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Future Academic Libraries : Designing Technological Innovation and Best Practices in Academic Libraries

Chief Editor
Dr. Pramod P. Tandale

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Chairperson’s Message

Dr. Krantikumar R. Patil
Executive President
Tararani Vidyapeeth, Kolhapur

I am very much delighted to extend warm regards to Kamala College fraternity on the occasion of one day National seminar on “Future Academic Libraries: designing Technology innovation and best practices in academic libraries”

Information is a vital resource for the advancement of all human activities and it is a precondition for the development of a country. The dependency on information in all realms of intellectual activities has increased day by day. The appearance of electronic resources has drastically changed the information behavior of the users not only in search methods but also in the use of sharing and its communication.

The Information and Communication Technology has brought revolutionary changes in the management of library and library functioning. Due to rapid growth of information in various forms the monopoly of the publishers has made the library professionals’ task much more complex. Librarians not only have to carry out a routine task but they have also to act as an agent, facilitator, navigator and many more.

It is no doubt that the arrival and proliferation of electronic resources have number of significant impact on the use of resources. It is needed to be a resilient to create new ways to overcome the situation and explore opportunities of reshaping the services in the digital era. Considering the significance and relevance of the topic the college arranged the seminar which is a commendable gesture to bring forth views of academicians and scholars from different perspectives. On this occasion I wish all the best to the organizers and contributors

Date:- 3rd February 2023

Place; Kolhapur
From the Principals Desk

It is matter of great pleasure and Pride to publish research papers which have been presented in the National Seminar on Future Academic Libraries: Designing Technology Innovation and Best Practices in Academic Libraries organized by our college, in a form of research journal. Now libraries are at turning point. Technology will continue to change and academic libraries and librarians have to use the changing technology to provide the best access and service to their patrons. Now a day’s all stakeholders of library expect to be able to access information around the clock from almost anywhere in the world and via growing number of devices from laptop to mobiles. As the information technologies are changing day by day and growing at tremendous speed the knowledge society is becoming more complex, competitive and dependent on technological changes and information explosion. In the era of information explosion and globalization future academic libraries will need to look behind the borders.

Kamala College is one of the branches of Tararani Vidyapeeth. Our college is established in 1984 with the noble vision of women empowerment. The college is honored with college with potential for excellence by UGC in 2016 and reaccredited third cycle by NAAC with Grade ‘A’ (3.12 CGPA) status in 2017 also UGC has Conferred the Autonomous Status from the Academic Year 2022-2023. Our college has organized Three International, Six National, Two State Level Seminars and One International and Six National Webinars very successfully. The Executive President Hon. Dr. Krantikumar Patil, who has kept the educational pace of the institution abreast of time with his guidance the institution is going ahead in the direction of excellence. Hon. Shri Prajakt Patil, the Secretary of the institution is our strong supporter. Due to their inspiration the seminar proved fruitful for the all delegates. It is my great pleasure to appreciate the efforts taken by Smt. Urmila Kadam Convener and Dr. Ravindra Adhav Co Convener. Teaching and Non Teaching Staff for making the seminar successful. I express my best wishes to the editors.

Prof. Dr. Tejaswini B. Mudekar
Principal, Kamala College, Kolhapur
From the Editorial Desk

Traditional libraries are shifting to become digital in the age of ICT. The print collection of the library is also going to be replaced by digital and electronic forms as the e-books, e-journals, e-resources are now easily available either on free or on subscription basis. It reflects on the nomenclature of the library like Knowledge Resource Centre. The planning of user’s services and policy formulations basically depends on the requirement of the users in the modern world. The user needs and Publication trends are greatly affected by the computer communication and networking Technology. Availability of the information changes the role of librarians. The working environment of the libraries also changed along with these developments. Since the library professional should have an understanding about the current resources and the usage pattern of various kinds of information sources for the dissemination of the right information to their clients.

We believe that it is an opportune time to have intellectual discourses on the future of academic libraries, so we have organized one day National Seminar on “Future Academic Libraries: designing technology innovation and best practices in academic libraries”. We are happy that we would evoke a through brainstorming on the theme. The stupendous response by the delegates is an encouraging gesture which has boosted our morale. Number of research papers has been contributed by the researchers. We are immensely thankful to all the esteemed contributors who have revealed different dimensions of the topic and contributed their views, liberally. My personal gratitude goes to the eminent personality Hon. Shri Ramesh Tawadkar, Speaker, Goa Legislative Assembly and MLA Canacona, Ex. Minister of Sports and Youth Affairs, Agricultural, Tribal Welfare, Animal Husbandry and Veterinary Services, Government of Goa who had accepted our invitation as Chief Guest of Inaugural Function and shared his views and ideas. Hon. Dr. Gopakumar V., Head Knowledge Centre, Kerala University of Digital Science, Innovation and Technology, Kerala and Dr. Dhananjay Sutar, I/C Director / Deputy Librarian BBK KRC, Shivaji University, Kolhapur for sharing their valuable views.

We owe our sincere thanks to Hon. Principal Dr. Krantikumar Patil, Executive President, Tararani Vidyapeeth, Kolhapur who is the constant source of inspiration and driving force behind the execution of innovative ideas. Without his guidance and kind support we would not have achieved the success. We are thankful to young and dynamic secretary of Tararani Vidyapeeth, Kolhapur Hon. Shri Prajakt Patil for his kind support in the venture. Thanks are due to Hon. Principal Dr. Tejaswini Mudekar whose enthusiastic encouragement could enable us to realize the concept of discourse on future of academic libraries. My personal gratitude goes to Shri. Pratap Rangapure for his valuable support and kind cooperation and Smt. Pooja Chavan for her continuous helping hand for seminar work. The organizing committee member also contributed a lot for the success of the seminar. I personally acknowledge the kind cooperation and support of Dr. Ravindra Adhav, President, Shivaji University College Librarians Association (SUCLA). The said Seminar would not have been successful without the cooperation and support of the faculty and administrative staff. I thank all of them for their kind support and cooperation.

Smt Urmila R. Kadam
Convener
Editorial Board

Hon. Shri Prajakt Patil

Dr. Tejaswini Mudekar

Smt. Urmila Kadam

Assistance

Dr. Shri Praveen Chougale

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Smt. Pooja Chavan
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<td>डॉ. अंजली दशरथ काळे</td>
<td>ग्रंथालयसंघि मोबाइलचा उपयोग</td>
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<td>83.</td>
<td>सौ. पांडुरंग स्पिनत प्रकाश</td>
<td>सोशल मीडियाचा शिक्षणात वापर</td>
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<tr>
<td>84.</td>
<td>श्रीमती. मनोज विलासराव पाटील श्री. विलास शामराव पाटील</td>
<td>‘हरत ग्रंथालय’ - पर्यावरण संरक्षण व पर्यावरण साक्षरतेची एक सामाजिक जबाबदारी</td>
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<td>85.</td>
<td>डॉ. तेजस्वी मुंडेकर प्रा. सुरेश जोती पाटील</td>
<td>ग्रंथालयसंघि आपत्ती व्यवस्थापन : काळाची गरज</td>
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<td>86.</td>
<td>आमलपुरे विभागांत विवादनाथ डॉ. एस.एस.पाठक</td>
<td>ग्रंथालयसंघि वाचन साधनाचे नवीनीत प्रक्रिया</td>
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<td>Name of the Author</td>
<td>Title of Paper</td>
<td>Page No.</td>
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<td>स्नेहलता कुंबार</td>
<td>डिजीटल प्रंथालय</td>
<td>406</td>
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<td>88.</td>
<td>संगीता अशोकराव धोराट</td>
<td>शैक्षणिक विकासामध्ये माहिती तंत्रज्ञान</td>
<td>409</td>
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<td>89.</td>
<td>बाकुरे विशाखा सुरेश</td>
<td>वाचन वृद्धीसाठी महाविद्यालयामध्ये आधुनिक तंत्रज्ञानाचा वापर</td>
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<td>कु. नीता दत्तात्रय गोजारे</td>
<td>क्यू आर कोड प्रणालीचा प्रंथालयात वापर</td>
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<td>91.</td>
<td>राजलक्ष्मी रणजीत कदम</td>
<td>विद्यार्थी जीवनात प्रंथालयांचे महत्त्व</td>
<td>419</td>
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<td>92.</td>
<td>डॉ. लोखंडे समता ऋविकांत</td>
<td>शैक्षणिक व्यवस्थापनातील नवीन सेवा विकासामध्ये वापरतेले तंत्रज्ञानाची भूमिका</td>
<td>421</td>
</tr>
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<td>93.</td>
<td>समिता कोइंकर</td>
<td>नवीन सेवा विकसमद्वे तंत्रज्ञानाचा वापर</td>
<td>427</td>
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</table>
Journal Citation Report Best Practices in Virology Research in the Digital Era: An Analysis

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University of Mumbai

Abstract:
Researcher use impact factors to identify journal articles with significant impact. In high impact journals, researchers are more respected when their articles are published. This paper describes Clarivate Analytics' Journal Citation Reports, best practices and its Criteria for Web of Science Journal Evaluation, and its Key Features. The JCR reports should be examined and the impact factors, journal rankings, as well as the published journals and countries in the virology research field should be analyzed.

Keywords: Journal Citation Report, Web of Science, Virology

1.0 Introduction:
The Journal Citation Report is a very useful resource. It is a unique tool. This tool is used to evaluate the quality of scholarly journals by examining their citations data. In journals, any metric that is overemphasized may lead to significant shortcomings, but the Journal Impact Factor, a measure of a journal's quality, is perhaps the most widely used metric. There is a tendency for it to serve as a measure of a journal's importance within its field. It was in the 1970s that the Journal Citation Report would be used for the first time after being conceptualized by Eugene Garfield in 1955. In science and medicine, technology, as well as the social sciences, the Journal Citation Report is one of the only sources of citation data on journals. JCR Web provides a clear and easy-to-understand overview of the relationship between citing and cited journals.

1.1 Definitions: Journal Impact Factor
Eugene Garfield introduced Journal Impact Factor concept in 1970, which measures the average number of citations for each citable item (article, review, letter, discovery account, and note, abstract) in a specific journal and during a specific year or period. The impact factor can be used to compare the relative importance of journals in the same area. Many different journals in the same area are compared using this factor. Journal impact factor (JIF) is of the utmost significance in this regard, as it looks at the number of citations a journal receives during each year. It divides the number of sources published in the journal in the previous two years by the number of citations. Clarivate Analytics (previously Thomson Reuters' intellectual property) publishes the Journal Citation Reports (JCR) every year.

1.2 Criteria for Web of Science Journal Evaluation:
In contrast with other curation services, Web of Science Core Collection TM is unique. For the purpose of preventing bias or conflicts of interest, the list is compiled by independent experts who are not affiliated with any publishing houses or research institutes. Editors are assigned particular areas of expertise, which enables them to develop a deep understanding of journals within that field. This process of editorial curation is distinct from other databases which rely primarily on algorithms and/or delegate editorial decision making to the research community. The three guiding principles of the selection process are objectivity, selectivity, and collection dynamics. There are 28 criteria in total that we use to evaluate journals; these are split into two groups: 24 quality criteria that evaluate journals based on editorial quality and best practices, and four impact criteria selected based on citation activity and their impact on their respective fields.

Emerging Sources Citation Index TM (ESCI) includes journals that meet quality criteria. According to their subject area, journals that meet the additional impact criteria are included in Science Citation Index Expanded TM (SCIE), Social Sciences Citation Index TM (SSCI) or Arts & Humanities Citation Index (AHCI). It
is a dynamic collection that is constantly curated to ensure that the journals belong to the right collection. SCIE, SSCI or AHCI journals that gain impact are moving from ESCI.

1.3 Key Features of JCR: Below are some of the major features of JCR.

- **Immediacy index** measures the frequency with which a journal's articles are cited within a year of their publication.
- **Eigenfactor scores** are computed by counting the number of times cited articles from a journal that were published in the past five years during the JCR year, but also taking into account which journals contributed citations, so higher cited journals would influence the network more than lesser cited journals.
- Impact factors without self-citations also address the criticisms that impact factors can be easily influenced by self-citations.
- **5-year journal impact factor** measures the number of times articles from the journal over the past five years were cited during a given JCR year.
- A journal's **h-index** can also be used to measure an individual scientist's scientific productivity and impact.

1.4 Objectives: This paper has the following objectives.

1. To analyze the ranking of the virology journals.
2. To study the impact factor and citation count of the virology journals.
3. To find out the most prolific publishers and country related to the virology journals.
4. Scope and limitation: Subject categories in research publications were determined based on the journals assigned to relevant subject categories by Clarivate Analytics. There are many subject categories. In this study, the focus was primarily on virology research journals. These were the journals covered in JCR during the 2017-2020 time periods.

1.5 Research method: The results presented in the study were based on the JCR data downloaded for the period 2017-2020. Researchers used a literature search for their research study.

2.0 Review of Literature:

Leydesdorff (2004) analyzed the Journal Citation Report 2001 of the Social Science Citation Index to identify eigenvectors and biconnected components of a single domain. Both methods may be applied to traditional disciplines (such as economics, psychology, and political science). However, they interact moderately. A number of other journals cluster between the major disciplines and show a relationship between the sub-disciplines. This mode differs from that of the major disciplines. Moreover, factor analysis can highlight methodological differences between groups that are connected in a theoretical bicomponent. According to Abrizah et al. (2015), the stated preference study examined how information science and library science journals are sub-categorized in the 2011 Journal Citation Report. There are few journals ranking near the top 25% in JCR's list of IS–LS journals by impact factor. Many respondents expressed concern regarding the "fit" of information systems journals in the IS-LS category. Ram (2014) studied eleven journals from 1997 to 2011 and only three were indexed by SSCI-JCR. There are no journals with an impact factor higher than 0.5. In terms of cited journals (Indian journals cited by other journals), Economic and Political Weekly has the highest citations. The weekly journal is the most frequently cited. Among Indian journals, self-citation is very common. A journal's popularity and visibility among its subject collection is crucial for identifying its core journals. This study will contribute to the selection of the right journals for library subscriptions and publication. The purpose of this study is to add value to this area and assist librarians in selecting, guiding, and assisting their users in identifying social science journals of importance wherever social science research is a domain area. With respect to analyzing the productivity of journals and the citation counts for long-term time periods, the five-year mid-term JIF is extremely complementary to the two-year short-term JIF when calculating the prestige, reputation, and impact of journals. Further insight into the landscape of scholarly publishing could result from segmenting the various indicators by
disciplinary and sub-disciplinary categories, or by language and country of publication of the journals (not by country affiliation of the authors). It was concluded that ISI’s JCR was disproportionately represented by scientific journals compared with national GDP or scientific productivity. JCR representation may be affected by the quality, or perhaps by some other factors, that remain to be determined, of a country’s scientific journals. Government support can help foster the quality of scientific journals and increase their international visibility in transitional countries.

3.0 Analysis and Results:
3.1 Ranking of journals in Virology research is based on total cites: During the study period, 37 virology research journals were indexed in JCR. Journal of Virology has the greatest number of citations: 94,277.50, whereas Virologie has the lowest number of citations (64.50). Citations provide an indication of how frequently a particular journal is used by researchers. Virology journals covered in JCR during the 2017-2020 as shown in the Table-1.

Table-1: Virology Journals Ranked by Total Citation Count

<table>
<thead>
<tr>
<th>Rank</th>
<th>Journal Title</th>
<th>Total Cites 2017</th>
<th>Total Cites2018</th>
<th>Total Cites2019</th>
<th>Total Cites2020</th>
<th>Sum of Total Cites</th>
<th>Average of Total Cites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Journal of Virology</td>
<td>89,382</td>
<td>88,684</td>
<td>87,109</td>
<td>1,11,935</td>
<td>3,77,110</td>
<td>94,277.50</td>
</tr>
<tr>
<td>2</td>
<td>PlosPathogens</td>
<td>40,344</td>
<td>43,751</td>
<td>44,617</td>
<td>55,666</td>
<td>1,84,378</td>
<td>46,094.50</td>
</tr>
<tr>
<td>3</td>
<td>Virology</td>
<td>25,569</td>
<td>25,009</td>
<td>24,662</td>
<td>30,019</td>
<td>1,05,259</td>
<td>26,314.75</td>
</tr>
<tr>
<td>4</td>
<td>Cell Host &amp; Microbe</td>
<td>15,851</td>
<td>17,787</td>
<td>20,501</td>
<td>28,716</td>
<td>82,855</td>
<td>20,713.75</td>
</tr>
<tr>
<td>5</td>
<td>Journal of General Virology</td>
<td>19,016</td>
<td>18,784</td>
<td>19,167</td>
<td>22,834</td>
<td>79,883</td>
<td>19,970.75</td>
</tr>
<tr>
<td>6</td>
<td>AIDS</td>
<td>20,578</td>
<td>19,276</td>
<td>18,786</td>
<td>20,317</td>
<td>79,350</td>
<td>19,739.25</td>
</tr>
<tr>
<td>7</td>
<td>Journal of Medical Virology</td>
<td>8,416</td>
<td>8,197</td>
<td>7,878</td>
<td>25,258</td>
<td>49,749</td>
<td>12,437.25</td>
</tr>
<tr>
<td>8</td>
<td>Viruses-Basel</td>
<td>6,145</td>
<td>6,803</td>
<td>11,303</td>
<td>22,399</td>
<td>47,930</td>
<td>11,982.50</td>
</tr>
<tr>
<td>9</td>
<td>Archives of Virology</td>
<td>10,202</td>
<td>10,715</td>
<td>11,215</td>
<td>13,818</td>
<td>45,950</td>
<td>11,487.50</td>
</tr>
<tr>
<td>10</td>
<td>Virus Research</td>
<td>8,965</td>
<td>9,137</td>
<td>9,632</td>
<td>13,463</td>
<td>41,917</td>
<td>10,299.25</td>
</tr>
<tr>
<td>11</td>
<td>Antiviral Research</td>
<td>8,099</td>
<td>8,440</td>
<td>8,708</td>
<td>15,686</td>
<td>40,933</td>
<td>10,233.25</td>
</tr>
<tr>
<td>12</td>
<td>Journal of Virological Methods</td>
<td>7,521</td>
<td>7,508</td>
<td>7,558</td>
<td>9,082</td>
<td>31,669</td>
<td>7,917.25</td>
</tr>
<tr>
<td>13</td>
<td>Journal of Clinical Virology</td>
<td>7,231</td>
<td>6,897</td>
<td>6,856</td>
<td>10,320</td>
<td>31,304</td>
<td>7,826.00</td>
</tr>
<tr>
<td>14</td>
<td>Virology Journal</td>
<td>6,308</td>
<td>6,723</td>
<td>7,116</td>
<td>9,953</td>
<td>30,100</td>
<td>7,525.00</td>
</tr>
<tr>
<td>15</td>
<td>Journal of Viral Hepatitis</td>
<td>4,846</td>
<td>4,816</td>
<td>4,742</td>
<td>5,219</td>
<td>19,623</td>
<td>4,905.75</td>
</tr>
<tr>
<td>16</td>
<td>International Journal of Medical Microbiology</td>
<td>3,914</td>
<td>4,168</td>
<td>4,338</td>
<td>5,058</td>
<td>17,478</td>
<td>4,369.50</td>
</tr>
<tr>
<td>17</td>
<td>Aids Research And Human Retroviruses</td>
<td>4,469</td>
<td>4,099</td>
<td>4,192</td>
<td>4,756</td>
<td>17,426</td>
<td>4,356.50</td>
</tr>
<tr>
<td>18</td>
<td>Current Opinion In Virology</td>
<td>3,317</td>
<td>3,684</td>
<td>4,041</td>
<td>5,410</td>
<td>16,452</td>
<td>4,113.00</td>
</tr>
<tr>
<td>19</td>
<td>Retrovirology</td>
<td>3,436</td>
<td>3,644</td>
<td>3,527</td>
<td>3,999</td>
<td>14,606</td>
<td>3,651.50</td>
</tr>
<tr>
<td>20</td>
<td>Journal of Neurovirology</td>
<td>2,866</td>
<td>2,577</td>
<td>3,021</td>
<td>3,532</td>
<td>11,996</td>
<td>2,999.00</td>
</tr>
<tr>
<td>21</td>
<td>Virus Genes</td>
<td>2,525</td>
<td>2,482</td>
<td>2,702</td>
<td>3,101</td>
<td>10,810</td>
<td>2,702.50</td>
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<tr>
<td>22</td>
<td>Reviews In Medical Virology</td>
<td>1,945</td>
<td>1,883</td>
<td>1,982</td>
<td>3,385</td>
<td>9,195</td>
<td>2,298.75</td>
</tr>
<tr>
<td>23</td>
<td>Influenza And Other Respiratory Viruses</td>
<td>1,589</td>
<td>2,044</td>
<td>2,062</td>
<td>3,470</td>
<td>9,165</td>
<td>2,291.25</td>
</tr>
<tr>
<td>24</td>
<td>Advances In Virus Research</td>
<td>1,732</td>
<td>1,840</td>
<td>1,919</td>
<td>3,485</td>
<td>8,976</td>
<td>2,244.00</td>
</tr>
<tr>
<td>25</td>
<td>Viral Immunology</td>
<td>1,298</td>
<td>1,328</td>
<td>1,437</td>
<td>1,991</td>
<td>6,054</td>
<td>1,513.50</td>
</tr>
<tr>
<td>26</td>
<td>Intervirology</td>
<td>1,258</td>
<td>1,257</td>
<td>1,223</td>
<td>1,575</td>
<td>5,313</td>
<td>1,328.25</td>
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</table>
Special Issue Theme: Future Academic Libraries:
Designing Technological Innovation and Best Practices in Academic Libraries (Special Issue No.117)

Feb. 2023

Aayushi International Interdisciplinary Research Journal (ISSN 2349-638x) Impact Factor 7.367
Peer Reviewed Journal www.aiirjournal.com

3.2 Journal Impact Factor analysis: Ranking of journals in the virology subject category by Journal Impact Factors based on JCR during the 2017-2020 as shown in Table-2. The journal impact factor is a measure of the frequency with which the “average article” in a journal has been cited in a particular year. The impact factor will help you evaluate a journal’s relative importance, especially when you compare it to others in the same field. The ranked journals in the subject category of virology by Journal Impact Factors are given as listed in the Claravite Journal Citation Report. Cell Host & Microbe is the top ranked journal with JIFs of 17.872 (2017), 15.753 (2018), 15.923 (2019) and 21.023 (2020). Table-2 shows that the article published in this journal (2015-2016, 2016-2017, 2017-2018, 2018-2019) is cited an average of 17.643 times in a particular year and an increase in the JIF for the journals in the virology subject category over the last four years from 2017 to 2020. The average Impact Factor is increased from 2017 (3.12) to 2020 (4.37).

Table-2: Ranking of journals in the virology subject category by Journal Impact Factors.

