and their digitization were effective methods of organizing the materials for the institutional repository. The findings also showed that an increase in the visibility of the authors, promotion of university ranking and efficient dissemination of research findings were among the benefits of publishing in institutional repositories”.

Chukwusa (2014) mentioned that rationale for the study is to ascertain the state of necessary electronic infrastructure that are available in academic libraries in Delta State, Nigeria which would be used to support Open Access to Literature Initiative. The research method adopted for the study was the descriptive survey design. The instrument for data collection was the questionnaire. “The population consisted of 66 Librarians (those working in dedicated IT units in the libraries). No sample was used because the population was small. The study revealed that a majority of the respondents are aware of the essential electronic infrastructure which will enable them benefit maximally from Open Access to Literature Initiative (OALI); and e-infrastructure facilities are available but in a poor state among others. The scheme is laudable considering the fact that libraries would be assisted in their collection development activities. This implies that funding bodies of libraries have much to do in term of making provision for the sustenance of OAI through adequate funding”. Reinsfelder and Anderson (2013) indicated that “according to the perspective of librarians, as academic administrator attention to open access increases, open access activities of faculty and librarians also increase. Open access advocates should reflect upon the role of academic administrators and consider increasing efforts to gain the support of these individuals”.

Igwe, Oyewo and Yusuf (2013) explained that “academic and research libraries (ARLs) are established to support the mission and goals of their parent institutions in the areas of teaching, learning and research, through the provision of information resources and information services. One major way these (ARLs) have been executing their functions is through subscriptions to serial publications, especially scholarly
journals in different fields of knowledge. However, due to inadequate funding, and continuous rising cost of many journals, these libraries have not been able to maintain constant annual subscriptions in order to meet the ever-growing information needs of their users such as lecturers, researchers, scholars, postgraduate students, undergraduates and administrative personnel”. Potvin (2013) considered that “open access (OA) training and the supports and structures in place in academic libraries in the United States from the perspective of a new librarian. OA programming is contextualized by the larger project of Scholarly Communication in academic libraries, and the two share a historical focus on journal literature and a continued emphasis on public access and the economics of scholarly publishing. Challenges in preparing academic librarians for involvement with OA efforts include the evolving and potentially divergent nature of the international OA movement and the inherent tensions of a role with both principled and pragmatic components that serves a particular university community as well as a larger movement”.

Nariani (2013) explained that “faculty awareness about the CIHR Policy on Access to Research and about their familiarity with PubMed Central Canada, the federal open access repository. Researchers were asked to rank search and browse features that would be helpful while using PMC Canada. The study recommends academic librarians to play an active role in promoting open access repositories and informing faculty members about policies on access to research as stipulated by grant funding agencies”. Hansson and Johannesson (2013) indicated that “attitudes are often in collision with practicalities in the daily work in libraries. Even though they have a high degree of knowledge and awareness of scholarly publication patterns, librarians often feel insecure in the approach of researchers. There is a felt redirection in the focus of academic librarianship, from pedagogical information seeking tasks towards a more active publication support, a change which also includes a regained prominence for new forms of bibliographical work. Although there are some challenges, proactive attitudes among librarians are felt as being important in developing further support for researchers' publishing”.

Keane (2012) explained that “efforts by individual librarians and advocacy groups over the last ten years have resulted in greater awareness about Open Access. In recent years, some academic libraries have begun to raise awareness among both
graduate and undergraduate populations. Through an online survey distributed to scholarly communications and e-resources listservs, this article documents some of the ongoing efforts now underway, and gauges how widespread the support is for similar initiatives. Both the literature review and survey responses underscore the importance of e-resource management tools to librarians involved in Open Access initiatives”. Ivwighreghweta (2012) concluded in their study that “heads of departments such as the one under study, the library and other stakeholders should intensify efforts in the creation of awareness of existing open access journals which can be achieved through workshops/conferences”.

Ikeda (2012) mentioned that “grey literature is said to be difficult to obtain through commercial publishers. Recently, with the spread of institutional repositories, grey literature is often published on the Web and its full text is open to the public, and is easily accessible. Yet, the accessibility of grey literature has not been fully resolved. The author indicated that there are still many challenges in this field, and also indicates that stable access to the sources on the Web is not always guaranteed. It is concluded that the expertise and experience of a librarian should be leveraged to get solutions regarding the accessibility of grey literature”. Hagerlid (2011) concluded in their study that “a national library can successfully act as a catalyst for closer cooperation between the main bodies of research and research libraries in advancing an Open Access agenda and developing a digital research information infrastructure. This is because it is usually placed directly under the government and thus closer to national policy making. It is often perceived as unbiased in relation to the different interests of the various parties involved. It is also able to advance development projects into sustainable services”.