<table>
<thead>
<tr>
<th>S. N.</th>
<th>Journal Title</th>
<th>JCR 2017 of JIF</th>
<th>JCR 2018 of JIF</th>
<th>JCR 2019 of JIF</th>
<th>JCR 2020 of JIF</th>
<th>JCR Sum of JIF</th>
<th>JCR Average of JIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cell Host &amp; Microbe</td>
<td>17.872</td>
<td>15.753</td>
<td>15.923</td>
<td>21.023</td>
<td>70.571</td>
<td>17.643</td>
</tr>
</tbody>
</table>

Graph -1: Average total citation

Graph -1: shows how Year-wise average total citations for the Years 2017 to 2020 have increased from 2.3% (2017-2018), 2.72% (2018-2019), and 26.66% (2019-2020).
### Special Issue Theme :- Future Academic Libraries :
Designing Technological Innovation and Best Practices in Academic Libraries (Special Issue No.117)  
Feb. 2023

<table>
<thead>
<tr>
<th></th>
<th>Journal Name</th>
<th>IF 2022</th>
<th>IF 2021</th>
<th>IF 2020</th>
<th>IF 2019</th>
<th>IF 2018</th>
<th>IF 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Current Opinion in Virology</td>
<td>4.430</td>
<td>4.985</td>
<td>7.090</td>
<td>23.119</td>
<td>5.780</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>REVIEWS IN MEDICAL Virology</td>
<td>4.231</td>
<td>4.221</td>
<td>6.989</td>
<td>19.946</td>
<td>4.987</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Virus Evolution</td>
<td>5.408</td>
<td>5.549</td>
<td>7.989</td>
<td>18.946</td>
<td>4.737</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>ANTIVIRAL RESEARCH</td>
<td>4.307</td>
<td>4.130</td>
<td>5.103</td>
<td>18.296</td>
<td>4.574</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>JOURNAL OF Virology</td>
<td>4.368</td>
<td>4.324</td>
<td>5.103</td>
<td>18.296</td>
<td>4.574</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>AIDS</td>
<td>4.914</td>
<td>4.499</td>
<td>4.511</td>
<td>18.296</td>
<td>4.574</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Retrovirology</td>
<td>3.417</td>
<td>3.744</td>
<td>4.183</td>
<td>4.602</td>
<td>15.946</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Influenza and Other Respiratory Viruses</td>
<td>2.954</td>
<td>3.094</td>
<td>3.288</td>
<td>4.380</td>
<td>13.716</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>JOURNAL OF GENERAL Virology</td>
<td>2.514</td>
<td>2.809</td>
<td>3.376</td>
<td>3.891</td>
<td>12.590</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>VIROLOGY</td>
<td>3.374</td>
<td>2.657</td>
<td>2.819</td>
<td>3.616</td>
<td>12.466</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>VIROLOGICA SINICA</td>
<td>2.357</td>
<td>2.467</td>
<td>2.342</td>
<td>4.327</td>
<td>12.393</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>VIRUS RESEARCH</td>
<td>2.484</td>
<td>2.736</td>
<td>2.934</td>
<td>3.303</td>
<td>11.457</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Food and Environmental Virology</td>
<td>2.273</td>
<td>3.055</td>
<td>2.819</td>
<td>2.778</td>
<td>10.925</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>JOURNAL OF NEUROVirology</td>
<td>3.228</td>
<td>2.302</td>
<td>2.354</td>
<td>2.643</td>
<td>10.527</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>ARCHIVES OF Virology</td>
<td>2.160</td>
<td>2.261</td>
<td>2.243</td>
<td>2.574</td>
<td>9.238</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>JOURNAL OF MEDICAL Virology</td>
<td>1.988</td>
<td>2.049</td>
<td>2.021</td>
<td>2.327</td>
<td>8.385</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>AIDS RESEARCH AND HUMAN RETROVIRUSES</td>
<td>1.935</td>
<td>1.805</td>
<td>1.765</td>
<td>2.205</td>
<td>7.710</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>SOUTHERN AFRICAN JOURNAL OF HIV MEDICINE</td>
<td>1.089</td>
<td>1.372</td>
<td>2.500</td>
<td>2.744</td>
<td>7.705</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>VIRUS GENES</td>
<td>1.542</td>
<td>1.616</td>
<td>1.991</td>
<td>2.332</td>
<td>7.481</td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>JOURNAL OF VIROLOGICAL METHODS</td>
<td>1.756</td>
<td>1.746</td>
<td>1.786</td>
<td>2.014</td>
<td>7.302</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>VIRAL IMMUNOLOGY</td>
<td>1.531</td>
<td>1.417</td>
<td>1.695</td>
<td>2.257</td>
<td>6.900</td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>Journal of Virus Eradication</td>
<td>2.812</td>
<td>3.696</td>
<td>6.520</td>
<td>1.630</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>CURRENT HIV RESEARCH</td>
<td>1.562</td>
<td>1.115</td>
<td>0.802</td>
<td>1.581</td>
<td>5.060</td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>INTERVIROLOGY</td>
<td>1.011</td>
<td>0.873</td>
<td>1.235</td>
<td>1.763</td>
<td>4.882</td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>Future Virology</td>
<td>1.121</td>
<td>0.730</td>
<td>0.952</td>
<td>1.831</td>
<td>4.634</td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>ACTA VIROLOGICA</td>
<td>0.696</td>
<td>0.554</td>
<td>0.793</td>
<td>1.162</td>
<td>3.205</td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>Molecular Genetics Microbiology and Virology</td>
<td>0.313</td>
<td>0.333</td>
<td>0.250</td>
<td>0.352</td>
<td>1.248</td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>VIROLOGIE</td>
<td>0.036</td>
<td>0.161</td>
<td>0.212</td>
<td>0.474</td>
<td>0.883</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total IF</td>
<td>115.481</td>
<td>117.414</td>
<td>124.593</td>
<td>161.900</td>
<td>519.388</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Average IF</td>
<td>3.12110</td>
<td>3.17335</td>
<td>3.36737</td>
<td>4.37567</td>
<td>14.038</td>
<td></td>
</tr>
</tbody>
</table>

Table -109 shows the maximum cited journals in human virology research based on JCR Average of JIF during the study period has been identified and highly JCR Average of JIF are considered with which top 37.
3.3 **Average Impact Factor:** Journals in the virology subject category by Journal Impact Factors in JCR during the 2017-2020 as shown Graph-2.

![Graph-2: Shows the average Impact Factor.](image)

The graph-2 shows the average Impact Factor of Journals in the virology subject category is increased from 2017 (3.121) to 2020 (4.375).

3.4 **Top Ranked Journal In Virology Research:**
The first ranked Journal Progress in Cell Host & Microbe by JIF 1ST based on the total citation count. The following Graph-3 shows the journal Cell Host & Microbe for the last 4 years showing the increase in citation rate.

![Graph-3: shows the average Impact Factor of Cell Host & Microbe.](image)

The major advantages of JIF that it enables comparison between journals within field regardless of their size or reputation. JIF helps to establish the relative importance of one journals compared to other journal in the same discipline, that is not across displaces. Graph-3: show the Impact Factor of Cell Host & Microbeis increased from (15.753) to (21.023).

3.5 **Most Prolific Publishers in Virology Research:**
The attempt was made to most prolific publishers in virology research and is presented in Table - 4.

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Publisher</th>
<th>Country</th>
<th>Frequency</th>
<th>Average If</th>
<th>Average citation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Elsevier</td>
<td>Netherlands</td>
<td>6</td>
<td>19.743</td>
<td>40689.500</td>
</tr>
<tr>
<td>2</td>
<td>Springer</td>
<td>United States</td>
<td>3</td>
<td>6.911</td>
<td>15011.750</td>
</tr>
</tbody>
</table>
4 BioMed Central Ltd. United Kingdom 2 6.888 11176.500
5 Wiley-Blackwell Publishing Ltd United Kingdom 2 7.315 7197.000
6 Mary Ann Liebert Inc. United States 2 3.653 5870.000
7 Cell Press United Kingdom 1 17.643 20713.750
8 Annual Reviews Inc. United States 1 7.591 1180.000
9 Public Library of Science United States 1 6.416 46094.500
10 John Wiley and Sons Ltd United Kingdom 1 4.987 2298.750
11 Oxford University Press United States 1 4.737 952.000
12 American Society for Microbiology United States 1 4.574 94277.500
13 Lippincott Williams and Wilkins Ltd. United States 1 4.525 19739.250
14 MDPI Switzerland 1 4.109 11982.500
15 Urban und Fischer Verlag GmbH und Co. KG Germany 1 3.312 4369.500
16 Microbiology Society United Kingdom 1 3.148 19970.750
17 Kohsuechu pan she Peoples R China 1 3.098 964.250
18 Taylor and Francis Ltd. United States 1 2.632 2999.000
19 Wiley-Liss Inc. United States 1 2.096 12437.250
20 AOSIS (Pty) Ltd South Africa 1 1.926 278.500
21 Bentham Science Publishers B.V. United Arab Emirates 1 1.265 1065.500
22 S. Karger AG Switzerland 1 1.221 1328.250
23 Future Medicine Ltd. United Kingdom 1 1.159 826.250
24 AEP - Academic Electronic Press Ltd. Slovakia 1 0.801 817.500
25 Pleiades Publishing Russian Federation 1 0.312 137.750
26 John LibbeyEurotext France 1 0.221 64.500
Total 37

Table - 4 : Most Prolific Publishers in Virology Research

Table -4 represents the top 26 most prolific International publishers in Virology research based on frequency of journal titles during the study period has been presented the highly prolific publishers and their countries are as follows Elsevier (Netherlands) followed by the Springer (United States) and Academic Press Inc. (United States) and so on. Most of the journals publishers are international than Indian publishers in virology research. It reveals that Scientists published their virology research mostly preferred in International journals.

4.0 Discussion and Conclusion:

There are several factors to consider when using JCR. When evaluating journals, ISI does not recommend users rely on citation data alone. There are many factors that can impact citation rates: a publication's history, its format, its schedule of publication, and subject matter specialization. The number of articles given for journals listed in the JCR includes original research and review articles only. Editors, letters, news items, and meeting abstracts are not included in article counts because they are not generally cited. Bias towards English language Journals and the Journals listed in the SCI will be counted when calculating the impact factor. This leads to lower impact for non-English language journals. Self-citation is a technique used by authors to boost their JIF. Researchers may self-cite if it indicates they are still involved in research. It is still possible to manipulate the JIF in order to increase it. It is not consistent that in calculating JIF the numerator includes all types of articles such as letters, editorials, and abstracts, while the denominator includes only normal articles and reviews as citable.
articles. In the process, millions of citations a year are processed which leads to inaccuracies. In Clarivate Analytics’ coverage of citation tracking, only those indexes are included. Whenever a journal is not indexed in Web of Science, its references are not scanned. Since an impact factor cannot be calculated until at least three years have passed, the tendency is to favor older and larger journals. Journals with a larger body of previously published articles usually have more citations because they have a larger body of work available for citation. As seen from publications JCR data of Journals in the virology subject category by Journal Impact Factors. During 2017 to 2020, it grew steadily at 2.3 % (2017-2018), 2.72 % (2018-2019), and then increased suddenly at 26.66 % (2019-2020). Average Impact Factor of Journals in the virology subject category is increased from 2017 (3.121) to 2020 (4.375). In virology research, most journals are published by international publishers. Citation counts should not be based solely on journal impact factors. Everyone knows that different journals have different impact factors. In addition, this does not mean that the impact factor of the journal in which a person has published is irrelevant. There is no connection between a journal’s impact factor and where a person has published. Scientific papers accepted by high impact journals are certainly regarded with some prestige. Bibliometric metrics from a reputable source can be obtained through the Journal Citation Reports (JCR). Although JCR has limitations and new metrics have been developed, it remains in widespread use. In recent years, JCR has become universal. Now it is less selective, but more comprehensive than it was.

References:

- Leydesdorff, L. (2004). Top-down decomposition of the Journal Citation Report of the Social Science Citation Index: Graph-and factor-analytical approaches. Scientometrics, 60(2), 159-180.
Scenario in Maharashtra of Off-campus Access to Subscribed E-Resources through INFED
(Indian Access Management Federation)

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Librarian,
Smt. Akkatai Ramgonda Patil Kanya Mahavidyalaya, Ichalkaranji
Research Scholar,
Department of Library & Information Science
Shivaji University, Kolhapur

Abstract:
Libraries have gone through continuous changes in the way they serve their users. The COVID-19 pandemic has had a path-breaking impact on the higher education system, especially in India. The pandemic period has highlighted the need for remote access to library resources and connectivity with users. It is not enough to have digital libraries or digital collections; users must have free off-campus access in combination to on-campus access. Libraries need to set up their own independent and authentic Identity and Access Management Federation. But implementation of such system requires technical skill sets and proper infrastructure. INFLIBNET come up with the initiatives of setting INDIA’s first Access Management Federation as INFED. Maharashtra has 2961 (12.46 %) of the entire 23759 higher education institutions. Yet, Only 0.58 % of Indian institutes whereas 0.371 % of Maharashtra's qualified institutions have joined INFED.

Keyword: COVID-19 Pandemic, India, Higher Education, Institute, e-resources, Remote Access Management Federation, INFED.

Introduction:
It is undeniable that the advent of ICT has drastically altered the way traditional library services are delivered. Libraries have gone through continuous changes in the way they serve their users. Libraries have witnessed changes in their collections, resources, user information needs, and services. All these changes were technology-driven. The entire world is suffering from an outbreak of the COVID-19 pandemic. Yet human life is under the fainthearted of COVID-19. The COVID-19 pandemic has brought drastic change to all spheres of human life globally. The COVID-19 pandemic has had a path-breaking impact on the higher education system, especially in countries like India. Higher education systems, from universities to colleges, began to impart online education, as well as libraries, also switching over their services from on-campus to off-campus within a very short space of time. Even now, after unlocking, libraries are serving their users with restrictions. The pandemic period has highlighted the need for remote access to library resources as well as the online connectivity of libraries with their users.

In India, despite the technological transformation, most libraries have more resources in traditional as well as digital form, which can be accessed on-campus only. Many institutions engaged in higher education have developed digital libraries and digital knowledge repositories. It is not enough to have digital libraries or digital collections; having free off-campus access along with on-campus access is a crucial part on behalf of users. Off-campus access to subscribed e-resources has three important factors, i.e., economic provision for purchase or subscription to e-resources, access to e-resources by legal users, and utilization of e-resources by the means of usage.

Institutions engaged in higher education have already started to subscribe to e-resources in the form of e-books, e-journals, and e-databases and provide access to subscribed e-resources. Libraries across India were providing access to subscribed e-resources using VPN or proxy-based access or IP-based access. It has been found from many studies that these access systems have their own limitations. Major issues related to VPN or IP-
based accesses are multiple log-in credentials for multiple e-resources from different publishers, and access is restricted within four walls of the campus. At the same time, Indian institutes engaged in higher education don't even have a mechanism for proper mail ids like student123@institution.ac.in. They lack the proper skill sets and technical infrastructure for setting up their individual authentic access management systems. As a result of all this, users can't have their authentic digital ids given by their institutions.

To get around this technical problem and provide hurdle-free remote access to subscribed e-resources, libraries must put up their own independent and genuine access management system.

Purpose Of The Study:

The goal of this exercise is to figure out how many institutes in Maharashtra are members of INFLIBNET’s INFED and have access to the INFED facility, as well as how many institutes use the facility category wise.

Methodology:

The current research is both evaluative and descriptive in nature. Data from December 2021 onwards has been taken into account. The study's data comes from INFED’s website, which includes information on participating institutions and publishers in the INFED ACCESS MANAGEMENT FEDERATION. Simultaneously, statistical data about the number of higher education institutions in India and Maharashtra was gathered from UGC, AICTE, and other websites. Excel is used to evaluate the data, and MS Word 2013 is used to create the report.

Infed: (Indian Access Management Federation)

One of the key duties of the INFLIBNET Centre is to give access to academic e-resources to Indian universities and colleges through the e-ShodhSindhu and N-list programs. Initially, INLIBNET provided IP-based access to subscribed e-resources. IP-based access has its own limitations. In view of this, INFLIBNET has devised a "user authentication and access control system dispersed across participating institutions using standard sets of rules and metadata for attribute sharing” solution called "INFED” (INDIAN Access Management Federation). From the point of delivering the right information to the right user at the right time, INFED is a highly beneficial tool for libraries. INFED is an access management federation developed solely for remote access or off-campus access, enabling enrolled patrons to access multiple e-resources with a single log-in credential, irrespective of geographical location with internet connectivity. At no charge, INFED promotes and assists collaborating institutions in implementing their own access management federation: INFED is important for building trust between all participating institutions, including universities, colleges, publishers, and e-resource users. Currently, INFLIBNET provides INFED facilities to government and government-aided universities and colleges covered by Sections 12 (B) and 2 (F) of the UGC Act, 1956, as well as all UGC Inter-University Centers (IUCs), IITs, IISc, IISERs, NITs, and other organizations that are eligible to access e-resources through the e-ShodhSindhu Consortium and the National Library and Information.

Analysis & Interpretation:

The information gathered from the INFED, UGC, and INFLIBNET, AICTE and Govt. of India websites is combined and analyzed under the headings.

Higher Education Institutions In Maharashtra

India's public education system is the world's second-largest. There are roughly 1100 universities recognized by the University Grant Commission, 23000 colleges recognized by the University Grant Commission...
and the AICTE, and 151 institutes of national importance recognized by the Government of India, comprising IITs, IIMs, IISc CFITs, and IISERs NITs. The UGC, AICTE, and the Indian government have notified the following number of higher education institutes in India and Maharashtra.

### Table No.1
**Category-wise Institutions in Higher Education in India & Maharashtra**

<table>
<thead>
<tr>
<th>Institutions</th>
<th>INDIA</th>
<th>MAHARASHTRA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Universities</td>
<td>54</td>
<td>01 (0.0185%)</td>
</tr>
<tr>
<td>State Universities</td>
<td>442</td>
<td>25 (5.65%)</td>
</tr>
<tr>
<td>Deemed to be Universities</td>
<td>126</td>
<td>20 (15.87%)</td>
</tr>
<tr>
<td>Private Universities</td>
<td>397</td>
<td>21 (5.28%)</td>
</tr>
<tr>
<td>Colleges under 2 f 12B</td>
<td>12911</td>
<td>1565 (12.12%)</td>
</tr>
<tr>
<td>Autonomous Colleges</td>
<td>832</td>
<td>119 (14.30%)</td>
</tr>
<tr>
<td>Technical Colleges Affiliated to AICTE</td>
<td>8997</td>
<td>1210 (13.44%)</td>
</tr>
</tbody>
</table>

Source: https://www.ugc.ac.in/oldpdf/Consolidated%20list%20of%20Universities.pdf & https://facilities.aicteindia.org/dashboard/pages/dashboardaicte.php

As can be seen from the table above, there are a total of 23759 higher education institutes which have been notified by the UGC, AICTE, and the Government of India till December 2021. Maharashtra has **2961 (12.46%)** of the entire 23759 higher education institutions. There is only 01 central university in Maharashtra, with just a ratio of only **0.0185 %** among all central universities in India; 25 state universities with such a ratio of **5.65 %** of all state universities in India; 20 deemed to be universities with a ratio of **15.87 %** of all deemed to be Universities in India; and finally 21 private universities with a ratio of all. In addition, there are 21 private universities in India, making up 5.28 percent of the total number of private universities. Furthermore there are 1565 colleges covered by UGC under 2(f) 12(b), accounting for **12.12%** of all colleges and 119 autonomous colleges accounting for **14.30%** of all autonomous colleges 1210 technical colleges affiliated with AICTE, accounting for **13.14 %** of all technical colleges across India.

**Category-Wise Member Institutions On Infed Portal:**

Central Universities, State Universities, Deemed to be Universities, State Private Universities, Colleges covered under 2(f) 12 (b), and Autonomous Colleges, Institutes of National Importance are the categories used by the University Grant Commission to classify higher education institutions. Institutions such like Architecture, Arts and Crafts, Architecture and Town Planning, Architecture and Planning, Architecture, Engineering and Technology, and so on have indeed been categorized mostly by AICTE. There are also institutes of national importance, research & development institutes, which have been categorized as IIMs, IITs, IIESR, NIITs, and so on. On their website, INFED has classified these institutes into 10 categories as follows:

### Table No.2
**INFED PORTAL CATEGORIES OF MEMBER INSTITUTIONS**

<table>
<thead>
<tr>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Universities</td>
</tr>
<tr>
<td>Institutes of National Importance CFTI</td>
</tr>
</tbody>
</table>
Special Issue Theme :- Future Academic Libraries:
Designing Technological Innovation and Best Practices in Academic Libraries (Special Issue No.117) Feb. 2023

State Public Universities

Deemed Universities Government

Deemed University Government Aided

Government and Others

Government aided

State Private Universities

Deemed University Private

Private

Source: https://infed.inflibnet.ac.in/vcategorywise.php

Installation Of Infed In Maharashtra

There are 166 participating member institutions which have installed INFED across India as of December 2023. Out of 166 member institutes, INFED has been placed at 13 (7.78%) of Maharashtra's institutes so far: 06 private institutes, 03 state public universities, 01 deemed university-government, 01 deemed university-private, 01 government/others institutes, and just 01 Institute of National Importance.

Table No.3
List of Institutes Installed INFED as on December 2021

<table>
<thead>
<tr>
<th>Category</th>
<th>Name of the Institute</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government/Others institutes</td>
<td>1. Inter-University Centre for Astronomy and Astrophysics, Pune</td>
</tr>
<tr>
<td>Private institutes</td>
<td>2. Anjuman-I-Islami's Kalsekar Technical Campus</td>
</tr>
<tr>
<td></td>
<td>3. Prin. L. N. Welingkar Institute of Management Development and Research</td>
</tr>
<tr>
<td></td>
<td>4. Vivekanand Education Society</td>
</tr>
<tr>
<td></td>
<td>5. Zeal College of Engineering and Research</td>
</tr>
<tr>
<td></td>
<td>6. Deccan College Post-Graduate and Research Institute, Pune</td>
</tr>
<tr>
<td></td>
<td>7. Indira Group of Institutes, Pune</td>
</tr>
<tr>
<td>State Public Universities</td>
<td>8. Maharshi Karve stree Shikshan Sanstha's Cummins College of Engineering for Women</td>
</tr>
<tr>
<td></td>
<td>9. Shivaji University, Kolhapur</td>
</tr>
<tr>
<td></td>
<td>10. Swami Ramanand Teerth Marathwada University Nanded</td>
</tr>
<tr>
<td>Deemed University-Government</td>
<td>11. Indira Gandhi Institute of Development Research</td>
</tr>
<tr>
<td>Deemed University-Private</td>
<td>12. Bharati Vidyapeeth Deemed University, Pune</td>
</tr>
<tr>
<td>Institute of National Importance</td>
<td>13. Indian Institute of Information Technology, Nagpur</td>
</tr>
</tbody>
</table>

Source: https://infed.inflibnet.ac.in/vcategorywise.php

As previously stated, Maharashtra has 2961 (12.46%) higher education institutes out of a total of 23759 institutes across India. Only 166 eligible institutes across India, and only 13 eligible institutes from Maharashtra, have taken steps to implement INFED Indian Access Management Federation by INFLIBNET as of January...
2023. INFED has only been joined by 0.69% of institutes in India and 0.43% of eligible institutions in Maharashtra. It seems that installing INFED for remote access and off-campus access is taking a bit longer.

**Resources Available Through Infed**

As of January 2023, 43 service providers, i.e. publishers, had integrated the INFED initiative to provide patrons of participating institutions with remote access to subscribed e-resources. Just 01 service provider i.e. American Physical Society out of 43 does not integrate INFED. INFED is now deployed in 13 qualifying institutes in Maharashtra. However, the resources through INFED they offer are not the same. The institute-wise publishers offering remote access to subscribed e-resources are mentioned below.