Okoye and Ejikeme (2011) found that “librarians were aware of institutional repository, scholarly publication and open access journals. However, only 13.33% have published in open access journals. Five (11.11%) of respondents did not agree that librarians are familiar with vendor licensing and copyright laws”. Ngah (2010) proposed that “libraries champion OA initiatives by making university or institutional governance aware; encouraging institutional journal publishers to adopt OA platform; collaborating with research groups to jumpstart OA institutional initiatives and to embed OA awareness into user and researcher education programmes. By actively
involved, libraries will be free of permission, licensing and archiving barriers usually imposed in traditional publishing situation”. **Marsalis (2010)** reported that “easy access to online resources, and a strong preference for conducting research online, even when access to a physical library is convenient. Infrequent visits to the library predominantly took place to utilize materials not available online, although the third most common answer for visiting was to take advantage of the library building as a quiet reading space (14%). Additional questions revealed both type and specifics of most popular sources for research, preferred journals, current awareness tools, reasons for choice of journal for publication, and use of bibliographic management tools. The research community are taking advantage of the developing online arena, utilizing databases for research, as well as literature searching, access to journals and conference proceedings, and to keep abreast of current research”.

**Martin (2010)** mentioned that “academic libraries are eager to orient patrons to free and open access materials in their databases, digital repositories, and Web sites. These materials Include journal literature, textbooks, and open educational resources. Discovery of open access content has been improved by catalogs that index open metadata and link resolvers that point to quality Internet resources. Librarians and staff save patrons time and money by helping them find open course materials and scholarly works, and the library benefits from reduced subscription costs and by promoting local intellectual capital. Nevertheless, finding these materials is still a challenge”. **Palmer, Dill and Christie (2009)** reported on the results of a national survey conducted in the summer of 2006 of academic librarians' attitudes toward open access principles and related behaviors. While attitude responses were largely positive, there were differences in levels of support related to respondents' job descriptions and funding of open access activities. “Surveyed librarians appear to be more comfortable with tasks that translate traditionally held responsibilities, such as educating others, to the open access environment. Most significant is the discrepancy between stated support of library involvement in open access initiatives and significantly lacking action toward this end. The results offer insight into how open access proponents may better focus their advocacy efforts”.

**Kersting and Pappenberger (2009)** found that “the library of the University of Konstanz offers an institutional repository as an open access publication platform and
hosts open journal systems for open access journals. “High-level support and consultation for open access publishing at all administrative levels is provided. The integration of the local activities into national and international initiatives and projects is pursued for example by the joint operation of the information platform open-access.net”. Pile'rood (2008) aimed at investigate the degree of information literacy of academic staff of departments of librarianship in government and non-government universities in Tehran and its effect on their creation of scientific information. A sample of 56 academic staff in librarianship departments formed the research population and data was collected by means of a questionnaire that consisted of 28 open questions. Results also revealed that “the research population needed education in using electronic sources. Most of the respondents felt they needed training in searching internet resources. They used keywords for searching and information retrieval, and used databases and the Internet to access information. They could use English language in their academic work while mostly published in local journals. Their most important problem in accessing information was declared insufficiency of information sources”.

Zhang (2007) found that “while the debates on open access continue, there is no doubt that librarians can play an important role to help achieve faster and wider dissemination of research discoveries and new knowledge of which they have been disseminators and keepers for centuries”. Albert (2006) explained that “the internet’s transformation of information access has fuelled interest in reshaping what many see as a dysfunctional, high-cost system of scholarly publishing. For years, librarians alone advocated for change, until relatively recently when interest in OA and related initiatives spread to the scientific community, governmental groups, funding agencies, publishers, and the general public”.

The researcher identified from the above literature that librarians are aware about OA concepts. Libraries are supporting to their parent institutions in the areas of teaching, learning and research. Libraries have a role in helping to raise awareness among users. Some of the authors stated that libraries can start OA journal and implement Institutional Repositories for promoting open access. Now a day’s libraries are conducting user education programmes, developing OA single window Portal and
seminars/workshops/conferences etc to create awareness among users and researchers.

2.2.7 Section VII: Open access and other issues

In the following contents, the researcher has made an attempt to comprehensively review the studies related to the open access and other issues.

Rodriguez (2014) mentioned that “a growing trend in self reported knowledge of OA across all age groups but OA publishing activity is relatively limited. The younger age brackets reported higher percentages of publishing history than older age brackets, but these younger groups tended to also be tenured. Credibility of OA journals was the top concern of respondents. Results suggest that faculty authors cannot be prejudged by their age, seniority or rank as to their perception of, or experience with OA, because these indicators no longer appear to be strong predictors”. Charbonneau and McGlone (2013) mentioned that “thirty percent of the survey respondents were either unaware of or not familiar with the National Institutes of Health (NIH) public access policy. Further, a significant number of faculty members (97.8%) indicated that they usually signed their copyright forms 'as is.' The findings shows that time, confusing instructions, and unclear journal policies are challenges experienced by NIH-funded faculty in complying with the federal mandate. There is a need to educate faculty with respect to the value of retaining their copyrights and self-archiving their publications to help advance public access and open access scholarship”. Sheeja (2012) explained that “need for knowledge management for national development. It highlights the significance of an integrated platform for preserving, searching and retrieving Indian theses”.

Bohne-Lang (2012) explained that currently all software solutions for the management of e-media access from computers outside the universities' IP ranges are based on commercial software. The most after used solution is a Virtual Private Network (VPN) tunnel, but rewriting reverse proxies like EZ Proxy from OCLC or the Hidden Automatic Navigator from H+H Software GmbH are used more and more. This article shall demonstrate in a proof of concept that the use of free open-source software to realize a proxy-based solution for e-media access management is possible.
Solomon and Bjork (2012) conducted study on 1,038 authors who recently published articles in 74 OA journals that charge APCs stratified into seven discipline categories. “Authors were asked about the source of funding for the APC, factors influencing their choice of a journal and past history publishing in OA and subscription journals. Additional information about the journal and the authors’ country were obtained from the journal website. A total of 429 (41%) authors from 69 journals completed the survey. There were large differences in the source of funding among disciplines. Journals with impact factors charged higher APCs as did journals from disciplines where grant funding is plentiful. Fit, quality, and speed of publication were the most important factors in the authors’ choice of a journal. OA was less important but a significant factor for many authors in their choice of a journal to publish. These findings are consistent with other research on OA publishing and suggest that OA publishing funded through APCs is likely to continue to grow.”

Bester (2010) identified the scientific issues and described the current offer. According to the author “the state of the art is based on functional analysis as applied to seven repositories or services dedicated to open collections. The author notes that such value added services seek to put the author at the heart of informational data, and explores how these services could be developed to broaden scientific networks and renew circuits that identify and solicit subject-matter experts and monitors”. Xia (2010) examined “the changing pattern of scholars’ attitudes toward open-access (OA) journal publishing from the early 1990s. By synthesizing survey results in existing studies, this research focuses on representative aspects of the attitudes and behaviors recorded through the years. It finds that although an increase in the publishing and awareness rates of scholars with regard to OA journals has been observed, scholars have been consistently concerned with the low prestige of such journals and their lack of peer review, which is not the case in practice”. LaCourse (2010) mentioned that “researchers can learn effective searching at their desktop and download files for immediate use. Students can learn about a particular field for program and career choices. Those seeking a job can do background checking on industry trends, individual company research, and watch a technology as it moves among companies, inventors, and locations. Because gathering information from patents is more important than ever, this paper focuses on free access points, and demonstrates comprehensive U.S. patent searching, using approaches not available via keyword
terms. Other countries are developing quickly and many find that it is expedient to file international patents, so this type of searching is covered as well”.

**Koch, Mey and Mruck (2009)** explained that “on the contrary, for open-access publications quick distribution and reaching a rather broad audience were mentioned as special characteristics. But having a closer look at those who already gained experiences in publishing open access, this view changes: They do not only report an increase of (worldwide) visibility of the own peer-reviewed work, but they also experienced (contrary to publishing in closed-access journals) immediate responses by receiving requests to cooperate, to present their work during international conferences or to participate in book projects. This means that open access publications provide additional impact and incentives beyond traditional impact measures”. **Cope and Kalantzis (2009)** examined “three specific breaking points. The first breaking point is in business models -- the unsustainable costs and inefficiencies of traditional commercial publishing, the rise of open access and the challenge of developing sustainable publishing models. The second potential breaking point is the credibility of the peer review system: its accountability, its textual practices, the validity of its measures and its exclusionary network effects. The third breaking point is post-publication evaluation, centered primarily on citation or impact analysis. Authors argued that the prevailing system of impact analysis is deeply flawed. Its validity as a measure of knowledge is questionable, in which citation counts are conflated with the contribution made to knowledge, quantity is valued over quality, popularity is taken as a proxy for intellectual quality, impact is mostly measured on a short timeframe, `impact factors' are aggregated for journals or departments in a way that lessens their validity further, there is a bias for and against certain article types, there are exclusionary network effects and there are accessibility distortions”.