**Table No.4**

*List of Institute-wise service Providers (Publishers) through INFED as on January 2023*

<table>
<thead>
<tr>
<th>Name of the Institute</th>
<th>Service Providers</th>
</tr>
</thead>
<tbody>
<tr>
<td>● Indira Gandhi Institute of Development Research</td>
<td>1. Cambridge University Press</td>
</tr>
<tr>
<td></td>
<td>2. JSTOR</td>
</tr>
<tr>
<td></td>
<td>3. Nature</td>
</tr>
<tr>
<td></td>
<td>4. Oxford University Press</td>
</tr>
<tr>
<td></td>
<td>5. Sage</td>
</tr>
<tr>
<td></td>
<td>6. Science Direct</td>
</tr>
<tr>
<td></td>
<td>7. Springer Link</td>
</tr>
<tr>
<td></td>
<td>8. Taylor and Francis</td>
</tr>
<tr>
<td></td>
<td>9. Wiley Blackwell Publishing</td>
</tr>
<tr>
<td>● Shivaji University, Kolhapur</td>
<td>1. Cambridge University Press</td>
</tr>
<tr>
<td></td>
<td>2. Institute of Physics</td>
</tr>
<tr>
<td></td>
<td>3. JSTOR</td>
</tr>
<tr>
<td></td>
<td>4. Sage</td>
</tr>
<tr>
<td></td>
<td>5. Science Direct</td>
</tr>
<tr>
<td></td>
<td>6. Springer Link</td>
</tr>
<tr>
<td></td>
<td>7. Taylor and Francis</td>
</tr>
<tr>
<td>● Inter-University Centre for Astronomy and Astrophysics, Pune</td>
<td>1. American Institute of Physics</td>
</tr>
<tr>
<td></td>
<td>2. Cambridge University Press</td>
</tr>
<tr>
<td></td>
<td>3. Sage</td>
</tr>
<tr>
<td></td>
<td>4. Springer Link</td>
</tr>
<tr>
<td></td>
<td>5. Taylor and Francis</td>
</tr>
<tr>
<td>● Bharati Vidyapeeth Deemed University, Pune</td>
<td>1. JSTOR</td>
</tr>
<tr>
<td></td>
<td>2. Springer Link</td>
</tr>
<tr>
<td></td>
<td>3. Taylor and Francis</td>
</tr>
<tr>
<td></td>
<td>4. Web of Science</td>
</tr>
<tr>
<td>● Anjuman-I-Islam's Kalsekar Technical Campus</td>
<td>1. ASCE Journals Online</td>
</tr>
<tr>
<td>● Vivekanand Education Society</td>
<td>1. Proquest</td>
</tr>
<tr>
<td></td>
<td>2. Wiley Blackwell Publishing</td>
</tr>
</tbody>
</table>

Source: [https://infed.inflibnet.ac.in/vcategorywise.php](https://infed.inflibnet.ac.in/vcategorywise.php)

It can be seen that, out of 13 institutes only 06 institutes have access to e-resources from various service providers listed in the table. Indira Gandhi Institute of Development Research provide remote access to e-
resources from 09 publishers, next to it Shivaji University, Kolhapur provide off-campus access from 07 publishers and Bharati Vidyapeeth Deemed University, Pune provides off-campus access from 04 publishers. Anjuman-I-Islam's Kalsekar Technical Campus has access from only 01 publisher and Vivekanand Education Society has access from 02 publishers.

It can be observed that, only 06 institutes out of 13 have access to e-resources from the various service providers listed in the table, Indira Gandhi Institute of Development Research provides off-campus access to e-resources from 09 publishers, followed by Shivaji University, Kolhapur, which provides access from 07 publishers, Inter-University Centre for Astronomy and Astrophysics, Pune, provides access from 05 publishers, and Bharati Vidyapeeth Deemed University, Pune, which provides access from 04 publishers. Vivekanand Education Society has access from 02 publishers; whereas Kalsekar Technical Campus of Anjuman-I-Islam has access from only 1 publisher.

However, information on the remaining 05 institutions, namely Zeal College of Engineering and Research, Prin. L. N. Welingkar Institute of Management Development and Research, Maharshi Karve stree Shikshan Sanstha's Cummins College of Engineering for Women Indian Institute of Information Technology, Nagpur, and Swami Ramanand Teerth Marathwada University Nanded, is absent.

Conclusion
COVID-19 seems to have a game-changing influence on the day-to-day operations of libraries around the world. Any institution's academic and research activities benefit greatly from hassle-free remote access to intellectual e-resources. For establishing single-sign-on and access management federations, remote access involves technological infrastructure, including hardware, software, and skill sets. Setting up an access management federation is a technological challenge. INFED is the nation's first access management federation. The current investigation discovered that INFED installation is not yet effective. In the context of this, a study should be conducted to understand why the installation of INFED in Maharashtra and throughout India is progressing at a moderate speed.

References
7. UGC (n.d.). Retrieved December 20, 2021, from https://www.ugc.ac.in
Abstract

One of the Best source for primary and recent information in Science subject is Current Science Journal from Indian Academy of Science, Bengaluru. In this article researcher tracked the bibliometric trends and patterns of Current Science Journal in the last twenty-five years. The study presents the 19,861 articles written by 21036 authors of 71 countries in the world, published from 1994–2017. Further researcher studied — year-wise distribution, author wise productivity, Institution-wise, country wise and type of documents, funding agencies wise distribution of contributions. Researcher found that, on an average 0.94% of the publication came from each authors, 105 is the average number of publication during the last twenty-five years of study period. During the study period just 0.16% of the articles are funded by foreign funding agency i.e.: National Natural Science Foundation of China, remaining articles are funded by different organisations of India in the Current Science journal. CSIR and NIO team is the main collaboration and together they have published only four articles. Indian Institute of Science, Bengaluru stood first rank by producing 5% publications in this Current Science journal. It concludes that most of the articles in this journal are contributed by Indian authors. The most productive country is India and Current Science was dominated by contributions from Indian institutions.

Keywords: India, Bibliometric, Research Publications, Current Science, journal evaluation, funding agencies.

1. Introduction to Current Science Journal

Current Science, published every fortnight by the Association, in collaboration with the Indian Academy of Sciences, is the leading interdisciplinary science journal from India. It was started in 1932 by the then stalwarts of Indian science such as CV Raman, Birbal Sahni, Meghnad Saha, Martin Foster and S.S. Bhatnagar. In 2011, the journal completed one hundred volumes. The journal is intended as a medium for communication and discussion of important issues that concern science and scientific activities. Besides full length research articles and shorter research communications, the journal publishes review articles, scientific correspondence and commentaries, news and views, comments on recently published research papers, opinions on scientific activity, articles on universities, Indian laboratories and institutions, interviews with scientists, personal information, book reviews, etc. It is also a forum to discuss issues and problems faced by science and scientists and an effective medium of interaction among scientists in the country and abroad. Current Science is read by a large community of scientists and the circulation has been continuously going up. It provides archival facility for online users also. Speciality of this journal is that, it provides full text of unedited version of forthcoming articles, on its website, and in the printer version it provides advertisements of different organisations and universities posts, forthcoming conferences / refresher courses for science students as well as for the teachers etc. (Indian Academy of Science, Bengaluru)

Current Science publishes special sections on diverse and topical themes of interest and this has served as a platform for the scientific fraternity to get their work acknowledged and highlighted. Contributions to these special issues ‘which receive widespread attention’ are from leading scientists in India and abroad. Current Science is indexed by Web of Science, Current Contents, Geobase, Chemical Abstracts, IndMed and Scopus. The Impact Factor of the journal for the year 2017 is 0.883 (Current Science Association in Collaboration with Indian Academy of Sciences) and (Parameswaran). According to SCImago Journals and Country Rank, Current Science journal is having h-index of 98 and in the ranking list it got 124th place among the journals published from India. (SCImago, 2018)
2. Review of Literature

Over the years there have been several studies taken place on this bibliometric study in different journals, here we have selected few articles from previous five years.

Gangan Prathap (2014)\(^4\) carried out a citation-based bibliometric profiling of the journal Current Science. A three-dimensional approach breaks down scholarly performance into three primary components – quantity, quality and consistency. The citation data are retrieved from the Web of Science. They quantified the evolution of these primary indicators with time, and along with two additional secondary indicators, the h-index and the z-index, to identify the most productive authors, cities and states that have published articles and notes in Current Science in the recent past. Faisal Mustafa (2015)\(^11\) studied 88 articles of the journal—World Digital Libraries: An International Journal, published during the year 2008–14. Author studied year-wise distribution, authorship pattern of contributions, institution-wise distribution of contributions, country-wise distribution of contributions, and length of articles in each volume. It concludes that most of the articles in this journal are contributed by India and most of the articles are written by single author. Padme, S. L. & Vaishali, K. (2016)\(^12\) studied Bibliometric analysis of the Indian Journal of Chemistry -Section A (IJC-A) for the period of five years from 2010 to 2014. In the present study an attempt has been made to analyze the year wise distribution of articles, find out the issue wise distribution of articles, authorship pattern of Journal articles, year wise degree of collaboration, institute-wise distribution of papers, and geographical distribution of articles author also ranking of leading contributors in the articles. Researcher found that, the Indian Journal of Chemistry-Section A (IJC-A) published 482 research papers during the period of study. The journal on an average has published 96 research papers per year. Higher No of Authors contributed 409(62.63%) papers in the articles from universities. Shankar Reddy Kolle (2016)\(^10\) reported the bibliometric analysis of articles published in the Journal of Knowledge Management, from 2009 to 2015 in order to reveal the publications trend in this journal. They collected the data from the Web of Science Database. A total of 437 articles were published for the stated period. Author analyzed to find out the year wise break up, citations, page counts, references, authorship pattern, prolific author and most contributing countries. And found that, maximum number articles were published in 2009 (74) and the articles published in 2009 had received highest citations. Page length and number of references used to write articles also kept increasing from 2009 to 2015. As the degree of collaboration value is 0.805, it is noted that multiple authored articles occupy the prominent position and USA, Australia and England are the major contributing nations to the journal. Lakehead University made major contribution to the journal for the period. Jayaprakash and Gavisiddappa Anandahalli (2017)\(^8\) made a bibliometric study of Gyankosh: The Journal of Library and Information Management is one of the premier journals in the Library and Information Science field published from Ghaziabad, Uttar Pradesh, India. This article presents bibliometric analysis of Gyankosh from 2010 to 2013 and covers different parameters of bibliometric analysis. Researcher found that, working librarian’s contribution to this journal is more compared to teachers and research scholars in the university departments. Single author publications are more in this Gynakosh journal. Further it is found that, more number of authors are concentrating their study on information seeking behavior, electronic resources and services and on citations. Parameshwar S (2017)\(^13\) conducted a bibliometric analysis of the journal titled ‘Pearl: Journal of Library & Information Science’ for the period from 2007 to 2015. The paper analyses a citation study of 332 articles (57 times cited) which were published from 2007 to 2015 in the Pearl: Journal of Library & Information Science. Article covers the bibliometric analyses of year-wise publication of articles, issue-wise authorship patterns, institutions-wise publication of contributions, state-wise, city-wise and country-wise publication of articles. The study has found that the contributions of articles to PEARL were not only from India but also from foreign countries. The result showed that out of 332 articles multiple authors contributed 60.84%, whereas the rest 39.16% articles were contributed by single author. Further, study also examines the length of articles and average number of references in the articles. Peng Wang, Fangwei Zhu, Haoyang Song and Jianhua Hou (2017)\(^20\) reported the findings of bibliometric analysis of 31,403 publications.
in Current Science journal from 1961 to 2015 revealed an unstable trend; the highest citations per publication appeared during 2003–2005. The h-index of Current Science was 82 and 24 authors had more than one H-Classic articles. USA is quite active in co-authorship collaboration and shows the high collaboration ratio with India, England, Iceland and France. The most productive country was India and Current Science was dominated by contributions from Indian institutions. Co-occurrence analysis revealed 11 main research themes, indicating that Current Science is a multidisciplinary science journal. These findings will help the readers to get a quick and intuitive overview of Current Science. Sushma H R (2018)17 carried out Bibliometric study on 294 scholarly research articles published in DESIDOC Journal of Library and Information Technology, during the period 2011-2015. Researcher examined the distribution pattern of the journal articles, authorship pattern, and geographical distribution of authors and citation analysis of the references attached to the papers and found that, a maximum number of articles (65) were published in the year 2012. On an average 9.8 articles were published by the journal in each issue during the period of investigation. Maximum number of contributions are joint collaborations with 191 (64.96 %) articles. Maximum of 133 articles contributed in the journal are on two author pattern, followed by 103 articles as single authored. 85% contributions are from India. On an average 16.5 references were cited by each article during the period of investigation with total references 4857.

These studies present an overview of the evaluation, growth of publications, type of documents, influential authors, institutions and countries etc.

3. Methodology
The main purpose of the study is to find out the publication trend, type of documents, funding agencies, institution and countrywide contribution, prolific authors and their organizations, etc. in the Current Science Journal. Accessed the data on Current Science in the month of June and downloaded all the required information from the web of science database, data collected is of twenty five years from 1993 to 2017. The downloaded data was tabulated and analysed with the help of MS-Excel.

4. Objectives
Objectives of the study are to undertake an in-depth study on Current Science journal with the following aims.

- To find out year-wise, author-wise contribution of the publications.
- To study institutions /organisation wise and country wise distribution of authors.
- To reveal funding agency wise distribution of articles published in this journal.

5. Data Analysis and Interpretation

<table>
<thead>
<tr>
<th>Authors</th>
<th>Records</th>
<th>% of 19861</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balaram P</td>
<td>334</td>
<td>1.682</td>
</tr>
<tr>
<td>Kumar A</td>
<td>166</td>
<td>0.836</td>
</tr>
<tr>
<td>Kumar S</td>
<td>161</td>
<td>0.811</td>
</tr>
<tr>
<td>Prathap G</td>
<td>108</td>
<td>0.544</td>
</tr>
<tr>
<td>Singh R</td>
<td>106</td>
<td>0.534</td>
</tr>
<tr>
<td>Sen N</td>
<td>87</td>
<td>0.438</td>
</tr>
<tr>
<td>Sankaran Av</td>
<td>85</td>
<td>0.428</td>
</tr>
<tr>
<td>Singh S</td>
<td>79</td>
<td>0.398</td>
</tr>
<tr>
<td>Singh M</td>
<td>76</td>
<td>0.383</td>
</tr>
</tbody>
</table>
Prolific authors who numbered 21036 contributed 19861 papers. These authors were scattered in 71 countries, in the last 25 years of establishment of this Current Science journal. Table No. 5.1 depicts the number of articles written by different authors. Balaram P published highest number (1.7%) of articles in this journal and stood 1st rank, followed by Kumar A and Kumar S published 0.83% and 0.81% publications and placed in 2nd and 3rd rank respectively. Anonymous authors have written 534 articles. On an average 0.94% of the publication came from each authors, Balaram P is the only author who published more than average publications during the study period in this Current Science journal.

105 is the average number of publication during the last twenty-five years of study period, five author’s i.e: Balaram P, Kumar A, Kumar S, Pratap G and Singh R having publications more than the average of 105 publications during the study period.

Table No.5.2
Top 25 Country wise Distribution of Articles

<table>
<thead>
<tr>
<th>Countries/Regions</th>
<th>Records</th>
<th>% of 19861</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>16440</td>
<td>82.775</td>
</tr>
<tr>
<td>USA</td>
<td>836</td>
<td>4.209</td>
</tr>
<tr>
<td>England</td>
<td>248</td>
<td>1.249</td>
</tr>
<tr>
<td>Peoples R China</td>
<td>189</td>
<td>0.952</td>
</tr>
<tr>
<td>Germany</td>
<td>187</td>
<td>0.942</td>
</tr>
<tr>
<td>Japan</td>
<td>131</td>
<td>0.66</td>
</tr>
<tr>
<td>Australia</td>
<td>111</td>
<td>0.559</td>
</tr>
<tr>
<td>France</td>
<td>85</td>
<td>0.428</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>68</td>
<td>0.342</td>
</tr>
<tr>
<td>Taiwan</td>
<td>62</td>
<td>0.312</td>
</tr>
<tr>
<td>Canada</td>
<td>58</td>
<td>0.292</td>
</tr>
</tbody>
</table>
Articles are written by different authors of different countries in this world. The global publication share of the top 25 most productive countries were scattered among the developed and developing countries in the journal of Current Science. Table No.5.2 reveals the country wise contribution of articles during the last 25 years in Current Science journal publications are dominated by India as 82% of articles are written by Indian authors, followed by authors of United States of America and England with 4.20% and 1.24%. The global research publication share of the top 25 most productive countries in Current Science journal is varied from 0.11 to 4.20% during the study period. Overall 19861 articles are written by 21036 authors and scattered among 71 countries in the world. 1757 (8.84%) articles information about the countries is not mentioned in this study. 793 is the average publication of different countries during the study period, only two nations i.e.; India and USA are having more than the average publications during the study period of 1994 to 2017. It is interesting to note that, Current Science is dominated by Indian authors (82.7%) 

<table>
<thead>
<tr>
<th>Country</th>
<th>Records</th>
<th>% of 19861</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malaysia</td>
<td>51</td>
<td>0.257</td>
</tr>
<tr>
<td>Netherlands</td>
<td>48</td>
<td>0.242</td>
</tr>
<tr>
<td>Italy</td>
<td>46</td>
<td>0.232</td>
</tr>
<tr>
<td>South Korea</td>
<td>39</td>
<td>0.196</td>
</tr>
<tr>
<td>Switzerland</td>
<td>37</td>
<td>0.186</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>29</td>
<td>0.146</td>
</tr>
<tr>
<td>Russia</td>
<td>28</td>
<td>0.141</td>
</tr>
<tr>
<td>Sweden</td>
<td>28</td>
<td>0.141</td>
</tr>
<tr>
<td>Iran</td>
<td>27</td>
<td>0.136</td>
</tr>
<tr>
<td>South Africa</td>
<td>26</td>
<td>0.131</td>
</tr>
<tr>
<td>Thailand</td>
<td>24</td>
<td>0.121</td>
</tr>
<tr>
<td>Nepal</td>
<td>23</td>
<td>0.116</td>
</tr>
<tr>
<td>Pakistan</td>
<td>23</td>
<td>0.116</td>
</tr>
<tr>
<td>Poland</td>
<td>23</td>
<td>0.116</td>
</tr>
<tr>
<td>Anonyms</td>
<td>1757</td>
<td>8.84</td>
</tr>
</tbody>
</table>

Table No. 5.3
Types of Documents

<table>
<thead>
<tr>
<th>Document Types</th>
<th>Records</th>
<th>% of 19861</th>
</tr>
</thead>
<tbody>
<tr>
<td>Software Review</td>
<td>1</td>
<td>0.005</td>
</tr>
<tr>
<td>Retracted Publication</td>
<td>2</td>
<td>0.01</td>
</tr>
<tr>
<td>Book Review</td>
<td>9</td>
<td>0.045</td>
</tr>
<tr>
<td>Correction Addition</td>
<td>51</td>
<td>0.257</td>
</tr>
<tr>
<td>Proceedings Paper</td>
<td>79</td>
<td>0.398</td>
</tr>
<tr>
<td>Item About An Individual</td>
<td>92</td>
<td>0.463</td>
</tr>
<tr>
<td>Correction</td>
<td>99</td>
<td>0.498</td>
</tr>
<tr>
<td>Reprint</td>
<td>104</td>
<td>0.524</td>
</tr>
<tr>
<td>Biographical Item</td>
<td>461</td>
<td>2.321</td>
</tr>
<tr>
<td>Review</td>
<td>752</td>
<td>3.786</td>
</tr>
<tr>
<td>Note</td>
<td>1116</td>
<td>5.619</td>
</tr>
<tr>
<td>News Item</td>
<td>1211</td>
<td>6.097</td>
</tr>
<tr>
<td>Editorial Material</td>
<td>2449</td>
<td>12.331</td>
</tr>
</tbody>
</table>
Publications to journals are in different types, in this journal it is 15 different types of bibliographic form are available in a total of 19861 publications during the study period. Table No. 5.3 shows the different type of research papers available in the current science journal during the year 1994 to 2017. Out of 19861 papers in the current science journal, 50% of the papers are scientific articles. 18% are in the form of letter and 12% are in the form of Editorial material. News items and Notes are around 6%, Reviews are 4%, and Biographical items are 2%. Reprint, Correction, Items about an individual, Proceedings of Paper, Correction addition, Book Review, Retracted Publication and Software Reviews are less than 1% of publications in this journal in the study period.

Table No.5.4
Funding Agency wise Distribution of Articles

<table>
<thead>
<tr>
<th>Funding Agencies</th>
<th>Records</th>
<th>% of 19861</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anonyms</td>
<td>17944</td>
<td>90.34</td>
</tr>
<tr>
<td>Department Of Science And Technology (DST), GoI</td>
<td>310</td>
<td>1.561</td>
</tr>
<tr>
<td>Council Of Scientific And Industrial Research (CSIR), GoI</td>
<td>201</td>
<td>1.011</td>
</tr>
<tr>
<td>University Grants Commission (UGC), GoI</td>
<td>122</td>
<td>0.615</td>
</tr>
<tr>
<td>Department Of Biotechnology, GoI</td>
<td>120</td>
<td>0.605</td>
</tr>
<tr>
<td>Ministry Of Earth Sciences, GoI</td>
<td>35</td>
<td>0.176</td>
</tr>
<tr>
<td>Indian Council Of Agricultural Research GoI</td>
<td>34</td>
<td>0.171</td>
</tr>
<tr>
<td>National Natural Science Foundation Of China</td>
<td>32</td>
<td>0.161</td>
</tr>
<tr>
<td>Indian National Science Academy, New Delhi</td>
<td>13</td>
<td>0.065</td>
</tr>
<tr>
<td>Ministry Of Environment And Forests, GoI</td>
<td>12</td>
<td>0.06</td>
</tr>
<tr>
<td>Department Of Space, GoI</td>
<td>11</td>
<td>0.055</td>
</tr>
</tbody>
</table>

Different funding agencies are provided funding to authors to do the research work in this world of Science. Table No. 5.4 and figure no. 1 reveals the funding agencies of articles during the study period of twenty-five years. Largest 1.5% of the articles are funded by Department of Science and Technology, Government of India followed by Council of Scientific and Industrial Research with 1% publications. By funding 0.61% of the articles, University Grants Commission got third place in this study. In this journal in the last twenty-five years just 0.16% of the articles are funded by foreign funding agency i.e.- National Natural Science Foundation of China, remaining articles are funded by different organisations of India.

Figure No. 1
Average publications in this study period is 89 and Department Of Science and Technology (DST) of Government Of India, Council Of Scientific And Industrial Research (CSIR), Govt. of India, University Grants Commission (UGC) New Delhi and Department Of Biotechnology, Government Of India, published more than average publications during the study period. It is interesting to note that, all the funding agencies are from Government of India.

**Table No.5.5**

**Collaboration of Authors**

<table>
<thead>
<tr>
<th>Group of Authors</th>
<th>Records</th>
<th>% of 19861</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anonyms</td>
<td>19850</td>
<td>99.94</td>
</tr>
<tr>
<td>CSIR NIO TEAM</td>
<td>4</td>
<td>0.02</td>
</tr>
<tr>
<td>NMITLI BIOSUITE TEAM</td>
<td>2</td>
<td>0.01</td>
</tr>
<tr>
<td>SHIPBOARD SCI PARTY SK 306</td>
<td>2</td>
<td>0.01</td>
</tr>
<tr>
<td>BOARD SCIENTIFIC INDUSTRIAL RES</td>
<td>1</td>
<td>0.005</td>
</tr>
<tr>
<td>CIXS TEAM</td>
<td>1</td>
<td>0.005</td>
</tr>
<tr>
<td>INDIA NUSTAR COLLABORATION</td>
<td>1</td>
<td>0.005</td>
</tr>
<tr>
<td>INDIA PANDA COLLABORATION</td>
<td>1</td>
<td>0.005</td>
</tr>
<tr>
<td>MIP PROJECT TEAM</td>
<td>1</td>
<td>0.005</td>
</tr>
<tr>
<td>OSDD CONSORTIUM</td>
<td>1</td>
<td>0.005</td>
</tr>
<tr>
<td>SMEECS’08 ORGANIZERS</td>
<td>1</td>
<td>0.005</td>
</tr>
</tbody>
</table>

Collaboration brings together experiences, skills, knowledge and know-how of different researchers into one particular field of study. Collaboration ensures timely completion of research and also boosts the quality of research. Table No. 5.5 reveals the collaboration of authors among the leading research institutes in India and world. CSIR and NIO team is the main collaborators and together they published four articles, NMITLI and BIOSUITE team and Shipboard SCI and Party SK 306 together published 2 articles each, remaining 5 articles are published by five other different teams in this study. It is known from the study that, very less number of publications are collaborated with the different authors of research organisations/institutes.

**Table No.5.6**

**Top 25 Organisation / State wise Distribution of Articles**

<table>
<thead>
<tr>
<th>Organizations</th>
<th>State</th>
<th>Records</th>
<th>% of 19861</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indian Institute Of Science</td>
<td>Karnataka</td>
<td>1098</td>
<td>5.528</td>
</tr>
<tr>
<td>Indian Institute Of Technology</td>
<td>West Bengal</td>
<td>664</td>
<td>3.343</td>
</tr>
<tr>
<td>Banaras Hindu University</td>
<td>UP</td>
<td>381</td>
<td>1.918</td>
</tr>
<tr>
<td>National Geophysics Research Institute</td>
<td>Telangana</td>
<td>312</td>
<td>1.571</td>
</tr>
<tr>
<td>National Institute Of Oceanography</td>
<td>Goa</td>
<td>296</td>
<td>1.49</td>
</tr>
<tr>
<td>University Of Delhi</td>
<td>Delhi</td>
<td>289</td>
<td>1.455</td>
</tr>
<tr>
<td>Indian Agricultural Research Institute</td>
<td>Delhi</td>
<td>289</td>
<td>1.455</td>
</tr>
<tr>
<td>Bhabha Atomic Research Center</td>
<td>MS</td>
<td>271</td>
<td>1.364</td>
</tr>
<tr>
<td>Council Of Scientific And Industrial Research</td>
<td>Delhi</td>
<td>261</td>
<td>1.314</td>
</tr>
<tr>
<td>University Of Agricultural Science, Bangalore</td>
<td>Karnataka</td>
<td>260</td>
<td>1.31</td>
</tr>
<tr>
<td>Tata Institute Of Fundamental Research</td>
<td>MS</td>
<td>253</td>
<td>1.274</td>
</tr>
<tr>
<td>Birbal Sahni Institute Of Paleobot</td>
<td>UP</td>
<td>206</td>
<td>1.037</td>
</tr>
<tr>
<td>Physics Research Laboratory</td>
<td>Gujarat</td>
<td>204</td>
<td>1.027</td>
</tr>
<tr>
<td>Wadia Institute Of Himalayan Geology</td>
<td>Dehradun</td>
<td>182</td>
<td>0.916</td>
</tr>
<tr>
<td>Jawaharlal Nehru Center For Advanced Science Research</td>
<td>Karnataka</td>
<td>167</td>
<td>0.841</td>
</tr>
</tbody>
</table>
Raman Research Institute          Karnataka          162          0.816
Madurai Kamaraj University       Tamilnadu          160          0.806
Geological Survey Of India       West Bengal         158          0.796
Jawaharlal Nehru University      Delhi               152          0.765
University Of Calcutta           West Bengal         128          0.644
University Of Madras             Tamilnadu          125          0.629
University Of Hyderabad          Telangana           118          0.594
Andhra University                AP                   115          0.579
Indian Space Research Organisation Karnataka 112 0.564
Anonyms                          -                   2612         13.15

Table No. 5.6 describes the organisation wise distribution of articles during the last 25 years. 5165 organisations produced 19861 articles during the study period. Indian Institute of Science, Bengaluru stood first rank by producing 5% publications in this Current Science journal, followed by Indian Institute of Technology with 3%, Banaras Hindu University with 2% and placed 2nd and 3rd rank in this study respectively. Among the universities Banaras Hindu University got first place by producing 2% publications, second and third place got by University of Delhi and University of Agricultural Sciences, Bengaluru with 1%.

Under the category of research institute, National Geophysics Research Institute and National Institute of Oceanography published 1% publications each and stood first and second place. University of Delhi and Indian Agricultural Research Institute have published 289 publications each during the study period. It is interesting note that, Indian Space Research Organisation got just 0.5% publications in this journal and stood last place among the research institutes. Research publications of these organizations are varied from 112 to 1098. Average publication of these research institutes and universities is 359 during the study period and again Indian Institute Of Science, Indian Institute of Technology and Banaras Hindu University published more than average publications during the study period.

Overall, eleven states of India produced 19861 publications during the study period. Karnataka state stood first among the states, by producing 9.059% of research publications in this journal compared to other states in India. Delhi and West Bengal states got 2nd and 3rd place by producing 4.989% and 4.783% respectively. There is a very less margin (0.206%) in between Delhi and West Bengal states. Telangana, Maharashtra and Uttar Pradesh got similar percentage from 2.165, 2.638 and 2.955. Remaining states published less number of publications in this journal.

Table No.5.7

<table>
<thead>
<tr>
<th>No. of Years</th>
<th>Publication Years</th>
<th>Records</th>
<th>% of 19861</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1993</td>
<td>594</td>
<td>2.991</td>
</tr>
<tr>
<td>2.</td>
<td>1994</td>
<td>493</td>
<td>2.482</td>
</tr>
<tr>
<td>3.</td>
<td>1995</td>
<td>576</td>
<td>2.9</td>
</tr>
<tr>
<td>4.</td>
<td>1996</td>
<td>535</td>
<td>2.694</td>
</tr>
<tr>
<td>5.</td>
<td>1997</td>
<td>529</td>
<td>2.664</td>
</tr>
<tr>
<td>6.</td>
<td>1998</td>
<td>638</td>
<td>3.212</td>
</tr>
<tr>
<td>7.</td>
<td>1999</td>
<td>763</td>
<td>3.842</td>
</tr>
<tr>
<td>8.</td>
<td>2000</td>
<td>729</td>
<td>3.671</td>
</tr>
<tr>
<td>9.</td>
<td>2001</td>
<td>778</td>
<td>3.917</td>
</tr>
<tr>
<td>10.</td>
<td>2002</td>
<td>706</td>
<td>3.555</td>
</tr>
</tbody>
</table>
Table No.5.7 and figure no.2 illustrates the year wise growth of articles in the Current Science journal. Majority 5% of publications are published in the year 2017, followed by in the year 2005 and 2016 with 4.48% and 4.40% of publications. A total of 17925 articles found in this twenty five years, and it is found that on an average 717 articles are published per year in this Current Science journal. Highest number of articles are published in the year 2017 and lowest number in the year 1994. Around fifteen year its publications are in between 3.21% to 3.94% from 1998-99 to 2013-14, except in the year 2005 and 2007.

During the first five years of the study i.e.: 1993 to 1997 it published just 13.73%, it raised to 18.19% during the period of 1998 to 2002, again in the year 2003 to 2007, 19.86% of the publications came from the Current Science Journal but, during the year 2008-2012 its publications came down to 18.05%, again at the end of twenty-five year it raised its publications and reached its peak in the year 2013 to 2017 by producing 20.40% of publications. The figure 2 shows continuous rising trend from 1993 to 2007. However, the annual rate of growth is inconsistent and fluctuates during the study period.

The compound annual growth rate (CAGR) was calculated using the formula given below and is available at www.investopedia.com/calculator/cagr.aspx. CAGR (mean annual growth rate) was found to be 2.1 during the study. (Dwivedi, Garg, & Prasad, 2017)

\[
CAGR = \left( \frac{\text{Ending Value}}{\text{Beginning Value}} \right)^{\frac{1}{n}} - 1 \quad \text{(Investopedia)}
\]
Table No.5.8
Relative Growth Rate and Doubling Time of Output

<table>
<thead>
<tr>
<th>Publication Years</th>
<th>No. of Records</th>
<th>Cumulative Numbers</th>
<th>W1</th>
<th>W2</th>
<th>R(a)</th>
<th>Mean(a) 1-2</th>
<th>Doubling Time</th>
<th>Mean pt (a) 1-2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993</td>
<td>594</td>
<td>594</td>
<td>-</td>
<td>6.38</td>
<td>-</td>
<td>0.22</td>
<td>4.11</td>
<td></td>
</tr>
<tr>
<td>1994</td>
<td>493</td>
<td>1087</td>
<td>6.38</td>
<td>6.99</td>
<td>0.61</td>
<td>1.14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1995</td>
<td>576</td>
<td>1663</td>
<td>6.99</td>
<td>7.41</td>
<td>0.42</td>
<td>1.65</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1996</td>
<td>535</td>
<td>2198</td>
<td>7.41</td>
<td>7.69</td>
<td>0.28</td>
<td>2.47</td>
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<td></td>
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<tr>
<td>1997</td>
<td>529</td>
<td>2727</td>
<td>7.69</td>
<td>7.91</td>
<td>0.22</td>
<td>3.15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1998</td>
<td>638</td>
<td>3365</td>
<td>7.91</td>
<td>8.12</td>
<td>0.21</td>
<td>3.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1999</td>
<td>763</td>
<td>4128</td>
<td>8.12</td>
<td>8.32</td>
<td>0.2</td>
<td>3.46</td>
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<tr>
<td>2000</td>
<td>729</td>
<td>4857</td>
<td>8.32</td>
<td>8.48</td>
<td>0.16</td>
<td>4.33</td>
<td></td>
<td></td>
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<tr>
<td>2001</td>
<td>778</td>
<td>5635</td>
<td>8.48</td>
<td>8.63</td>
<td>0.15</td>
<td>4.62</td>
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<tr>
<td>2002</td>
<td>706</td>
<td>6341</td>
<td>8.63</td>
<td>8.75</td>
<td>0.12</td>
<td>5.77</td>
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<td></td>
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<tr>
<td>2003</td>
<td>749</td>
<td>7090</td>
<td>8.75</td>
<td>8.86</td>
<td>0.11</td>
<td>6.3</td>
<td></td>
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<tr>
<td>2004</td>
<td>770</td>
<td>7860</td>
<td>8.86</td>
<td>8.96</td>
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<td>6.93</td>
<td></td>
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<tr>
<td>2005</td>
<td>890</td>
<td>8750</td>
<td>8.96</td>
<td>9.07</td>
<td>0.11</td>
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<tr>
<td>2006</td>
<td>728</td>
<td>9478</td>
<td>9.07</td>
<td>9.15</td>
<td>0.08</td>
<td>0.06</td>
<td>8.66</td>
<td>12.08</td>
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<tr>
<td>2007</td>
<td>809</td>
<td>10287</td>
<td>9.15</td>
<td>9.23</td>
<td>0.08</td>
<td>8.66</td>
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<tr>
<td>2008</td>
<td>784</td>
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<td>9.31</td>
<td>0.08</td>
<td>8.66</td>
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<tr>
<td>2009</td>
<td>722</td>
<td>11793</td>
<td>9.31</td>
<td>9.37</td>
<td>0.06</td>
<td>11.55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>728</td>
<td>12521</td>
<td>9.37</td>
<td>9.43</td>
<td>0.06</td>
<td>11.55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>706</td>
<td>13227</td>
<td>9.43</td>
<td>9.49</td>
<td>0.06</td>
<td>11.55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>646</td>
<td>13873</td>
<td>9.49</td>
<td>9.53</td>
<td>0.04</td>
<td>17.32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>702</td>
<td>14575</td>
<td>9.53</td>
<td>9.58</td>
<td>0.05</td>
<td>13.86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>671</td>
<td>15246</td>
<td>9.58</td>
<td>9.63</td>
<td>0.05</td>
<td>13.86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>804</td>
<td>16050</td>
<td>9.63</td>
<td>9.68</td>
<td>0.05</td>
<td>13.86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>874</td>
<td>16924</td>
<td>9.68</td>
<td>9.73</td>
<td>0.05</td>
<td>13.86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>1001</td>
<td>17925</td>
<td>9.73</td>
<td>9.79</td>
<td>0.06</td>
<td>11.55</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>17925</td>
<td>35850</td>
<td>0.14</td>
<td>8.09</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Relative Growth Rates (RGR) were calculated for publications. The Doubling Time (Dt) against each year of study was also determined in Table -5.8 and figure no. 3 and discussed the relative growth rate of the articles during the years from the years 1993 to 2017. The relative growth rate is the increase in number of publications per unit per time. The relative growth rate and doubling time model developed by Mahapatra (1985). The overall study period has witnessed a mean relative growth rate is 0.14. Significantly, the doubling time for article output has decreased from 0.22 during 1993 to 2005 and to 0.06 in the year 2006 to 2017. The whole study period has witnessed the mean doubling time for article output as 8.09. It could be deduced from the above discussion that the mean relative growth rate of article output has shown a declining trend. The relative growth rate value is decreased from 0.22 to 0.06 during the study period.
Figure No. 3

It can be seen in this table that, the value of average relative growth rate of articles decreased gradually from 0.61 to 0.1 in the year 2004 and again it increased to 0.06 in the year 2017. The corresponding mean doubling time for the period increased from 4.11 to 12.08.

6. Findings:
1. On an average 0.94% of the publication came from each authors, during the study period in Current Science journal. 105 is the average number of publication during the last twenty-five years of study period.
2. Overall 19861 articles are written by 21036 authors of 71 countries in the world.
3. Out of 19861 papers in the current science journal, 50% of the papers are in the form of articles.
4. In this journal during the study period, just 0.16% of the articles are funded by foreign funding agency i.e.: - National Natural Science Foundation of China, remaining articles are funded by different organisations of India.
5. CSIR and NIO team is the main collaborator and together they published four articles.
6. Indian Institute of Science, Bengaluru stood first rank by producing 5% publications in this Current Science journal.
7. Highest number of articles are published in the year 2017 and lowest number of publications in the year 1994.
8. All the articles (19861) are published in this journal is multidisciplinary science in nature the main research area is Science, Technology and other topics. At the same time, it is noted here that, 100% communication taken place in English language during the study period.
9. Most productive country is India and Current Science is dominated by publications of Indian research institutions and universities.
10. The doubling time for article output has decreased from 0.22 during 1993 to 2005 and to 0.06 in the year 2006 to 2017.

7. Conclusion
Bibliometric is a quantification tool which helps to analyse the growth and development in scientific communications. The popularity in the adaptation of bibliometric techniques in various disciplines stimulated stupendous growth of literature on bibliometric and its related areas. Current Science has published 19861 articles during 1994 – 2017. The present study is extensively attempted to highlight the research productivity in the area
of Sciences. The resultant data obtained for this study discovers that, India and UK are the most productive countries and stood 1st and 2nd rank.

All the articles (19861) are published in this journal is multidisciplinary science in nature the main research area is Science, Technology and other topics. At the same time, it is noted here that, English is the international language in which Indian researchers predominantly (100%) published their research work, during the study period. Current Science is the reputed journal in the field of Science education and publishes pure primary research articles. Analysis of contributions shows that it covers contributions related to nearly all aspect of Science. The journal is not only popular in India but also popular among various countries of the world. Current Science is receiving wide range of institutional affiliations, and is gaining international acceptance as a journal in which to publish high quality science papers. The result underscores the significance of journals as an important information source. It can be concluded that the result of this type of studies would appear to be of great potential in the management of library and especially the collection of journals. The present investigation again proved that, since India being the host country of the journal as such, more than 85% publications in the journal during the period of investigation is from India and only 15% contributions are from abroad and that too in collaboration with Indian authors.

8. References

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Peer Reviewed Journal www.aiirjournal.com
Developing Digital Library: Processes, Services, Challenges and Opportunities

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Abstract:
If technology push, crashing costs, and global connectivity are the signposts for the coming decade, digital libraries are the next step in the convergence revolution. Digital libraries are innovations, the implementation of which is nascent in the developing countries. However, they hold the promise of becoming key technologies for knowledge creation and management in the future. The purpose of this article is to describe basic concepts, processes, and services of digital libraries, and discuss challenges and opportunities offered/faced by digital libraries.

1.0 Introduction:
Digital Libraries are being created today for diverse communities and indifferent fields e.g., education, science, culture, development, health, governance and so on. With the availability of several free digital Library software packages at the recent time, the creation and sharing of information through the digital library collections has become an attractive and feasible proposition for library and information professionals around the world. Library automation has helped to provide easy access to collections using computerized library catalogue such as On-line Public Access Catalog (OPAC). Digital libraries differ significantly from the traditional libraries because they allow users to gain online access and work with the electronic versions of full text documents and their associated images. Many digital libraries also provide access to other multimedia content like audio and video. (Keywords: Digital Library, Processes, Services, Challenges and Opportunities)

1.2 Definition of Digital Library:
According to Lesk (1997)
"Digital libraries are organized collections of digital information. They combine the structuring and gathering of information, which libraries and archives have always done, with the digital representation that computers have made possible.”

According to - William Arms
"An informal definition of a digital library is a managed collection of information, with associated services, where the information is stored in digital formats and accessible over a network. A crucial part of this definition is that the information is managed. A stream of data sent to earth from a satellite is not a library. The same data, when organized systematically, becomes a digital library collection.”

According to Gladney H.M, et. al. (1994)
“A digital library service is an assemblage of digital computing, storage, and communications machinery together with the software needed to reproduce, emulate, and extend the services provided by conventional libraries based on paper and other material means of collecting, storing, cataloguing, finding, and disseminating information.”

1.1 Objectives of the Study:
Objectives of the study are determined as follows:
1. To review the Digital Library system.
2. To assess the challenges and opportunities of Digital Library.
3. To suggest better policy and measures for improvement of the Digital Library.
1.2 Methodology:
This study intended to examine the challenges of the Digital Library system based on partially secondary and some extent of primary observation of the researcher. The data has been collected and furnished from the official websites of the various journals, and other related research papers, books and published work.

1.3 Significance of the Study:
Digital libraries provide a variety of benefits that can help users in many ways. Digital library existence certainly greatly helps educational academics in finding learning resources. The core benefits of digital libraries are easy access, unlimited space and time, preservation of collections. Many benefits provided by digital libraries do not make it replace the position of conventional libraries. This research will be helpful to point out the challenges and opportunities of the Digital Library.

2.0 Digital Library Services:
Digital Library Services provides a wide array of services to assist members of the library with organizing collections of materials or making them more widely available. The following services offered by the Digital Libraries.

- E-books /E-Journals
- E-mail
- DVD- ROM databases
- Internet service
- Photocopying
- Current Awareness Service
- Selective Dissemination of Information
- Catalogue database
- Externally-Internally purchased database.
- Document delivery

3.0 Digital Library Processes
3.1. Content selection:
The content selection for the DL depends on the utility, value and rarity of the collection. It may be Internal or external, free or commercial, owned or licensed, print or electronic formats. The content may include Staff publications, email archive, news, reports, policies and plan documents, drawings, software, press releases, presentations, courseware, lectures, best practices, etc. for education and corporate purposes.

3.2. Content acquisition
Digital Library acquired contents already in digital form as well as to be converted and they may be loaded in central or distributed sites. The format (PDF, TIFF, postscript, html, xml) of the digital content may be selected as those supported subsequent presentations today & tomorrow and It should not need special access mechanism.

3.3. Content organization:
The concept of content management has been around in intellectual organization and physical organization. Intellectual organization consists of object description, categorization, indexing control and automatic content extraction. Physical organization includes databases, indexes, storage, content granularity (full text tagging or hierarchical browsing support), search and retrieval. Digital object identity fire also plays an important role in content organization. The content organization needs special attention in DL because it is the base of the DL services and products.

3.4. Content access and delivery:
DL is changing the landscape for access and delivery of digital contents globally. This allows various type search such as Structured search (metadata driven), Object search (full-text, multimedia object search), Search at finer granularity (tables, figures, paragraphs, section headings), Global search and resource type search (e.g., bibliographic databases, e-journals, reports, experts). The searching features includes Relevance ranking, Search refinement, search history, search set combination, Personalization, customization. It also facilitates structured presentation (display), Hierarchical browsing (subject schemes/ topic directory). Access and delivery areas of Digital library are developing new innovative technologies and processes in these areas that will capitalize upon the digitized status of DL content, and allow quicker, easier and cheaper access to content, which in turn will be a powerful justification for your digitization effort. Access and delivery processes are aided by conversion to digital mass storage.

3.5. Access management:
Access management consists of various operations such as access control, content security, object identification, ownership establishment, License metering, user Id and password management, Proxy/IP authentication management, etc. All the above operations have been controlled by the various software’s and techniques which facilitate DL has access control over the owned and licensed contents.

3.6. Usage and monitor:
DL has an integrated usage and monitoring system that gives answers to such questions like what digital sources are being used, how much and by whom. Those answers may help you to evaluate system performance and information services.

3.7. Networking and interoperation:
Networking enhances digital information services and resource sharing. Metadata and Open access initiative allows federated access to different collections within and across DL. Interoperation allows DL users to find out desired information from different systems across the word.

3.8. Preservation:
Digital preservation involves quite different methods, skills, and outcomes and can complement traditional preservation services, while simultaneously providing unique and dynamic new uses of information. Digital Library ensures perpetuity and long-term access through time and changing technologies.

4.0 Challenges:
a) Copyright: - Digitization violates the copyright law as the thought content of one author can be freely transferred by another without his acknowledgement. So One difficulty to overcome for digital libraries is the way to distribute information. How does a digital library distribute information at will while protecting the copyright of the author?
b) Speed of access: - As more and more computers are connected to the Internet its speed of access reasonably decreases. If new technology will not evolve to solve the problem, then in near future the Internet will be full of error messages.
c) Initial cost is high: - The infrastructure cost of digital library i. e. the cost of hardware, software; leasing communication circuit is generally very high.
d) Band width: - Digital library will need a high band for transfer of multimedia resources but the band width is decreasing day by day due to its over utilization.
e) Efficiency: - With the much larger volume of digital information, finding the right material for a specific task becomes increasingly difficult.
f) Environment: - Digital libraries cannot reproduce the environment of a traditional library. Many people also find reading printed material to be easier than reading material on a computer screen.
g) Preservation: - Due to technological developments, a digital library can rapidly become out-of-date, and its data may become inaccessible.
5.0 Opportunities:

5.1. Expand services:
DL is added to expand the repertoire of the Pre-existing library services or complementary to existing one. It is also creating new services for a new or changing market. DL has seamless provision of services that are responsive to the needs and interests of the communities served. It is clear that the DL is maintaining an acceptable level of operational service. Effective authentication is the key to delivery of personalized services. There are significant opportunities for products and services emerging from digital libraries to expand their markets beyond the boundaries of the time and geographical location to achieve additional wider benefits.

5.2. Promote Collections:
Promoting the more widespread use of unique collections is one common aim of DL. Collection is one of rare and expensive materials in the library. It includes collections created as digital (i.e. e-books, e-journals, e-databases) or digitized rare books, manuscripts, pictures and fragile material. Digitization of collection is depending on the utility, rarity, and value. Since the digitization is a major expensive process, it should be done by the expert because it may be painstaking and therefore mindful of the preservation and security needs of the collection. The digital collection has greater visibility and global accessibility with features of searching, browsing and cross-reference linking.

5.3. Knowledge management/ content management:
Digital library has a wider perspective working towards managing and access of work practices, internal information assets and intellectual assets which are to improve the creativity of the persons, sharing of knowledge and to achieve the objectives of an organization.