**Hernandez-Borges et.al. (2006)** reviewed the current status of open access (OA) publishing, which aims to provide complete and free electronic access to scientific research articles through OA periodicals that permit free access to online content. “Little is known about how this model, first introduced in English-speaking countries, will be adopted in a country as culturally different as Spain. The study found a low level of awareness of the OA publishing model (22 per cent) and of acceptance of
periodicals charging author fees among Spanish authors”. Awareness of the **Budapest Open Access Initiative 2001** (http://www.soros.org/openaccess/), a landmark event, was even lower (8 per cent. “Similarly, only nine respondents (9 per cent) indicated that they would pay author fees to publish in an OA periodical, and only five (5 per cent) had published in an open access periodical that charged fees. Nearly one-third of respondents noted that lack of funds was a significant barrier to OA publishing, while 19 (19 per cent) indicated the prestige factor as a barrier”. **Comba (2005)** explained that “there is recognition of a growing awareness about e-publishing changes and the new economic models which may provide more impact for research papers, providing a viable (and less expensive) solution for the information provision to authors and readers”.

The researcher identified from the above literature that there is no much studies available conducted in India. The authors found in their study that the authors/researchers have low level of awareness of the OA publishing model. They are not only publishing their research outputs in journals or IR, they will also participate at conferences/seminars and book projects etc to disseminate their information. Further, study found that, prestige of journals and peer review, fit, quality, and speed of publication were the most important factors in the authors' choice of a journal.

**2.3 Findings of literature review**

- The strength of OA channels in increasing visibility and citation are evidenced (Ngah, 2010).
- There is a direct relationship between open access and the impact of research (Frias and Travieso, 2008).
- The level of awareness related to OA issues must be raised (Reed, 2014).
- There is a lack of awareness and skill deficits among scholarly community (Dechman and Syms, 2014).
- Self archived authors experience the beneficial in their life (Singeh, Abrizah and Karim, 2013).
• Attitude of students towards OA journal was low (Ivwhighreghweta, 2012)

• Raising awareness of long term preservation in the research community is important (Doorenbosch and Sierman, 2011)

• The biggest problems are lack of administrative support and researcher’s unawareness of the benefits of open access (Grgic and Barbaric, 2011).

• There is a lack of familiarity with campus IRs and a very small uptake rate for depositing research output in institutional repository (Mischo and Schlembach, 2011).

• Scholars considered open access sources are useful to publish their work quickly, boost their productivity as an author and increase citation of their work. Science scholars edge over their social science counterparts in acceptance of open sources (Gul, Shah and Baghwan, 2010).

• There is a clear difference between scholars from different discipline background in their understanding of open access repositories (Creaser, et.al., 2010).

• Respondent’s attitude towards open access varied, but most agreed that OA are high quality (Sandhu, 2012).

• Researcher would support open access publishing more if uses of recognition, quality and were resolved (Dulle and Minishi-Majanja, 2009).

• Open access offers new distributors and publication channels to out-of-print works and to first books by young scholars in humanities (Cassella, 2008).

• Open access model has become the inheritable trend in academic publication and further study’s needed an problems such as financed (Du, et.al., 2010).

• Subscription based publishers disagree with business model of open access (Harris, 2009).

• Established journals and publishers have not had strong enough incentives to change their business model and commercial risks in doing so have been high (Bjork and Hedlund, 2009).

• Open access articles are published as partsubscription journals published by scholarly society (Matsubayashi, 2009).
• Librarian knowledge of open access empirical literature may be of much value when providing resource instruction within current information environment (Allen and Weber, 2014).

• Visibilities of the author’s promotion of University ranking and efficient dissemination of research finding were among the benefits of publishing IR (Ezema, 2013).

• Three breaking point- peer review system, business model post publication evaluation (Cope and Kalantzis, 2009).

2.4 Summary

The preceding review has clearly brought out the fact that the awareness and utility of open access and open access sources and services are highly limited and not utilized at the expected levels due to varied reasons. The review further indicated that research related to open access and related issues is still its infancy stage as many researchers have not focussed from library science and information management system points of view. Many of the open access information though highly useful, the stakeholders like students, researchers and faculty in particular and public in general have not fully utilized these free services, which could enhance their knowledge and research potential.
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