5.4. Scholarly communication:
Digital Libraries support scholarly communication in the field of education, research and development through the E-journals, e-prints, e-books, data sets, e-learning and e-transformation.

5.5. Archiving and preservation:
It allows archiving and preserving documents/ digital objects of education, Cultural, heritage, historical & special, museums and biodiversity for long term continued accessibility of the document contents through time and changing technology and reproduce a suitable facsimile of the original document.

5.6. E-governance:
Digital libraries offer improved access to the government. policies, plans, procedures, rules and regulations so that the general people of the country can access important information on their desktop. It fulfills the needs of the right to information act. E-governance also helps to manage various activities related to Government and peoples.

5.7. Generate revenue:
DL can sell the information services for the internal and external users of various organizations. It can provide consultancy services and advertising facilities for the creation of revenue.

Conclusion:
The advancement of new technologies libraries are changing their face from print to digital. Through the proper management of digital collection libraries should provide instant access to information in various formats. Digital libraries create many opportunities for professionals as well as challenges. Thus, this paper explains the opportunities and challenges for any library in creating and maintaining the digital libraries. These are the issues which play a vital role in the digital era. The benefits of the digital libraries are there, on the other hand we have to face some complex issues like copyright and funds. The library management should be aware about the intellectual property in creating the digital collection.
References:

1. Gladney H.M, et. al. (1994) Digital library: Gross structure and requirements:
Recent Trends in Digitalization of Law Libraries.

Dr. Asmita Prajakt Patil  
Assistant professor  
Shahaji Law College Kolhapur

Abstract:
Library can be considered to be a soul of information in every discipline. The output is always a result of what inputs are involved in that. Hence libraries play a vital role in formation of a strong organization. As far as the legal discipline is concerned, the paper gives a study about various types of different resources that are available in law library, some traditional and some modern having a digital origin. The paper further speaks about how convenient it is to use the ICT in law libraries. The paper further talks about the challenges faced by the libraries in accessing the digital means. Further it speaks about the recent development of e-SCR made by CJI Chandrachud.

Introduction:
Today’s age is an information age in which all the disciplines are engaged in data transfer and data storage. Technology has given access to free flow of information through the entire generation. Every library has its own way of serving the users and so is of the law libraries. Law libraries usually focus on serving lawyers, judges, law students as well as teachers. Law libraries are well equipped with various types of resources like law bare acts, textbooks, journals, law reports, digests, statutes, periodicals, dictionaries and legal encyclopedias. Many a times we also see a collection of legal articles, case laws, parliamentary proceedings, treaties, judicial and administrative decisions, law related publications.

Law libraries may function in a different manner depending upon the users which it serves. Accordingly, there may be academic law libraries which serve the academicians like teachers, students as well as research scholars. Bar association library which serves the advocates in the court, Judicial library which are meant for judges, government department law libraries which is specially focused on the legal data available in the specific government department useful for the officers. Legislative libraries are also specially designed for serving the legislators in making laws and statutes. In spite of this there are also some research libraries which serve the researchers studying in various organizations.

Law libraries play a unique role in strengthening the legal system in India. Law libraries need to be updated with all the current judgments and decisions, and then it can play a major role in providing updated knowledge for its users.

Law libraries have various kinds of resources like print resources, various kinds of statutes, legislative enactments, treaties, governmental publications are included in the print resources available now-a-days. Textbooks also plays a vital role in knowing the law. There are various text books available on every subject which provides a detail study of the law. It contains a detail discussion of various legal provisions along with various case laws and over ruling judgments. It gives a very specific idea to the reader as to hoe the law was developed.

Law journals are also a very important resource in the law libraries. They are also called as periodicals as they are published after specific periodic intervals. There are also law reports which provide easy access to recent decisions of the high courts and supreme courts. There are weekly reports like Supreme Court cases, there are monthly periodicals like All India reporters, Allahabad law journals and some journals are published annually like Journal of Indian Law Institute. The journals also cite most of the recent judgments and the overruled decisions of the High Courts and Supreme Court. It also contains comments on recent cases as well as book reviews.

Besides law journals, there are also various manuals which contains latest rules and notifications published by few government departments such as civil service manual, Income tax manual. We also find digest
like AIR Supreme Court digest, Complete Supreme Court criminal Digest etc. digests help us to know facts of a particular reported case of the Supreme court. For tracing article from law journals we have index to legal periodicals which is published by Indian law Institute, New Delhi. This has become the most convenient way to trace out the legal articles.

There are various committees and commissions in India which are formed under different subjects like the National Human Rights Commission, the Women’s Commission. The reports of these commissions provide a good source for law library collection. Parliamentary debates of Lok Sabha and Rajya sabha provide a good source to law libraries. The basic intention of the parliament in making a specific law come into picture by referring to the parliamentary debates. We also come to know the various interpretation which a particular statute requires.

There can be a collection of various institutional repositories such as research articles, seminar papers, dissertations and thesis. It also adds to a good library collection.

Now-a-days we see a trend of digitalization of law libraries. Martins identified some of the overlooked deficiencies of course books, he says that books are cost like compared to a CD, books are costlier as well as they are inflexible. Hence today’s world support digitalization. There are various databases available of law libraries. These databases are mostly freely available which do not charge any kind of fees. Most of the databases are commercial so passwords are given to the users and then they can be accessed. The most widely assessed database from the law libraries are Manupatra, Laxisnexis, SCC online, All India reporter, Taxxmann Online etc.

There are various E-journals coming up in recent times. They provide us with latest updates of judgements and various emerging legal principles. Some of the important e-journals in law are International journal of Constitutional law, international journal of refugee law etc.

The number of websites are also increasing now-a-days. Websites provide with the latest update information as well as any further program to be undertaken. Besides these there are also some e-resources which we can have open access. They are freely available. Some of them are Judgements information system (JUDIS) which contain various judgements of Supreme Court and high courts. National portal of India, it provides access to all Indian government websites.

Challenges before law libraries:

The major challenge before law libraries is the reliability of information, an incredible amount of information is easily available on the internet but it is remains unfiltered. There is no organised control over the information and hence it is not safe to rely on all the information which is available. Further digital information can face a major issue of fragility and rapid technological obsolesce. Thought the digital data is stores in a CD, it may become out casted when more advanced and improved other means of communication are available in the market. Similarly the data on the internet can be vanished in a day. So proper storage and citing of the information is much needed. There is a crucial problem of authenticity of digital legal information. The user of the information has a big challenge to check whether the information which he uses is true and trustworthy. Otherwise he himself can be in trouble for the fake information.

Further constrain to use ICT in law libraries as far as India is considered is that there is poor local content, there are very few websites, poor awareness and education in information technology, poor telecommunication techniques,

Suggestions for more improvement:

The major cause for lack of improvement in Indian law libraries is lack of proper funding. The funds required to improve are very less, hence when funds are increase we can have access to better quality of technology. Law libraries need to be digitised, with advanced technological aids we can have easy access to information and further knowledge. Online database and material should be easily available. The masses should be properly oriented and trained to use ICT in digital libraries.
Further to improve digitalisation, there should be an interconnection of libraries, so that students from any part of the country can have access to the information.

Chief Justice D. Y. Chandrachud in January 2023 launched the e-SCR project providing over 34,000 judgements pronounced by the Supreme Court in the last 72 years free of cost to all, but especially to young lawyers unable to spend lakhs of rupees to buy the Supreme Court report volumes since 1950. CJI Chandrachud announced that the e-SCR link is available on the SC website. The e-SCR project is an important stepping stone for further of the modern Indian judiciary. For enhancing its accessibility to those who are visually disabled, they are able to access them through their screen reading software. It is part of the judiciary’s endeavour towards complete digitisation of Indian judiciary.

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Covid-19 and role of Social Media as a Promotional Tool in developing Libraries: India's Context

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Abstract:
Social media tools are essential in every discipline nowadays. The Library and its services depend primarily on social media in this internet age. Its acts as a medium between the library resources and its users. The paper highlighted the concept of social media and the utilization report of social media in the world and India in a universal context. The article also defines why Social media calls a promotional tool in modern libraries and how they played a vital role in covid-19 period. It covers social media and its possible implications in modern libraries, e.g. Facebook, Twitter, blog, myspace, Linkedin, Meebo etc.

Keyword: Social Media, Tools, Covid-19, India

Introduction:
Social Media is a controversial topic in today's society, and it makes it easy for other people to communicate & interact with each other anytime, anywhere in the world. People can stay connected to their families & loved ones no matter how far they are from each other. Social media has made communication a lot easier than ever before. Social media is pervasive in today's modern world. Social media is considered one of humanity’s most outstanding achievements & accomplishments.

In the context of Library & information science, social media play a vital role in the development of modern libraries. Social media has the potential to facilitate much closer relationships between libraries & their patrons. Nowadays, the number of libraries which adopt social media technology is increasing. Modern libraries enjoy social media services such as social networking, bookmarking, blogs, and microblogs to interact & connect with their clients. The above background information has exposed that social media & modern libraries are interrelated & very useful in our academic system as it relates to positively availing staff & students' intellectual development. All educational institutions are closed during this epidemic emergency. Universities are now required to conduct all conceivable academic activities online because time and time take time and effort. Remote educational activities have been carried out using various technology-driven tools, including Cisco Webex, Zoom Meeting, and Google Classroom. Numerous colleges have also employed social media platforms like WhatsApp, Facebook, etc., to assign and receive home assignments.

In such a scenario, libraries play a significant role in supporting the academic demands of the literary brotherhood by making various resources available to its users. Social media can help spread information and offer library services to customers and the general public.

Social Media Concept:
Social media is A tool that facilities the communication of information through human interaction. In simple words, s.m refers to the means of interactions among people in which they create, share and exchange information & ideas in virtual communities & networks. Social media helps the libraries /knowledge Resource Centres to get direct feedback from patrons (and potential user) while making the Library seem more personable. Social media is more familiar with the increased popularity of websites such as Twitter, Facebook, MySpace, LinkedIn, & YouTube. Social media facilitate the development of the online social network by connecting a user's profile with those of other individuals or groups. The library users access social media services via web-based
technologies on desktops, computers, & laptops or download services that offer social media functionality to their mobile devices (e.g. Smartphones & tablet computers)

Social media & world:

Around the world, billions of us use social media every day, and that number keeps growing. The power of s.m is such that the number of worldwide users is expected to reach some 3.02 billion by 2021 if you analyzed country-wise in 2020.

![Number of social media users worldwide from 2010 to 2021 (in billions)](image)

An estimated 650 million of these users are expected to be from China alone & approximately a third million from India.

Social media in India's point of view:

In recent years, social media has played a crucial role in knitting the texture of Indian society. Impact one would agree that social media has revolutionized Indian society from an ignorant organization to a more
mature organization. Social media websites such as Facebook, Twitter & Youtube have given the Indian people a podium to raise their voices against oppression & injustice.

Social media has become a forceful weapon to attach the social destructive of inequality. Today there are so many incidents happening in Indian society, like molestation against girls and inequality in castes; also, an incident occurred a few days ago; two younger doctors threw down one dog in their apartment & shot all activity onto their mobile & uploaded it into social media. As a result, some animal lovers /friends raised their voices through social media, so the police had to arrest those two doctors. The suicide of farmers has answered the significant issue that has gotten much attention in social media. If a farmer dies in a remote part of Maharashtra, the news immediately flashes on S.M. websites. Social media apps also play a deceptive role in transforming the nation. Such apps are WhatsApp or Instagram. This app is primarily for chatting with your contact, but with the formation of groups, one can create awareness & build on the statement to change mindsets.

Today, we can say that social media is a platform for change in Indian society. Indian society, too, has benefited from this digital revolution & presented new hope for needy people.

### Number of social network users in India from 2015 to 2022 (in millions)

<table>
<thead>
<tr>
<th>Year</th>
<th>Users (in millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>142.2</td>
</tr>
<tr>
<td>2016</td>
<td>168.1</td>
</tr>
<tr>
<td>2017</td>
<td>196.02</td>
</tr>
<tr>
<td>2018</td>
<td>226.06</td>
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<tr>
<td>2019</td>
<td>258.27</td>
</tr>
<tr>
<td>2020</td>
<td>292.48</td>
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<tr>
<td>2021</td>
<td>336.14</td>
</tr>
<tr>
<td>2022</td>
<td>370.77</td>
</tr>
</tbody>
</table>

### Social Media as Promotional Tools in Modern Library:

In the context of Library & information science, social media plays a vital role. Nowadays, social media systematically promotes modern libraries. Library users can access the Library and library services using the SM apps. Social media allows modern libraries to target the audience with tailored messages. Modern libraries use Facebook, Twitter & to a much smaller degree, Instagram to help cover special events, exhibitions & celebrations, e.g. library week, the birthday anniversary of Dr S.R. Ranganathan or a link to famous alums. Most of the libraries are established a social media committee & teams for Facebook, Instagram, Twitter & Pinterest.

### Social media Tools and their Possible Implications

"Social media helps librarians to share information with patrons and students in the easiest way for a digital library environment. Librarians can use three main activities in Library and information services. The primary three are Information communication, Knowledge distribution and knowledge organization.

Information Communication: In this process, a librarian can keep continuously in touch and have practical dealings with staff, patrons, and faculty in an online collaborative environment. The social media tools that the Library can practice for the foreknown purposes are:

I. **MySpace**: MySpace (http://www.myspace.com) and Facebook (http://www.facebook.com) are prevalent social networking sites which primarily have a social function allowing people to make friends, talk online and share resources.

II. **Facebook**: Another social media site frequented by students, Facebook is librarian friendly. Group communication among faculty and students can be possible in modern libraries.
III. Ning: Librarians can use this tool to connect with students, library associations, and more. You can also use it to share information with many people at a time in one single click.

IV. Blog: By creating a blog, you'll be able to disperse information to many people at once. Most librarians have developed blogs for sharing their information and library activities. Whether you're updating students on new collections or just conferring with library staff, blogs are a powerful tool, especially when combined with RSS.

V. Meebo: Network and assist students on Meebo, no matter what IM client they use. Professionals can impact online chatting or virtual reference service in the Library to clients.

VI. LinkedIn: This social networking site for professionals is a great way to get library consumers connected with the people that can help them find information. Whether that's you, faculty, authors, historians, or other sources, they can find them in your LinkedIn network.

VII. Twitter: Use Twitter, a microblogging application, to keep staff and students updated on daily activities, like frequently updated collections, new arrival, and current content services of the Library.

Information Distribution: Information sharing is a significant and crucial area where professionals should look seriously while considering and designing library activities in the digital age. Patron's satisfaction should give first and foremost priority by providing the correct information at the right time in the right way from anywhere. Library professionals should rethink implementing web 2.0 technologies in library services from an early period.

I. Flickr: This image distribution tool is a great way to share new image collections. Library can share photo collections of workshops, conferences and different programmes that are organized within the campus. You can create image sets with metadata and take advantage of the many plugins available for Flickr users. Flickr users can also help gather missing information about images.

II. YouTube: Library video and e-learning tutorials, events and other video library services can be effectively promoted and webcast through YouTube.

III. TeacherTube: TeacherTube, a YouTube for teachers, presents an excellent opportunity for instructor-librarian collaboration. Instructors can guide students to helpful library resources and vice versa.

IV. Second Life: You can create a virtual library with streamed media, discussions, classes, and more.

V. Wikipedia: Wikipedia is an online encyclopedia updated by users. You can use this tool to share your knowledge by editing or pointing library patrons in the right direction. You can also host your library websites on wiki software like PBWiki.

VI. PBwiki: PBwiki is the world's largest hosting business and educational wikis provider. It encourages collaboration from students, is a way to showcase work, and offers a central gathering point for information. PBwiki offers controlled access, giving you editing privileges while another scan only reads.

VII. Footnote: On Footnote, you'll get access to original historical documents and can update them with your content and insights. You can even find personal anecdotes and experiences you won't find in reference books.

VIII. Community Walk: Community Walk offers a geographical way to interpret text and events. You can use it for instruction, such as showing someone where to find a book or walking them through a historical and geographical timeline.

IX. SlideShare: Encourage faculty, staff, and students to share their slideshow presentations for the greater community to access on SlideShare. It's a getaway to disseminate information among the research community in research and development (R&D) activities.

X. Digg: Digg is a great way to find helpful content you wouldn't see in traditional methods. Find stories here, then share them with others using Digg's blog function.

XI. StumbleUpon: Another way to find great content is with StumbleUpon. You can channel and surf the Internet to find helpful content, research tools, and more.

XII. Daft Doggy: If you've found an excellent resource, you can use Daft Doggy to create a website tour with instructions, pointing out valuable references and items of note.
Knowledge Organization: Social software can help the professionals in KOenvironment get handy information accessible with the social networking technologies in the web 2.0 milieu. The below-mentioned tools cab effectively in Library and information centre for patrons as:

I. aNobii: Social networking site like aNobii helps book lovers to share reviews and recommendations. It also prepares due date alerts, lending, and discussions.

II Delicious.us: With this social bookmarking tool, you can create a custom directory for library patrons. Teach them to search by your tags, and it will be easy to find helpful Internet research links.

III. Netvibes: In Netvibes' new Ginger beta, you can create a public page that anyone can view. You can use it to help guide patrons to use internet sources, news feeds, and more. It can be integrated with many of the tools mentioned here, like Flickr and library blogs.

IV. Connotea: Connotea is an excellent reference tool, allowing you to save and organize reference links and share them with others. They can be accessed from any computer and offer integration with many other devices.

V. LibraryThing: This social cataloguing network is excellent for librarians, and you can catalogue along with Amazon, the Library of Congress, and more than 200 other libraries worldwide. You'll get recommendations and easy tagging as well.

VI. lib.rario.us: Another social cataloguing site, you can put media such as books, CDs, and journals on display for easy access and tracking" (DR Sahoo, 2015)

Covid-19 and Libraries:
During the crucial covid-19 period, libraries and information centres are provided with their library services using different social media tools. Shekharjyoti Neog, a Research scholar DLISc, Guwahati University, conducted one survey. He mentioned that 50% of the University libraries had used Facebook and Blogs to deliver library services during the lockdown. Twitter and some other social media platforms have been used by 25% of the university libraries, and WhatsApp has been used by 100% of the libraries during the lockdown. Most of the librarians convinced their journal supplier to provide the soft issues of the journals with hard copies because students can't access the hard copy of the journals, so professionals can send the soft copies of the journals through WhatsApp groups for utilization purposes. Professionals also arrange a meeting using different platforms like Zoom, Microsoft teams, G-Meet etc., for organizing the library orientation programme or some other topic afterword recorded videos of professionals are uploaded on YouTube channels which are created during the period of covid-19. Professionals also use different tools to arrange the virtual book exhibition because physical book exhibitions are impossible during the covid-19 period of time. Some professionals created blogs and Facebook pages to provide quality library services to users.

Conclusion:
Social Media has been used by modern libraries worldwide and in India as a tool to reach out to users and provide them with information in their own time and space. This paper explored the concepts of social media and its implications in modern libraries. It discussed why libraries use social media and found its relevance and importance. Libraries can use social media tools or technologies, including blogs, wikis, Twitter, LinkedIn, Meebo, Ning, social networking, bookmarking and tagging, RSS, podcasting, vodcasting, screencasting, content creation, etc. The advantages of using social media in libraries are numerous, and to sustain this, libraries and librarians must follow some guidelines and use some tips. A library's social media campaign should focus on becoming social rather than just opening an account on available social media websites/platforms. Now a day's, most libraries are using these Social Media applications to provide quality-based services to users. The conclusion of this paper is to offer and use a minimum number of Social media applications for the potential growth of the libraries to maximize the utilization of library resources and save the time of library staff; it means social media helps libraries to successfully implement the five laws of library science in their concerned area.
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Library 2.0: The Changing Scenario

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Abstract
The web has seen the explosion of social networking tools, which are empowering ordinary people to connect, collaborate and contribute in a global collaboration. These social software applications are now the hottest properties of the Internet users. This article explains how Web 2.0 tools could be applied in library. This article also posits a definition for "library 2.0". It suggests that recent thinking describing the changing web as "web 2.0" will have substantial implications for libraries. Specifically addressing how web 2.0 technologies such as synchronous messaging and streaming media, blogs, wikis, social networks, tagging, rss feeds, and mashups might intimate changes in how libraries provide access to their collections and user support for that access.

Keywords Web 2.0, Library 2.0, Blog, Wiki, Streaming media, Social network, Tagging, RSS, Mashup, Web 2.0 + Library = Library 2.0

1. Introduction
The term "Library 2.0" was coined by Michael Casey on his blog Library Crunch as a direct spin-off of the terms Business 2.0 and Web 2.0. Casey suggested that libraries, especially public libraries, are at a crossroads where many of the elements of Web 2.0 have applicable value within the library community, both in technology-driven services and in non-technology based services. In particular, he described the need for libraries to adopt a strategy for constant change while promoting a participatory role for library users. A theory for Library 2.0 could be understood to have these four essential elements:

- It is user-centered. Users participate in the creation of the content and services they view within the library's web-presence, OPAC, etc. The consumption and creation of content is dynamic, and thus the roles of librarian and user are not always clear.
- It provides a multi-media experience. Both the collections and services of Library 2.0 contain video and audio components. While this is not often cited as a function of Library 2.0, it is here suggested that it should be.
- It is socially rich. The library's web-presence includes users' presences. There are both synchronous (e.g. IM) and asynchronous (e.g. wikis) ways for users to communicate with one another and with librarians.
- It is communally innovative. This is perhaps the single most important aspect of Library 2.0. It rests on the foundation of libraries as a community service, but understands that as communities change, libraries must not only change with them, and they must allow users to change the library. It seeks to continually change its services, to find new ways to allow communities, not just individuals to seek, find, and utilize information.

2. Definition
“Library 2.0 is a change in interaction between users and libraries in a new culture of participation catalyzed by social web technologies.”

As you can see, this definition coincides with many previous ideas about library 2.0 and the notion that it is about more than just the technology – rather it is about what the technology is allowing us to do. Some would even say that technology is not essential to a definition of library 2.0 at all.

3. Importance of Library 2.0 in the library in the following ways:
- It’s about cultivating communities
- It’s about encouraging participation
4. Web 2.0 applications in the library
The Learning 2.0 program has enabled staff to see ways that Web 2.0 applications can be used in the library. The Library 2.0 program has extended this learning so staff could use their skills to share their knowledge with the community. Web 2.0 applications are now incorporated into the library environment, whether it is in a virtual or a physical space, in many ways.

4.1 Streaming Media
The streaming of video and audio media is another application that many might consider Web 1.0, as it also predates Web 2.0 thinking and was widely employed before many of the following technologies had even been invented. But for reasons similar to synchronous messaging, it is here considered 2.0. Certainly, for libraries to begin maximizing streaming media's usefulness for their patrons, 2.0 thinking will be necessary.

Another implication of streaming media for libraries is more along the lines of collections instead of services. As media is created, libraries will inevitably be the institutions responsible for archiving and providing access to them. It will not be enough to simply create "hard-copies" of these objects and allow users to access them within the confines of the library's physical space, however. Media created by the Web on the Web belongs on the Web, and libraries are already beginning to explore providing such through digital repository applications and digital asset management technologies. Yet these applications are generally separate from the library's catalog, and this fracture will need to be mended. Library 2.0 will show no distinction between or among formats and the points at which they may be accessed.

4.2 Blogs
A blog is a website where library users can enter their thoughts, ideas, suggestions, and comments. Any library user can publish a blog post easily and cheaply through a web interface, create "What's New" for users, marketing of Information, user conversation about the services and resources, Post the meetings/conferences output, Place the discussion forum, and any reader can place a comment on a blog post.

4.3 Wikis
Wikis are essentially open web-pages, it is an online encyclopedia where any registered user can write, amend or otherwise edit articles in the library world well not.

4.4 Social Networks
Social networks are perhaps the most promising and embracing technology discussed here. They enable messaging, blogging, streaming media, and tagging, discussed later. MySpace, Facebook, Del.icio.us, Frappr, and Flickr are networks that have enjoyed massive popularity in Web 2.0

Library Thing enables users to catalog their books and view what other users share those books. The implications of this site on how librarians recommend reading to users are apparent. Library Thing enables users, thousands of them potentially, to recommend books to one another simply by viewing one another's collections. It also enables them to communicate asynchronously, blog, and "tag" their books.

It does not require much imagination to begin seeing a library as a social network itself. In fact, much of libraries' role throughout history has been as a communal gathering place, one of shared identity, communication, and action. Social networking could enable librarians and patrons not only to interact, but to share and change resources dynamically in an electronic medium. Users can create accounts with the library network, see what
other users have in common to their information needs, recommend resources to one another, and the network recommends resources to users, based on similar profiles, demographics, previously-accessed sources, and a host of data that users provide.

4.5 Tagging

Tagging essentially enables users to create subject headings for the object at hand. In Library Thing, they tag books. In Library 2.0, users could tag the library's collection and thereby participate in the cataloging process.

Tagging simply makes lateral searching easier. The often-cited example of the U.S. Library of Congress's Subject Heading "cookery," which no English speaker would use when referring to "cookbooks," illustrates the problem of standardized classification. Tagging would turn the useless "cookery" to the useful "cookbooks" instantaneously, and lateral searching would be greatly facilitated.

4.6 RSS Feeds

RSS feeds and other related technologies provide users a way to syndicate and republish content on the Web. Users republish content from other sites or blogs on their sites or blogs, aggregate content on other sites in a single place, and ostensibly distill the Web for their personal use. Such syndication of content is another Web 2.0 application that is already having an impact on libraries, and could continue to do so in remarkable ways.

But libraries have yet to explore ways of using RSS more pervasively. A new product from a company called Blog Bridge, Blog Bridge: Library (BBL) "is a piece of software that you can install on your own server, inside your firewall. It's not the content of the library (the books), it's the software to organize the library (the building)." While BBL's potential for libraries has yet to be determine due to its being brand new, it is conceivable that this syndication will replace browsing and searching through library websites for content. BBL and similar RSS aggregator applications, installed in a library's system and coupled with the social network of the library, will enable users to have a single, customized, personal library page that syndicates all the library content of interest to them and their research, eliminating irrelevant information. And users will, of course, control that page and that content.

4.7 Mashups

Mashups are perhaps the single conceptual underpinning to all the technologies discussed in this article. They are ostensibly hybrid applications, where two or more technologies or services are conflated into a completely new, novel service.

Library 2.0 is a mashup. It is a hybrid of blogs, wikis, streaming media, content aggregators, instant messaging, and social networks. Library 2.0 remembers a user when they log in. It allows the user to edit OPAC data and metadata, saves the user's tags, IM conversations with librarians, wiki entries with other users and the user is able to make all or part of their profile public; users can see what other users have similar items checked-out, borrow and lend tags, and a giant user-driven catalog is created and mashed with the traditional catalog.

5. Conclusion

Library 2.0 is a change; it is of a nature close to the tradition and mission of libraries. It enables the access to information across society, the sharing of that information, and the utilization of it for the progress of the society. Library 2.0 really is merely a description of the latest instance of a long-standing and time-tested institution in a democratic society. Web 2.0 and libraries are well suited for marriage, and many librarians have recognized so.

The best conception of Library 2.0 at this point in time would be a social network interface that the user designs. It is a personalized OPAC that includes access to IM, RSS feeds, blogs, wikis, tags, and public and private profiles within the library's network. It is virtual reality of the library, a place where one can not only search for books and journals, but interact with a community, a librarian, and share knowledge and understanding with them.
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Opportunities And Constraints of Using Cloud Computing  
To Enhance Academic Library Operations

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Abstract

In the present era of ICT, information and communication technology is necessary for all library operations and services. This study goes into detail on the various applications of cloud computing in academic libraries. Financial constraints and a lack of technological expertise led to a concentration on library cloud computing applications. In the contemporary ICT era, cloud computing is beneficial for academic libraries. This paper presents the benefits and drawbacks of cloud computing in libraries and the applications of cloud computing in academic libraries.  

Keywords: Cloud; Academic library, cloud computing, RIT

1. Introduction

ICT has significantly changed how people use libraries and how they seek out information. Nowadays, people may feel very comfortable using their computers, laptops, tablets, and smart mobile gadgets. In brief, cloud computing is a form of internet-based computing that instantly makes data and pooled computing resources available to computers and other devices. It is a concept for sharing resources, especially servers, storage, applications, and services used across computer networks. Specifically, cloud computing is the development of distributed computing, parallel computing, grid computing, and distributed databases. Furthermore, the basic aspect of cloud computing is distributing tasks across a vast number of distributed computers rather than local or external servers.

2. Cloud Computing

Amazon was the first significant cloud provider in 2002, and with the release of its 2006 service, Amazon Simple Storage Service (Amazon S3). Apple, Cisco, Citrix, IBM, Joyent, Google, Microsoft, Rackspace, Salesforce.com, and Verizon/Terremark are additional cloud service providers. (According from Lakhmanan 2009) Key Players in the cloud computing platform

Table 1- Key Players in Cloud Computing

<table>
<thead>
<tr>
<th>Company</th>
<th>Cloud Computing Platform</th>
<th>Year of Launch</th>
<th>Key Offering</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amazon.com</td>
<td>AWS (Amazon Web Services)</td>
<td>2006</td>
<td>Infrastructure as a service (Storage Computing), Datasets and Content Distribution</td>
</tr>
<tr>
<td>Microsoft</td>
<td>Azure</td>
<td>2009</td>
<td>Application platform as a service (.Net, SQL data services)</td>
</tr>
<tr>
<td>Google</td>
<td>Google App. Engine</td>
<td>2008</td>
<td>Web Application Platform as Service</td>
</tr>
<tr>
<td>IBM Salesforce.com</td>
<td>Blue Cloud Force.com</td>
<td>2008</td>
<td>Proprietary 4GL Web application as an demand platform</td>
</tr>
</tbody>
</table>
2.1 Concept of Cloud Computing

According to Gartner IT Glossary, "cloud computing is a style of computing in which scalable and elastic IT-enabled capabilities are delivered as a service using Internet technologies."

NIST defined cloud computing in generic term, and cloud computing can be defined as "a model for enabling ubiquitous, convenient, on demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction."

To put it simply, cloud computing is a technology that primarily uses virtual servers as infrastructure and has been allowed access to third parties on the web.

![Figure 1](https://www.guru99.com/cloud-computing-applications-examples.html)


2.2 Characteristics Of Cloud Computing

**Self-Healing**: In a cloud computing environment, each program or service can repair itself. A hot backup of the program is always available and prepared to take over without any interruption in the event of an application failure.

**Multi-tenancy**: Using cloud technology, applications may support numerous tenants operating simultaneously. Without any of the users being aware of it, the system enables several users to use the infrastructure that has been assigned to them.

**Linearly Scalable**: The system can split workloads and distribute them around the infrastructure.

**Service-oriented**: All systems for cloud computing are service-oriented.

**SLA Driven**: In most cases, contracts between firms specify the scope of the services. Issues with scalability and availability lead to clients breaking these agreements.

**Streamline/ Virtualised**: All connections to the underlying hardware are broken in cloud computing. The cloud computing environment is entirely virtual.

**Flexible**: They can handle a wide range of workloads, from light loads for tiny consumer applications to very heavy loads for business applications.
2.3 Types Of Cloud Computing

![Cloud types](image)

2.4 Models For Cloud Deployment

There are 4 major models for cloud deployment.

![Cloud deployment models](image)

Every deployment model ultimately reflects the vital characteristics we've recently reviewed only. The different abilities are to the scale and accessibility of cloud services given to end consumers.

3. Cloud-Based Library Services:

Since it has the potential to transform how librarians provide services to their patrons in light of evolving technologies and information demands, cloud computing has attracted a great deal of interest recently. Cloud computing not only brings some new service models to libraries but also significantly impacts hardware and maintenance. Before using the cloud, one should be aware of the costs associated with storage and other services and the price. The below table shows popular service providers and their annual cost.

<table>
<thead>
<tr>
<th>Service Provider</th>
<th>Free</th>
<th>Add-on</th>
</tr>
</thead>
<tbody>
<tr>
<td>GoogleDrive</td>
<td>15 GB</td>
<td>$9.99/month</td>
</tr>
<tr>
<td>OneDrive</td>
<td>5 GB</td>
<td>$1.99/month</td>
</tr>
<tr>
<td>Box</td>
<td>10 GB</td>
<td>$10/month</td>
</tr>
<tr>
<td>Amazon</td>
<td>5 GB</td>
<td>$19.99 for 100GB/ year</td>
</tr>
<tr>
<td>iDrive</td>
<td>5GB</td>
<td>$104.25</td>
</tr>
<tr>
<td>iCloud</td>
<td>5GB</td>
<td>$1.19</td>
</tr>
</tbody>
</table>

On that, I describe some google applications for useful for library information centres.
3.1 Google Drive:
In that it offers unlimited free storage, Google Drive is widely used. You can save pictures, documents, stories, designs, recordings, and videos, among other things. You need a Google account in order to store the files on Google Drive.
Key futures of Google drive:
- You can store any kind of file on it. You can save images, sketches, audio, movies, etc.
- From a computer, tablet, or smartphone, files can be uploaded.
- Files and folders can be shared with ease. Without an email attachment, collaboration on any file is possible.

3.2 Google Applications (APPS)
Google is rapidly establishing itself as a very effective cloud service provider, offering cloud-based services and a wide range of useful apps that the community may use to improve their services.

3.2.1 Google Form: Google Forms help for the library for planning any kind of event, user feedback, library feedback, quiz, and gather other data in a simple, efficient manner. A Google spreadsheet can be linked to a Google form. Responses will be sent automatically to a spreadsheet if one is connected to the form.

3.2.2 Google Calendar: we can make our own personal library calendar with a list of forthcoming events, and activities for the entire year.

3.2.3 GoogleMEET: Librarians can schedule video conferences and schedule webinars through Google Meet. There are certain restrictions with Google Meet; we can only invite up to 100 guests and meet for free for up to 60 minutes per meeting. If we require more, then we need to subscribe Gsuite application.

3.2.4 Google DOC: You can create your own documents in the library, and numerous users can modify and share them at once. Users who have registered can submit, modify, or view it. This tool very useful for research paper writing purposes.

3.2.5 Google Site: one of the important tools for all librarians. Using google Site we can developed our own library website free of charge. e.g. https://sites.google.com/view/deurcollegelibrary/home

3.2.6 Google Slides: Presentation software like Google Slides provides users with a number of tools to make creating and presenting presentations simpler than before. You may make slideshows using Google Slides in your web browser without installing any other software. Furthermore, Google Slides provides collaboration tools so that multiple users may work simultaneously on presentations. It also has online editing features so that you can continue working on your presentation even when you are not in close proximity to a computer. It is very beautiful tool for librarians for presenting their library services in various manner

3.4 ZOTERO (reference management software):
Zotero reference management software support for over 10,000 citation styles. Zotero automatically generates references and bibliographies for use with MSWord, LibreOffice, Google Docs, and other text editor applications. We can arrange our work to adhere to any style manual or publication.

Web browser integration, online syncing, the creation of in-text citations, footnotes, and bibliographies, as well as an integrated PDF reader and note feature, are just a few of its features, which are very useful for researchers. The library can provide awareness to the researcher.

Library Management Software: KOHA, Libsys, iSLIM. Many clouds base library management software are available for managing day-to-day housekeeping library activities through automation software.

3.5 MENDELEY (reference management software):
Mendeley is a free reference manager and academic social network that can help you organise your research, collaborate with others online, and discover the latest research.

3.6 CLOUD LIBRARY EXAMPLE
- WorldCat
- OCLC
4. Advantages Of Cloud Computing

4.1 Backup & restore:
Once the data is in the cloud, using the cloud to backup and restore the data is an easy & faster process, so librarians have no worries about taking backups every day.

4.2 Wonderful accessibility
Using the cloud and an internet connection, we may quickly and conveniently access information stored anywhere, at any time. An internet cloud network boosts organizational productivity and efficiency by ensuring that our data is always available.

4.3 Better Mobility
By having a PC and Internet connectivity, the library's employees and users can connect to the library's servers from any location, eliminating the need to be physically present at their desks. We can access all cloud data via mobile

5. Disadvantages Of Cloud Computing

- Internet and electricity are the biggest issues or disadvantages of cloud computing.
- Another drawback of cloud computing is vendor lock-in. Transferring an organization's services from one vendor to another could provide challenges. Switching from one cloud to another might be challenging because different vendors offer various platforms.
- The operation and execution of services within a cloud infrastructure are less within the control of cloud users as, as far as we know, the cloud infrastructure is owned, maintained, and watched over by the service provider.
- The cost may be high initially but may decrease depending on the usage of the services. However, organizations may pay higher fees in the future.

Conclusion

Cloud computing is going through a period of explosive growth, although the technology still has security risks and is immature. In the contemporary era, many new IT technologies should be applied to improve the library or use cloud computing to improve library services. Although cloud computing is an early practice, it has clear implications. Libraries will become more user-friendly, professional, and effective. We believe that cloud computing libraries will help improve the knowledge of our country. The cloud environment provides high-quality service and security. Digital libraries can leverage cloud computing to increase resource utilization and reduce regional development disparities.

Reference

4. Hase, Vishwas L.; Gaikwad, Mahesh N.; and Jadhav, Yuvraj G. Assistant Professor, Dept. of Library and Information Science, "Online Databases Backbone for Teaching and Research: Case Study of Rajarambapu Institute
of Technology, affiliated to Shivaji University, Kolhapur, Maharashtra (India)” (2021). *Library Philosophy and Practice (e-journal).*


Use of Online Databases by the Selected Science Faculty Members in Western Maharashtra (India): A Study

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Rayat Shikshan Sanstha’s
Sadguru Gadage Maharaj College, Karad
Dist-Satara

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Deputy Librarian
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Abstract
The study examined the role of access to online databases as the basis for faculty research output of seventeen ‘A’ grade colleges run by Rayat Shikshan Sanstha, Satara (Maharashtra) affiliated with three Maharashtra state universities in, India. The survey research design method alongside a multistage sampling procedure were employed to select 249 science faculty members those provided the data for the study. Online structured questionnaire used for data collection. Total 280 copies of the questionnaires administered and out of that 90 per cent were retrieved fully completed and found usable. The research questions that guided the study were analyzed using inferential statistics. Findings of the study revealed that H.W. Wilson, Indian Journals, Cambridge University Press, JSTOR, American Institute of Physics and Royal Society were the most regularly accessible database. Access of these online databases has positive impact on research productivity in the form of quality and quantity. Unavailability of archival and difficulty in searching required information are the posed the greatest threats to access online databases. Similarly, the study found that the provision of more high quality full text databases, organizing training on acquisition of online information resources were the most effective ways of addressing online databases access constraints. Accordingly, study recommended that adequate funding for college libraries for subscribe more required online databases, and increased user education for maximum exploitation of subscribed online databases.

KEYWORDS: Databases, Academic Databases, Online Databases, Electronic Databases, Science Databases, E-Resources, Faculty Members, Use, Awareness, Survey, Maharashtra, India.

Introduction
Research is a process of engaging in a systematic study in order to provide answers to questions, gain new insights on knowledge, develop new products and initiate services. It can also be described as it is a method of scientific enquiry by which, through careful and exhaustive investigation of all ascertainable evidences, bearing upon a definable problem, one can reach a solution to that problem (Connaway and Powell, 2010). Thus, research is a studious activity engaged in by universities and other research-based institutions geared principally, towards the creation of knowledge needed for economic growth and sustainability. For optimum result, certain individuals with requisite academic qualifications and intellectual expertise are entrusted with the process. These individuals are sometimes referred to as Academics, Lecturers or Faculty; as this study chose to address them. Many university libraries now feature online databases as a staple of their collections. These databases frequently include reports, conference papers, e-books, reference materials, journal articles, or referrals to such works. It provides efficient access to research information beyond institutional boundaries. Academicians are using these e-resources for their research work and this would result in an increase use of online databases. In the present day of information age, libraries play the key role for information dissemination where the researcher, students and the faculty members can retrieve the information and explore the universe of knowledge through library collection and by using the Internet for accessing the e-information. At present the college-libraries in India are actively engaged in electronic information resources and services to provide much needed primary as well as secondary information. Many academic alliances are devoted to giving scholar users access to electronic resources. Consortium for Higher Education: E-ShodhSindhu to guarantee that the students have access to high-quality material, INFLIBNET is taking an important MHRD step by implementing e-Resources. The expert committee

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Peer Reviewed Journal www.aiirjournal.com
established by the MHRD, Government of India, by combining three separate consortiums, such as the UGC-INFONET Digital Library Consortium, the INDEST-AICTE Consortium, and N-LIST, has recommended its formation. The e-ShodhSindhu provides its member institutions, which include centrally funded technical institutions, state and central universities and colleges covered under 12(B) and 2, with access to more than 15000 core and peer reviewed current as well as archived journals with a number of bibliographic, citation, and factual databases of different disciplines and publishers (f) 2(f) Sections of UGC Act. INFLIBNET NLIST is also another good step towards the quality Higher Education, where everyone can utilize the e-resource through various types of Online Databases at the best possible way. It operates through its headquarter set-up at INFLIBNET Centre, Gandhinagar. NLIST provides variety of E-resources through ten e-journals provider databases and twelve e-books databases. This is an excellent initiative, which should greatly help research activity in colleges. More students and staff would be able to incorporate these resources as an integral part of their curriculum. Those types of e-resources are beneficial for all the users whether they live in academically well-equipped cities or scantily equipped small towns and villages. It is unimaginable that an access to so many books and e-journals under various types of databases are provided. Surely, this would increase the learning abilities of individuals and boosts the rate of research publications with this venture. So there is a need to maximum utilization of the online databases accessed through NLIST consortia in Indian colleges. Hence the investigator felt the need to study role of online databases which covered under umbrella of NLIST consortia and its impact on research productivity of the faculty members in Rayat Shikshan Sanstha’s ‘A’ grade colleges.

Significance
Faculty members of the colleges and universities in India have realized the advantages of e-resources and seem to have accepted the primary medium of research ideas and result. Libraries are spending a huge amount to providing access of online resources to their users. This impels to assess the use and value of such resources and to identify and understand the resources that are in utilization, and its impact on academic and research activity. Academic library professionals in India are actively engaged incorporating electronic information resources through various Online Databases and services to provide much needed primary research information to their academic fertility. From the last few years, UGC INFLIBNET NLIST Programme has become an important information source for research and learning, and now these are considered as an essential component for access online databases in Indian college libraries. It is an excellent tool for various full texts Online Database searching, which is widely used in various fields of education, particularly in the Science and Technology. For the optimum use of these databases, the proper assessment and its impact become requisite. The study will be helpful in advising academic library administration as they develop strategies to satisfy the information and research demands of faculty members through pertinent acquisitions. Additionally, this research will offer suggestions for enhancing the use of these priceless datasets.

Research Questions
1. What is the awareness level of different online databases/e-resources of the faculty members of the science colleges?
2. Which Online Databases are mostly accessed by the faculty for research purposes?
3. What is the relationship between online databases and research productivity?
4. What are the constraints faced by faculty in accessing online databases for research?
5. What are the possible strategies for overcoming the constraints faced by faculty in accessing online databases?

Objectives of the Study
Considering the topical and geographical scope of the study, the objectives of the present research work have been set as under.
To study the awareness and usage pattern of various online databases accessible by science faculty members for research.

To find out the relationship between online databases and research productivity.

To identify faculty’s constraints to accessing online databases.

To examine possible strategies for overcoming the identified constraints.

**Scope & Limitation of the Study**

Present study limited to the Science College faculty members those are working at presently in Rayat Shikshan Sanstha’s Seventeen (17) ‘A’ grade college’s affiliated to three state universities of Shivaji University, Kolhapur, Savitribai Phule Pune University and Punyashlok Ahilyabai Holkar Solapur University of Maharashtra state. The total 249 population from these colleges has been covered comprising of researchers at different levels. All colleges have access of INFLIBNET NLIST programme for providing online databases facility to the faculty members. Ten E-journals Online Databases (i.e. full-text) and its impact on research productivity have been studied. Study also focuses on a research productivity status of the faculty members. The ‘A’ Grade college run by Rayat Shikshan Sanstha covered under this research work are listed (As per their NAAC ranking) in the following Table no. 1.

**Table No. 1 ‘A’ Grade Colleges run by Rayat Shikshan Sanstha, Satara, Maharashtra State (India)**

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of the Institute/College</th>
<th>Place</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sadguru Gadage Maharaj College, Karad</td>
<td>Karad</td>
</tr>
<tr>
<td>2</td>
<td>Yashwantrao Chavan Institute of Science, Satara</td>
<td>Satara</td>
</tr>
<tr>
<td>3</td>
<td>Karmaveer Bhauroa Patil College, Vashi, Navi Mumbai</td>
<td>Vashi, Navi Mumbai</td>
</tr>
<tr>
<td>4</td>
<td>Karmaveer Bhauroa Patil Mahavidyalay, Pandharpur</td>
<td>Pandharpur</td>
</tr>
<tr>
<td>5</td>
<td>R.B.N.B. College, Shrirampur</td>
<td>Shrirampur</td>
</tr>
<tr>
<td>6</td>
<td>Dahiwadi College, Dahiwadi</td>
<td>Dahiwadi</td>
</tr>
<tr>
<td>7</td>
<td>Maharaja Jivajirao Shinde Mahavidyalaya, Shrigonda</td>
<td>Shrigonda</td>
</tr>
<tr>
<td>8</td>
<td>Mahatam Phule Arts, Science &amp; Commerce College, Panvel</td>
<td>Panvel</td>
</tr>
<tr>
<td>9</td>
<td>Mahatam Phule Mahavidyalay, Pimpri, Pune</td>
<td>Pimpari (Pune)</td>
</tr>
<tr>
<td>10</td>
<td>D.P.Bhosale College, Koregaon</td>
<td>Koregaon</td>
</tr>
<tr>
<td>11</td>
<td>Balwant College, Vita</td>
<td>Vita</td>
</tr>
<tr>
<td>12</td>
<td>Annasaheb Awate College, Manachar</td>
<td>Manchar</td>
</tr>
<tr>
<td>13</td>
<td>Dada Patil Mahavidyalay, Karjat</td>
<td>Karjat</td>
</tr>
<tr>
<td>14</td>
<td>Rajarshi Chhatrapati Shahu College, Kolhapur</td>
<td>Kolhapur</td>
</tr>
<tr>
<td>15</td>
<td>Radhabai Kale Mahila Mahavidyalaya, Ahemadnagar</td>
<td>Ahemadnagar</td>
</tr>
<tr>
<td>16</td>
<td>S.M.Joshi College, Hadapsar, Pune</td>
<td>Pune</td>
</tr>
<tr>
<td>17</td>
<td>Arts, Commerce &amp; Science college, Ramanandnagar</td>
<td>Ramanandnagar</td>
</tr>
</tbody>
</table>

(Source: Primary Data)

**Methodology**

The survey method consider most appropriate for this study because it can measure faculty background, experience and what they know about online databases. Data on the use of online databases and research publications has been collected from faculty member’s trough structured online questionnaire which has been designed keeping in view of the stated objectives. Data from the INFLIBNET NLIST website was helpful to know the various Online Databases provide by them. Collected data and information analysed electronically by...
applying statistical method and certain techniques of research methodology by using Excel and online data analysis packages.

**Literature Review**

There are number of studies have been undertaken on electronic/online databases in the areas of awareness, usage, impact, relevance, access, preference, orientations and training, and evaluation among others. Some relevant studies have been taken into consideration for the study. Study conducted by the Omeluzor et al. (2012) revealed use of electronic information resources and its impact on research output of academic staff of private universities in Ogun State, Nigeria. Study found that most of the academic staff from the three private universities knew and used electronic information resources and also they have published their articles and presented papers by using electronic information resources. Lack of personal computers and erratic power supply, are the significant constraints and researchers’ recommended that academic staff should acquire computer skills, learn and relearn to navigate and utilize the vast available electronic information resources on the internet to achieve better research output. Nagarajan (1995) conducted another study on the research output of Indian scientists in marine biology. The study of the Marine Science literature at the international level demonstrates that the relative growth rates of marine science research output have showed a downward tendency, despite double the time for publications that have grown significantly.

The same pattern may be seen in terms of Indian output. Other study by Yusuf, M. (2017) investigated the perception of the academic staff toward Electronic Databases for their research productivity and found that the majority of respondents have a positive perception towards online electronic databases due to the accommodation of more current and prompt information. The study also reveals that the staff members using online databases are under the "sometimes" option. Still, they were "never" (option) using the offline databases available in the Library. Due to this, the research productivity of the university's academic staff is above average level. A study made by Vakkari (2008) to explore the relationship among academics in using electronic library resources and their work and examines the association between this perceived impact and publication output. The result reveals that there is a positive impact on the efficiency and quality of their work. At the University of Pittsburgh's school of information science, Abousserie (2006) investigated how academics in the fields of library and information science used electronic journals. According to position and gender, different information sources are used differently, as demonstrated by the study.

**Rayat Shikshan Sanstha: A Brief Sketch**

The Rayat Shikshan Sanstha is one of the largest and leading educational organizations in Asia founded by the Late Padma Bhushan Dr. Karmaveer Bhaurao Patil in 1919, with the motto “Education through Self-help”. The aim of the organization to provide education to the students those not got an opportunity due to caste, religion and economic status. The organization has its headquarters at Satara, in Maharashtra state, India. Padma Bhushan, Karmaveer Dr. Bhaurao Patil and his wife Sou. Lakshmibai Bhaurao Patil are the idol of sacrifice, for the cause of education to the people who are poor, needy, down trodden and belong to the rural society. The University of Poona honoured him with the Doctor of Literature (D.Lit.) and the Government of India with the Padma Bhushan. However, the people have known him as "Karmaveer" meaning, "hero in action". The educational set-up of Sanstha is spread in two states Maharashtra and Karnataka. Rayat Shikshan Sanstha provides education through 21 Primary schools, 439 High Schools, 42 Senior Colleges, 8 Teacher training institutes. Out of 42 senior colleges 17 colleges got ‘A’ and ‘A+’ grant from the NAAC. Well-equipped fully automated libraries having 1538349 printed books are provided by the colleges run by the Organization. Besides, E-resources facilities are made available to the users through various online databases provided by NLIST.

**Results and Discussions**

**Demographics**

A total of 251 science faculty members from the selected ‘A’ grade 17 science colleges took part in the survey. The investigator distributed online questionnaires among the selected colleges for the study and got back the wholly filled questionnaires. It is evident from the following table no. 2 that is highest responses, i.e. 24.90%
received from Yashwantrao Chavan Institute of Science, Satara followed by 8.43% from Karmaveer Bhaurao Patil College, Vashi, Navi Mumbai, 8.3% from RBNB College Shrirampur, 7.17% from Sadguru Gadage Maharaj College, Karad and S.M. Joshi College, Hadapsar, Pune respectively. Lowest responses, i.e. 1.20% received from Balwant College, Vita.

Table No. 2 Demographics of the respondents

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of the College</th>
<th>No. of Respondents</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sadguru Gadage Maharaj College, Karad</td>
<td>18</td>
<td>7.17%</td>
</tr>
<tr>
<td>2</td>
<td>Yashwantrao Chavan Institute of Science, Satara</td>
<td>62</td>
<td>24.70%</td>
</tr>
<tr>
<td>3</td>
<td>Karmaveer Bhaurao Patil College, Vashi, Navi Mumbai</td>
<td>21</td>
<td>8.36%</td>
</tr>
<tr>
<td>4</td>
<td>Karmaveer Bhaurao Patil Mahavidyalay, Pandharpur</td>
<td>9</td>
<td>3.58%</td>
</tr>
<tr>
<td>5</td>
<td>R.B.N.B. College, Shrirampur</td>
<td>20</td>
<td>7.96%</td>
</tr>
<tr>
<td>6</td>
<td>Dahiwadi College, Dahiwadi</td>
<td>17</td>
<td>6.96%</td>
</tr>
<tr>
<td>7</td>
<td>Maharaja Jivajirao Shinde Mahavidyalay, Shrigonda</td>
<td>9</td>
<td>3.61%</td>
</tr>
<tr>
<td>8</td>
<td>Mahatma Phule Arts, Science &amp; Commerce College, Panvel</td>
<td>8</td>
<td>3.18%</td>
</tr>
<tr>
<td>9</td>
<td>Mahatam Phule Mahavidyalay, Pimpri, Pune</td>
<td>8</td>
<td>3.18%</td>
</tr>
<tr>
<td>10</td>
<td>D. P. Bhosale College, Koregaon</td>
<td>5</td>
<td>1.99%</td>
</tr>
<tr>
<td>11</td>
<td>Balwant College, Vita</td>
<td>3</td>
<td>1.19%</td>
</tr>
<tr>
<td>12</td>
<td>Annasaheb Awate College, Manchar</td>
<td>13</td>
<td>5.17%</td>
</tr>
<tr>
<td>13</td>
<td>Rajarshi Chhatrapati Shahu College, Kolhapur</td>
<td>8</td>
<td>2.81%</td>
</tr>
<tr>
<td>14</td>
<td>Dada Patil Mahavidyalay, Karjat</td>
<td>6</td>
<td>2.41%</td>
</tr>
<tr>
<td>15</td>
<td>Radhabai Kale Mahila Mahavidyalay, Ahmednagar</td>
<td>10</td>
<td>3.98%</td>
</tr>
<tr>
<td>16</td>
<td>S. M. Joshi College, Hadapsar, Pune</td>
<td>18</td>
<td>7.17%</td>
</tr>
<tr>
<td>17</td>
<td>Arts, Commerce &amp; Science college, Ramanandnagar</td>
<td>16</td>
<td>6.37%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>251</strong></td>
<td><strong>251</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

(Source: Primary Data)

Research Question 1- What is the awareness level of different Online Databases among the faculty members?

Table No. 3 Awareness of various Online Databases accessed by college

<table>
<thead>
<tr>
<th>Classification</th>
<th>No. of Respondents</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes- Aware</td>
<td>249</td>
<td>99%</td>
</tr>
<tr>
<td>No- Not Aware</td>
<td>2</td>
<td>1%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>251</strong></td>
<td><strong>100.00%</strong></td>
</tr>
</tbody>
</table>

(Source: Primary Data)

Table no. 3 shows that the out of the 251 respondents majority 249 (99%) of the respondents, are aware about the online databases accessed by their institution. Remaining 2 (1%) of the respondents said they were not aware about the NLIST, so they were not considered for the study.
Aayushi International Interdisciplinary Research Journal (ISSN 2349-638x) Impact Factor 7.367

Table No. 4 Online Databases accessed and its awareness level

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Databases</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>µ</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>American Institute of Physics</td>
<td>26 (10.44%)</td>
<td>148 (59.44%)</td>
<td>38 (15.26%)</td>
<td>32 (12.85%)</td>
<td>5 (2.01%)</td>
<td>2.29</td>
</tr>
<tr>
<td>2</td>
<td>Annual Reviews</td>
<td>4 (1.61%)</td>
<td>27 (10.84%)</td>
<td>170 (68.27%)</td>
<td>45 (18.07%)</td>
<td>3 (1.20%)</td>
<td>3.02</td>
</tr>
<tr>
<td>3</td>
<td>Economic and Political Weekly (EPW.)</td>
<td>22 (8.84%)</td>
<td>29 (11.65%)</td>
<td>75 (30.12%)</td>
<td>121 (48.59%)</td>
<td>2 (0.80%)</td>
<td>3.18</td>
</tr>
<tr>
<td>4</td>
<td>Indian Journals</td>
<td>5 (2.01%)</td>
<td>66 (26.51%)</td>
<td>141 (56.63%)</td>
<td>37 (14.86%)</td>
<td>0</td>
<td>2.84</td>
</tr>
<tr>
<td>5</td>
<td>Institute of Physics</td>
<td>22 (8.84%)</td>
<td>75 (30.12%)</td>
<td>92 (36.95%)</td>
<td>47 (18.88%)</td>
<td>13 (5.22%)</td>
<td>2.61</td>
</tr>
<tr>
<td>6</td>
<td>JSTOR</td>
<td>5 (2.01%)</td>
<td>10 (4.02%)</td>
<td>45 (18.07%)</td>
<td>179 (71.89%)</td>
<td>10 (4.02%)</td>
<td>3.56</td>
</tr>
<tr>
<td>7</td>
<td>Oxford University Press</td>
<td>2 (0.80%)</td>
<td>5 (2.01%)</td>
<td>39 (15.66%)</td>
<td>140 (56.22%)</td>
<td>63 (25.30%)</td>
<td>3.02</td>
</tr>
<tr>
<td>8</td>
<td>Royal Society of Chemistry</td>
<td>13 (5.22%)</td>
<td>64 (25.70%)</td>
<td>99 (39.76%)</td>
<td>58 (23.29%)</td>
<td>15 (6.02%)</td>
<td>2.75</td>
</tr>
<tr>
<td>9</td>
<td>H. W. Wilson</td>
<td>5 (2.01%)</td>
<td>10 (4.02%)</td>
<td>60 (24.10%)</td>
<td>159 (63.86%)</td>
<td>15 (6.02%)</td>
<td>3.44</td>
</tr>
<tr>
<td>10</td>
<td>Cambridge University Press</td>
<td>3 (1.20%)</td>
<td>8 (3.21%)</td>
<td>52 (20.88%)</td>
<td>132 (53.01%)</td>
<td>54 (21.69%)</td>
<td>3.04</td>
</tr>
</tbody>
</table>

(Source: Primary Data)

(Awareness of ten online databases directly impacts on its usage, as the higher the awareness among the users, the higher the use of online databases. In this context the above table no 4 shows that the database wise mean ratings of the awareness of the online databases. Using real limit of number principle, the results of the data analysis showed that majority of the faculty members are aware JSTOR database having 3.56 mean, followed by HW Wilson (Mean= 03.44), Economic and Political Weekly (Mean= 3.18), Cambridge University Press (Mean= 3.04) are the fully aware databases by most of the faculty members. As the overall mean ratings suggest with that JSTOR leading the pack. In contrast Oxford University Press and Annual Reviews are the slightly aware databases having 3.02 mean respectively followed by Indian Journals (Mean= 2.8), Royal Society of Chemistry (Mean= 2.75), Institute of Physics (Mean = 2.61) are also slightly aware databases among the science faculty members. Whereas majority of the respondents are neutral about the American Institute of Physics database having 2.29 mean.

Research Question 2- Which Online Databases are mostly accessed by the faculty for research purposes?

Table No. 5 Frequency of use of E-Journals Databases for the Research

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>E-Journal Databases</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>µ</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>American Institute of Physics</td>
<td>28 (11.24%)</td>
<td>84 (33.73%)</td>
<td>104 (41.77%)</td>
<td>31 (12.45%)</td>
<td>2 (0.80%)</td>
<td>2.58</td>
</tr>
<tr>
<td>2</td>
<td>Annual Reviews</td>
<td>7 (11.24%)</td>
<td>24 (9.64%)</td>
<td>89 (35.74%)</td>
<td>122 (49.00%)</td>
<td>7 (2.81%)</td>
<td>3.39</td>
</tr>
</tbody>
</table>
The frequency is an essential aspect in assessing the usefulness of online databases, as it is related to the extent of use of E-Journals online databases. Table 5 revealed the mean ratings of the respondents on the frequency use of E-Journals online databases. The data obtained reveals that, Overall, the Oxford university press is most frequently used database having highest mean 3.86. Cambridge University Press (Mean =3.82), Indian Journals mean (Mean =3.76), JSTOR (Mean =3.63) and HW Wilson (Mean= 3.62) are also the most frequently used online databases by the science faculty members of the selected colleges. On the other extreme, the Annual Reviews is frequently used database having 3.39 mean, Economic and Political Weekly having 3.27 mean, Royal Society of Chemistry mean is 3.18, Institute of Physics having 3.08 mean and American Institute of Physics database is 2.58 mean are also the frequently utilized databases among the selected faculty members.

Research Question 3- What is the relationship between online databases and research productivity?

Table No. 6 Users view point on the usefulness of available Online Databases in research productivity.

<table>
<thead>
<tr>
<th>Response</th>
<th>Respondents</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>235</td>
<td>94%</td>
</tr>
<tr>
<td>No</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>May Be</td>
<td>13</td>
<td>5%</td>
</tr>
</tbody>
</table>

(Source: Primary Data)

Table No. 6 indicates that the majority, i.e. 94%, of the users were found that online databases accessed from the institute are helpful and positively impacted on their research productivity. It was the best source providing accurate, reliable and current information. In contrast, 5% of the users are not sure about its impact.
The views of the relevance of online databases influenced the research work is shown in Table no. 7. Obtained data shows that 87% of the respondents agreed that Online Databases have high relevance with their research work. 7% of the respondents felt that it has very high relevance with their research work, and 6% responded with average relevance.

**Research Question 4** - What are the constraints faced by faculty in accessing online databases?

**Table No. 8 Problems faced while accessing Online Databases.** (Multiple Choices were permitted)

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Classification</th>
<th>No. of Respondents</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Difficulty in searching required Information</td>
<td>111</td>
<td>44.58%</td>
</tr>
<tr>
<td>2.</td>
<td>Displaying of mass of irrelevant Information</td>
<td>108</td>
<td>43.37%</td>
</tr>
<tr>
<td>3.</td>
<td>Inaccessibility of some archival and current electronic resources</td>
<td>112</td>
<td>44.98%</td>
</tr>
<tr>
<td>4.</td>
<td>Inadequate/lack of searching skills and ICT techniques</td>
<td>102</td>
<td>40.96%</td>
</tr>
<tr>
<td>5.</td>
<td>Limited/restricted access in Library</td>
<td>96</td>
<td>38.55%</td>
</tr>
<tr>
<td>6.</td>
<td>Login Credentials</td>
<td>70</td>
<td>28.11%</td>
</tr>
<tr>
<td>7.</td>
<td>Slow internet connection/retrieval speed</td>
<td>89</td>
<td>35.74%</td>
</tr>
<tr>
<td>8.</td>
<td>Staff not always available for help/Non-supportive library staff</td>
<td>99</td>
<td>39.76%</td>
</tr>
<tr>
<td>9.</td>
<td>Inadequate Collection of databases/resources</td>
<td>92</td>
<td>36.95%</td>
</tr>
<tr>
<td>10.</td>
<td>Lack of awareness about online databases/e-resources</td>
<td>102</td>
<td>40.96%</td>
</tr>
<tr>
<td>11.</td>
<td>Lack of online help/Tutorials</td>
<td>102</td>
<td>40.96%</td>
</tr>
<tr>
<td>12.</td>
<td>Language barriers</td>
<td>74</td>
<td>29.72%</td>
</tr>
<tr>
<td>13.</td>
<td>Missing of Training/Orientation/Hands-on programs on e-databases</td>
<td>92</td>
<td>36.95%</td>
</tr>
<tr>
<td>14.</td>
<td>No Knowledge of using online databases</td>
<td>96</td>
<td>38.55%</td>
</tr>
<tr>
<td>15.</td>
<td>Time-consuming/Insufficient time/library timings</td>
<td>70</td>
<td>28.11%</td>
</tr>
</tbody>
</table>

(Source: Primary Data)

The above table No. 8 indicates that the inaccessibility of some archival and current electronic resources and difficulty in searching required information are the two main constraints faced by the 44.98% and 44.58% of the faculty members respectively while accessing Online Databases. Most i.e. 43.37% of the respondents responded that online databases display mass of irrelevant information. About 40.96% of the respondents stated that they also encountered the issue of inadequate/lack of searching skills and ICT techniques, lack of awareness about online databases/e-resources, and lack of online help/Tutorials are also significant factors respectively. Although an average ratio of 39.76% realized unavailability of library staff for providing help to access e-resources is also a factor in low usage of online databases. Although, an average number of the faculty members realized that limited/restricted access in Library and Missing of Training/Orientation/Hands-on programs of online databases are also a significant factor in less use of online databases.

**Research Question 5** - What are the possible strategies for overcoming the constraints faced by faculty in accessing online databases for research?
Table 9 revealed the strategies for overcoming the challenges faced by faculty when accessing online databases. Overall, the Provision of more high quality databases (215) ranked highest among the distribution. This is followed by Training on acquisition of online information resources (191), Provision of full-text of most relevant materials and Training on online databases searching skills (189) ranked third and fourth respectively according to faculties of Rayat institutes. On the other extreme, awareness creation of the availability of newly added databases (115), Provision of increased internet bandwidth (102) and Provision of steady power supply (95) also ranked least respectively.

Discussion of Findings

- Research question one sought awareness level of different online databases/e-resources among the faculty members in selected colleges affiliated to three state universities of Maharashtra. According to the analysis, majority i.e. 249 faculty members were aware about the online databases accessed by their institution. In this context of E-journals JSOTR, HW Wilson, Economic and Political Weekly and Cambridge University Press were the mostly aware databases among the science faculty members.

- Research question two attempted to most accessible online databases by the faculty members. It is found that Oxford university press was the most frequently used online databases followed by Cambridge University Press, Indian Journl.com, JSTOR and HW Wilson databases.

- Third research question identified the relationship between online databases and research productivity of the faculty members. Majority of the faculty members responded that access of online databases having positive impact on research productivity in the form of quality and quantity. Having access to Online Databases was a significant boon to the science faculty members.

- Research question four attempted to unearth the constraints to online databases access for research purposes. Unavailability and lack of access of archival resources and difficulty in searching required information are the two main constraints faced by the respondents. Display of mass of irrelevant information, issue of inadequate/lack of searching skills and ICT techniques and lack of online help/Tutorials were the most common obstacles to using online databases.

- Research question fifth that aimed to identifying possible strategies for overcoming the constraints faced
by faculty in accessing online databases. The study suggested that the provision of more high quality required databases, organizing training on acquisition of online information resources, provision of full-text of most relevant materials, provision of increased internet bandwidth and steady power supply were the most effective ways of addressing online databases access challenges. ‘A’ grade college libraries should be implements the newer technologies like Web 2.0 tools (Blogs, Wikis, RSS, Social Networking Sites, etc.) on its website for providing better services to the users.

Conclusion

Research and development are closely linked. If we want to create a happy, intelligent and knowledge-based society, we need to do quality research. The current situation is highly complementary to research. Currently there are a number of e-resources available for the research. An online database makes the availability of such e-resources easily. Online Databases have become an established component of many academic libraries’ collection. The availability of a wide variety of online databases has accelerated research and will continue to do so. In short, online databases play an important role in improving the speed and direction of the research. The study examined the correlation between access to online databases and faculty research output and its attendant impact on scholarship. It is clear from the study that Online Databases have become the vital part of information for the research community. The present study would definitely provide a clear picture on various factors associated with the usage of online databases and its impact on research productivity. Affirmatively, the study established in general terms that the overall success of faculty research undertakings is predicated on the quality and quantity of availability of research materials and the level of access provided. This study helps the librarian to know the importance of online journals and databases. It helps them to improve the services related to online information sources.

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Applications of Big Data in Libraries

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Abstract:
Modern like produces at an astounding rate which leads to advance in data storage and analysis and the emergence of the concept of big data. Big data will be important resource application and used in academic resource and make data driven decision making. This paper describes the definition, characteristics and application in libraries of big data and its effect in the libraries.


Introduction:
The term big data was coined in the 1970’s and was used to describe large amounts of data generated by oceanography and meteorological experiments. Big data can be understood as natural evolution of database management technique that has changed the way data is analysed. Early implementation of Big Data solution can be found during the 1980’s the era of the first generation of software based parallel database architecture. However it was not implemented significantly until the maturity of internet users, when web search companies faced the challenge of indexing and querying large aggregation of loosely structured data. Existing database technology was not ideal for the challenging task and neither was it cost effective. Google developer the first wave of big data tool in the early 2000s. Which gave birth of serve other framework and techniques that make the handling processing and interpretation of large data set more economical. Big data is generated from various source such as sensor device video audio network log files transactional applications, social media whose sides of type is beyond the ability of traditional relational database to capture, manage and process the data.

Definition:
• Big data can be de as high volume, high velocity and high variety of information asset which demand cost effective innovative form of information processing for enhanced insight and decision making (Gandomi& Haider,2015)
• Dunhill, Edd define big data as a data that exceeds the processing capacity of conversional database system that is too big, moves too first and doesn't fit the structure of database architecture. An alternate way must be chosen to process this data in order to gain value (Dunhill, 2022).
• Another definition which describes big data is that it is Frontier of a firm’s ability to store, process and access all the data which is need to operate effectively, make decision and serve customer (Guilateri, 2022).
• Big data is defined as a turn for data sets that so large and complex that traditional data processing application are inadequate to do analysis, capture, store, data creation , sharing, transfer and so on big data.

Characteristics of Big Data:
Big data is characterized by its sheer large volume, high velocity, and variety with low value. All major sources such as a logs, sensors and social media generate new type of unstructured or semi structured data that has given rise to a new phenomenon in decision making.

Volume:
Social media (Face book, Twitter, LinkedIn, four square, YouTube and many more) generate a large volume of data that need to be stored and analyse rapidly in context for the right decision making. The volume of
machine generated data or semantic web data is much larger than the traditional data volume. For instance, a single jet engine can generate 10 TB of data in 30 minutes. With more than 25000 airline flights per day, the daily volume of just the single data source run into the gigabytes, smart metres and heavy industrial equipment like oil refineries and drilling rigs generate similar data volumes, compounding the problem. The benefit join from the ability to process large amount of information is the main attraction of big data analytics. This volume present most immediate challenge to conversational IT structures. It requires scholarship and distributed approach to querying.

**Velocity:**

The data comes into the data management system rapidly and obtain requires quick analysis for decision making. The importance lies in the speed of the feedback loops, taking data from input through to analysis and decision making. The tighter the feedback loop, the greater will be the competitive advantage it's this need for Speed, particularly on the web, that has driven the development of key-value stores call columnar database, optimised for the fast retrieval of Pre computed information. Social media data streams bring a large input up opinions and relationship that are valuable to customer relationship management. Even at 140 characters per tweet, the high hello city of Twitter data ensure lodge volumes. Most of these data received maybe of low value, and analytical processing maybe required transforming the data into a usable from or deriving meaningful information.

**Variety**

Big data bring variety of data types. It varies from tax from social networks, two image or video data, to a raw feed directly from a sensors source, to semantic web logs generated by machines. These data are not easily integrated in any applications. A common use of big data processing is to take unstructured data and extract meaningful information for consumption either by human or as a structure input to an application. Big data brings a lot of data that has patterns sentimental and behavioural information that need analysis.

**Value:**

The economics value of different data varies significantly. Generally, there is good information hidden within a larger body of non traditional data. Big data offer greater value to businesses in bringing real time market and customer insights, enabling improvement in new product and services. Big data analysis can river insights such as peer influence among customers, revealed by analysing shoppers transaction and social and geographical and data. The past records successful wave start ups are prime example of big data use as an enabler of new product and services. For example by combining a large number of single from a users action and those of the users friends, Face book has been able to craft highly personalized user experience and create new kind of advertising business.

**Variability:**

In addition to the increasing velocities and varieties of data, data flows can be highly in consistent with periodic peaks. Is something trending in social media daily, seasonal and events trigged peak data load can be challenging to manage.

**Complexity:**

Today's data comes from multiple source, which makes it difficult to link, match, cleanse and transform data across system. How’re, it's necessary to connect and correlate relationship, hierarchies and multiple data linkage or your data can quickly spiral out of control.

**Big Data and Librarian:**

Why librarians need to know about big data? Because of it's prevalence and potential impacts. Librarians need to know the basis of big data and how it affect academic research. Business librarians need to know how companies leverage big data, how such data meaning provides comparative advantage, and how students might need to grapple with big data sate in future science librarians need to know how big data
differs from other scientific data and the impact of emerging software and hardware used for its analysis. Humanity and social science librarians should know that big data is becoming more commonplace in their disciplines as well, and is no longer restricted to Corpus linguistics. Librarians in all disciplines, in order to facilitate the research process, will need to be aware of how big data is used and where it can be found (Mark Bieraugel, 2016).

**Applications of Big Data in Libraries:**

We might think “Big Data” doesn’t apply to libraries. Our library may not collect user data the same way that typical “big data” commercial entries like Amazon or Google or Facebook do. Maybe that’s because of privacy users. Maybe it’s not data we need for library operations. But there is often ocean of data already available to libraries in order format. We can get it from direct observation of library users. Cataloguing activities, user data survey’s. Reports usage statistical, website metrics, Worldcat and mouse itself is a growing collection of data about library resources, activity location and increase.

Big data is basically divided into three different parts normally is collected the structure, semi – structured and unstructured data.

1. **Structured Data:**
   
   Structured data that is basically stored in the RDBMS data warehouse in formal way. Data is group in the form of rows and columns. Now total 10% of structured data available around us. Structured data gives names to each field in a database and defines the relationship between the fields.

   **Library Automation:**
   
   Now most of the libraries are automated to bibliographical details of book and journals, information of borrowers are available in structured from bibliographical details of a book are Accession number. Author, title, subtitle, edition, publisher, year of publications, place of publication, ISBN, pages, class number, keywords, table of contains, price, supply details etc. Whereas title, publishers, volume, Issues, ISSN, department, published on, received on, item code, supplier details etc. Details of printed journals, information of borrowers includes. Borrowers ID, name, membership started date and end dates, birth date, gender, email, contact number, address, blood group etc. Collection of each library grows rapidly so structure data is increased and it leads to big data.

2. **Semi Structured Data:**
   
   Semi structured data lies somewhere between the two. It is not organized a complex manner that makes sophisticated access and analysis possible. How’re, it may have information associated with it, such as metadata taking, which allows element contained to be addressed.

   A word document is generally considered to be unstructured data. However one can add meta data tag in the form of keywords and other metadata that represent the document content and make it easier for that document to be found when people search for those term. The data is now semi structured. This type of data currently 10% existing and example of this kind of data is RSS feeds and XML format data. Semi structured data arises under a variety of forms for wide range of application such as institutional repositories, scientific database, digital libraries, online documentation and electronic resources.

3. **Unstructured Data:**
   
   Unstructured data represent around 80% of data; it often includes text and multimedia content. Example include library email messages, word processing documents, audio videos lecturers, photos, scammed images, presentations, blog, web pages, social media and many other electronics documents. Note that will those short of file may have an internal structure, they are still considered “Unstructured”. Because the data the contain...
doesn’t fit nearly in a databases. A different type of unstructured and scattered big data is available in libraries and this variety makes big data seat more challenging to organize analyze.

**Conclusion:**

Big data is not new for libraries. Variety, volume and velocity are the characteristic of big data which make it more challenging. It is important to understand big data now because it affect library directly and tangentially; directly because now library can use big data tools to analyze big data sets; and tangentially faculty and researchers will increasingly in incorporate big data into their research.

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Big Data and Libraries

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Abstract:
Digital era produces vast amounts of data which leads to advances in data storage and analysis and the emergence of the concept of big data. Big data will be an important resource used in academic research and to make data driven decision making. This paper provides an overview about the big data concept and its application in libraries. This paper aims to create an awareness amongst librarians about big data, its applications and the role of librarian in big data scenario.

Keywords: Big Data, Academic Libraries, Librarian’s Role, Data Curation, etc.

Introduction:
Data is generated at an unprecedented level and at an incredible pace from everywhere such as governments, universities, Scientists, businesses & non-profit organizations. Big data affects the libraries directly in such a way that libraries can use the big data tools to analyze big data sets and tangentially as the faculties at the educational institutions can incorporate big data into their research. Big data is generated from various sources such as sensors, devices, videos, audios, network, log files, transactional applications, web and social media whose size or type is beyond the ability of traditional relational databases to capture, manage and process the data. Big data when analyzed allows users to make better and faster decisions.

‘As the library's role is to identify, evaluate, select, organize, and describe resources, as well as preserve, disseminate, use, and reuse resources and information, the library's role is getting more complex today than ever. This role for library, librarians, and information scientists as information providers finds them in a crossroad that forces them to choose if they will play a central role in the meta-fourth industrial revolution as central-information providers or if they will keep a profile as organizations that continue to provide “traditional” services to patrons. The dilemma is big, as big are the big data and the changes that will bring to our society’ (Garoufallou, 2021).

How big is big data:
Big data is loosely structured data which is often incomplete and inaccessible. It may consist of billions to trillions of records of millions of people all from different sources for e.g. web, sales, customer contact center, social media, mobile data etc. the starting of terabytes may be considered as starting of big data. It may be equivalent to petabyte or Exabyte.

Definition:
“Big Data is the amount of data that cannot fit into the memory of a single computer system. With each passing day, Big data is growing bigger, is more difficult to make sense of, is being generated at a much faster rate and this trend is only going to intensify in our data-driven digital world” (https://intellipaat.com).

Ed Dumbill, the editor-in-chief of a journal devoted to the topic of big data, offered this broader, more conceptual definition:
“Big data is data that exceeds the processing capacity of conventional database systems. The data is too big, moves too fast, or doesn't fit the strictures of your database architectures. To gain value from this data, you must choose an alternative way to process it.” (Dumbill, 2013)

‘Big data is defined as a term for data sets that are so large and complex that traditional data processing applications are inadequate to do analysis, capture, store, data curation, sharing, transfer and so on.’

Characteristics of Big Data: 5 Vs of Big Data
- Volume: The amount of data,
- Velocity: The speed of data in and out, and
Variety: The range of data types and sources which include: unstructured text documents, picture, video, email, audio, stock ticker data, financial transactions, etc.

Variability: At times, the data flow is highly inconsistent with periodic peaks which hamper the process of handling and managing data effectively.

Complexity: As large volumes of data come from multiple sources, data management becomes a challenging task.

‘In fact, the data sets are so big and complex that it becomes very difficult and challenging to process them using traditional data processing applications. It is estimated that about 2.5 quintillion bytes of data are created every day.’ (Verma, 2022)

Importance of Big Data:
The use of Big data is becoming very crucial and following are the importance of big data.

a. There is a significant amount of data which is yet not captured in digital form or made accessible or searchable through the network. Big data can unlock the value hidden in these forms of data by making information more transparent.

b. Big data allows narrower segmentation of customers and this helps in producing more precisely tailored products and services.

c. Sophisticated analytics would help to improve decision making.

d. Future generation products and services can be developed with the help of big data.

Big Data Technologies:
Coursera (2022) has been described the big data technologies on their web page. According to him ‘Big data technologies can be categorized into four main types: data storage, data mining, data analytics, and data visualization. Each of these is associated with certain tools, and you’ll want to choose the right tool for your business needs depending on the type of big data technology required.

i. Data storage
Big data technology that deals with data storage has the capability to fetch, store, and manage big data. It is made up of infrastructure that allows users to store the data so that it is convenient to access. Most data storage platforms are compatible with other programs. Two commonly used tools are Apache Hadoop and MongoDB.

ii. Data mining
Data mining extracts the useful patterns and trends from the raw data. Big data technologies such as Rapid miner and Presto can turn unstructured and structured data into usable information.

iii. Data analytics
In big data analytics, technologies are used to clean and transform data into information that can be used to drive business decisions. This next step (after data mining) is where users perform algorithms, models, and more using tools such as Apache Spark and Splunk.

iv. Data visualization
Finally, big data technologies can be used to create stunning visualizations from the data. In data-oriented roles, data visualization is a skill that is beneficial for presenting recommendations to stakeholders for business profitability and operations to tell an impactful story with a simple graph. The Tableau and Looker are popular tools in data visualization.

Benefits of Big Data in different sectors:
Most of the industries today face challenges due to the large and complex amount of data that they deal. With the help of big data analytics, the following industries would benefit which is as follows:
I. Banking and securities: Big data could provide solutions in the areas such as card fraud detection, archival of audit trails, customer data transformation and so on.

II. Communication and media entertainment: Big data helps in creating quality content for the target audiences.

III. Health care providers: the technology involved in Big data allows faster and efficient identification of healthcare information which can help in tracking the spread of chronic diseases.

IV. Education: it would help students to pick up courses according to their liking and even help in increasing the effectiveness of the teachers.

V. Government: government can use big data in energy exploration, financial market analysis and health related research and environmental protection.

Application of big data in libraries:

The application of big data in a library involves a complex framework as different modules interact and work together. Hussain (2022) presented framework of the application of big data in libraries which involves Human Resource, Technology support, Infrastructure Construction, service innovation and literature resources.

The unique skills of librarians are essential to make use of big data. Librarians’ jobs have evolved from traditional setup into data mining, consultant, data management, librarian data services, data research scientist, architecture librarians, librarian data designs, coordinator, scientific data curation, librarian specialist/metadata, data curator, etc. Librarians should change their traditional role and learn the new skills needed in the 21st century. Large data sets can improve the quality of library services. Data resources of digital libraries can be used as big data by using techniques to bring innovation and introduce important digital changes. Big data provides insights into the utilization of resources, decision-making, and library user needs more accessible. Academic libraries are already using high-level services to collect, evaluate and manage library resources. Changes in technology and new ways of communication are demanding the redefined academic library. A significant milestone was announced in 2010, which was the collaboration between the world’s most extensive library – Library of Congress and Twitter. The purpose of the partnership was to analyze all the tweets on Twitter to retain and archive users’ data. In 2012, the Harvard University library also published its metadata, including books, videos, audio recordings, manuscripts and other contents. Ensuring data privacy and security are also concerns when implementing big data analytics in library services (Bhat, 2018).
Big data analytics could be applied in the following areas of the libraries such as

- For superior search results: Data mining and text analytics on the past loan records and book bibliographies could enhance search results and recommendations.
- Demand Analysis: It would help in forecasting demand for new and existing titles.
- Planning Library Collection: The technology used would optimize to plan the category mix in the collection by taking into consideration the space and budget constraints.

Librarian’s roles in big data:

Jain, Priti (2016) has mentioned the various roles of librarian in big data, these are as follow:

- Data manager: Librarian is a well placed to deal with data management issues. Since they have expertise and experience with institutional repositories; they have a legacy of preserving knowledge for future generations, advocate open access and as such are advocates of the value of open data.
- Intermediaries: Librarians can act as intermediaries linking to faculties with peers in other disciplines to facilitate interdisciplinary research. They can create data literacy and awareness of data management issues and practices among students.
- Advocate of big data: Based on their vast experience with open data, librarians can foster the importance of big data to researchers because of the nature of their business, they are always with their users.
- Big data curator: In this e-science and big data revolution age, libraries are expected to play key role in data curation, since librarians have the skills and most of the infrastructure to curate various types of data. Library user may or may not be knowledgeable in the areas of big data and the process of obtaining the data. Hence this is an excellent opportunity for librarians to assist library user on these pertinent issues.
- Thought leader on big data curation: Librarians have been doing a lot of work on data curation and we could be vital partners in terms of metadata standards, metadata creation, preservation and managing the whole information life cycle which librarians are really good at.
- Facilitator in source of choice: Every day the library users produces raw material in their quest for new insights into the past and new ways to explain culture, politics and philosophy. Skilled librarian, who knows how to effectively search for not only books but primary sources of material across the world and who can understand, create and navigate catalog to accelerate a researcher’s efforts.
- E-research data manager: big data underpins e-research and it must be preserved for future re-use. Academic libraries, being research orientated and facilitating students and academia research initiatives are considered research libraries. They can play a significant role in research data management to accelerate their user’s research activities.

Conclusion:

The discussion in this article is focused on big data in libraries perspective. The capabilities of big data have captured the attention of the world of libraries. Library and information professionals can play a big role in the universe of big data as they have the skills, knowledge and service mentality to help universities, business and governments. With the help of these powerful analytics which big data technologies offers, librarians can look at the data in new ways thus adding value to different services and programs.

References


E resources and its Utility in library

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Abstract

E-resources are available in abundance in every field of knowledge, so we can do in-depth study in every discipline with little time and money. Sometimes electronic resources provide information that is not in printed books. Due to their portability, electronic resources can be accessed anywhere on a laptop computer. The font size can be adjusted accordingly; E-sources provide the ability to quickly save and convert pages. E-resources are available in abundance in every field of knowledge, so we can do in-depth study in every discipline with little time and money. E-resources (electronic resource) is that "Information (usually a file) that can be stored in the form of an electrical signal usually, but not necessarily in a computer. It can be delivered on CD ROM, on tape, over the Internet, etc. In recent years, various techniques and related standards have been developed to enable the creation and distribution of documents in electronic form. To cope with the current situation, librarians are turning to new media, which are electronic resources to develop their collections, making users' documents more complete.

Keywords Eresources, electric, database

Introduction

The term e-resource refers to all products provided by the library via a computer network. Electronic resources are also known as online information resources, which include bibliographic databases, electronic reference books, complete textbook search engines, and digital data collections. Electronic resources include websites, e-mails, movies, television programs, social media, podcasts and radio broadcasts, online magazines, and e-books. 21st century library and information services are changing rapidly. With the rapid development of electronic publishing, libraries not only provide reading materials such as printed books and magazines, but also provide access to various learning materials. Web resources and the use of the Web as a tool are changing the way users live and learn. While in the early days the WorldWideWeb was primarily used for push applications to provide information and resources to users, the development of Web 2.0 and the spread of open source and shared use concepts focused on user-generated content and sharing applications. This led to the rapid growth and popularity of electronic resources. E-resources occupy an important part of world literature. They refer to sources of information in electronic form. Different types of electronic resources are e-books, e-journals, databases, CD/DVD, e-conference procedures, EReports, EMaps,EPimages/photographs, electronic manuscripts, electronic theses, electronic newspapers, internet/websites-Listservs, newsgroups, subject gateways, USENET, FAQs, and more. It can be sent on CD ROM, on tape, over the Internet, and so on. In recent years, various techniques and related standards have been developed to enable the creation and distribution of documents in electronic form. To cope with the current situation, librarians are turning to new media, which are electronic resources to develop their collections, making users' documents more complete. Electronic resources of magnetic and optical media have had a major impact on the holdings of university libraries. It is more useful because of the inherent ability to manipulate and search, providing access to information is cheaper for access to information resources, storage and maintenance etc. and sometimes electronic form is the only alternative.

E-resources (electronic resource) is that "Information (usually a file) that can be stored in the form of an electrical signal usually, but not necessarily in a computer."
Definition

According to Library and Information Technology Glossary "Term used to describe all of the information products that a library provides through a computer network...".

According to Wikipedia, Electronic Resources means "Information (usually a file) which can be stored in the form of electrical signals, usually on a computer; Information available on the Internet".

According to Gradman glossary, "A publication in digital format which must be stored and read on a computer device. There are two types: Direct access: these are physical objects such as CD-ROMs, diskettes, computer tapes, and computer cards, containing text, images, software etc.

Need of e-resources

E-resources are available in abundance in every field of knowledge, so we can do in-depth study in every discipline with little time and money. Sometimes electronic resources provide information that is not in printed books. Due to their portability, electronic resources can be accessed anywhere on a laptop computer. The font size can be adjusted accordingly; E-resources provide the ability to quickly save and convert pages Users with disabilities can hear E-resources can be downloaded immediately. Users can read the e-resource at any time Due to their portability, electronic resources can be accessed anywhere on a laptop computer.

Issues and Challenges by using E-Resources

Power is the first requirement for an e-source. It participates in a significant technological infrastructure Unique tools are required to gain access requires consistency between different publishers. Challenges presented by hardware and software Patent infringement issues Current e-book settings may not be readable by potential e-book devices. Paper books are cheaper than book reading materials User knowledge is essential to networking skills for electronic resource practice. Technology Obstruction Lack of security / privacy like email hacking and network breach etc., Rely on technology, i.e. users are not aware of finding books that do not use technology

Types of Eresources

1 E-Book
E-books are the many formats that compete for prime time, including Adobe PDF, Microsoft Reader, eReader, Mobipocket Reader, EPUB, Kindle and iPad

2 E-Journal
An electronic journal is a very important part of every library collection. Magazines application of information technology.

3 E-Newspaper
I am known in e-newspapers as in online newspapers or on the web newspapers available on the World Wide Web or the Internet.

4 E-Magazines
E-Magazine is a very important part of every library collection. Magazines application of information technology.

5 Indexing and Abstracting Databases
These are reference sources that provide a bibliography information in journals including abstracts from articles. These are reference sources that provide a bibliography information in journals including abstracts from articles.

6 Full text database
Today are either free or with charges. E-databases is an organized collection of information of a particular subject or multidisciplinary subject areas, information within e-databases can be searched and retrieved electronically.

7 Reference database
That's a lot of dictionaries, almanacs and encyclopaedias, i.e available on the Internet in electronic form.
8 Statistical database
These databases contain numerical data that is useful to the masses commonwealth.

9 Image collection
Due to the adventure of e-picture devices, it is a kind of databases naugmad.

10 Multimedia products etc.

11 E-Thesis
These databases include theses and dissertations published via e-format

12 E-Clipping
The main purpose of the electronic scrap is for reverse search and comprehensive analysis of new objects.

13 E-Patents
E-patents are an exclusive right granted by the government to use invention for a certain period of time.

14 E-Standards
Written definition, rule limitations, approved and maintained for complaints authoritative authority.

**Consortia Subscription To E-Resources**

It is well known that libraries and information centres are unable to purchase, organize and distribute much information due to lack of funds and budget. Currently, registration of an electronic resource consortium through a library consortium is a practical solution to increase access to electronic resources at a lower cost. A library consortium refers to the collaboration, coordination, and cooperation of library brands or institutions to share resources. Libraries around the world have formed consortia of all kinds and at all levels to use the world wide web to develop better, faster, and more cost-effective ways of providing electronic resources to those interested, and information. The collective strength of consortium members rushed to benefit from wider access to electronic resources at low cost and on the most favourable terms.

**Utilities of E-Resources**

Now a days the reading materials and information sources are changing from print to electronic.

- Electronic publishing can cost less than paper.
- E-Resources are created in all file formats such as text, audio, video and images.
- Electronic resources are available 24 hours a day and save space in the library.
- Searching electronic resources is easy with a user-friendly interface.
- Give users faster, easier, anytime access from home, campus or library.
- Electronic resources can be accessed through advanced search and retrieval system support. Content may be copied, retransmitted, republished, duplicated or otherwise used for any copyright and authentication purposes.
- The electronic environment allows the library to integrate with other libraries and use their resources.
- Those who have limited time to access libraries can effectively access libraries through dialogue.
- Libraries provide access to a myriad of information resources.

**Conclusion**

Electronic resources are useful for libraries as well as for any user in society who is hungry to obtain a variety of information from around the world. Advances in information and communication technology services are currently bringing significant changes to library operations. Its advantages for technocrats, the use of electronic products improves user knowledge. E-mails and RSS alerts contain information that enables the individual identification of the user. Improvement of infrastructure like high speed network, wi-fi in the campus.
References

Applications of New Technologies for Enabling Library Services

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Abstract

This paper is discussing various new technologies that can be applied in Library and Information centers. Implementation of various Technologies has change the way of people to access and communicate information. Users need of easy access of information, leads Library professionals to think out of the box for meeting their information needs. Application of new technologies to provide library and information services are a significant step in this direction. In this 21st century Library professional’s essentially to use various technology offering outreach technical options for librarians. Use of this technologies, provides well opportunity to extend new different types of library services to users.

Keywords: Mobile Technology, BlockChain, QR Code, RFID, Remote Control Technology, Library science, ICT Services, Library Services.

Introduction

Libraries are not merely a storehouse of books but becoming a hub of information – based society. Because of increasing awareness among the users, availability of new resources and rapid advancement in Information and Communication Technology (ICT), library professionals and libraries are changing their traditional role. The web technology and Internet has changed the way of information is stored, retrieved and communicated in the libraries. As more libraries move towards traditional services to digital services to improve more advance services by adopting advance technology.

This paper discusses some advance technology that can be applied in the library and with the help of this technology the environment of the library will be upgraded and library services will fulfill the users’ satisfaction.

Research Methodology:

For this paper, literature search was carried out by using secondary sources. For this study, the documents were studied online on Google Scholar, databases, N-list, seminar proceedings.

Following Technologies can be applied in libraries

Mobile Technology

Mobile is playing a vital role in enabling Digital India. Now a day, Mobile device is the integral part of every human life. From very beginning of childhood to old man and rural to urban and every corner of the world everybody use Mobile technology for accessing information. In 21st century there is revolutionary change in Information and Communication Technology. Use of nanotechnology is increased. Also this change is used in mobile technology. Now android version of mobile permit their users to access, stored, organize, retrieved information. There is a continually growing numbers in engaging mobile phone as a search tools. Smart phones, cell phones, iphones and tablets are commonly used devices for seeking information.

The invention and the use of information technologies need to meet life's basic challenges and responsibilities (Ademodi & Adepoju, 2009). Academic libraries can use several tools and techniques to fulfill the information need of their users. In the teaching and learning mobile technology is one of the better options to provide service to their remote users effectively. Libraries can play an important role to make their users self-directed and independent learning by providing access to their resources. Following is the possible mobile services that can provide –

- Mobile Apps for library
• Mobile on-line Public Access Catalogue (MOPAC) service
• Reference Enquiry Service
• List of New Arrivals
• Current Awareness Service and Selective Dissemination of Information Service (CAS & SDI)
• Distribution of E-Resources through Mobile site
• E-mail and SMS –Service
• Library instructions, library working hours and library tours etc can arrange
• Mobile databases

**Blockchain Technology**

Digital world has introduced new effective, innovative products globally by the use of mobile, internet, social media and cloud technology for better decisions. A Blockchain is a type of Distributed Ledger Technology (DLT) which stores transactional records, called blocks, in several databases, known as the “chain”, in a network connected through peer-to-peer nodes (Ahram et al., 2017). A blockchain is a decentralized database and peer to peer network that stores a registry of transactions secured with cryptography. In 2008 a blockchain was created by group using the name (pseudonym) Satoshi Nakamoto to serve the public distributed ledger for bitcoin cryptocurrency transactions. Some of the services can enhance by using block chain technology in the library.

• Initially block chain technology developed for financial service purpose, further it may apply in other field
• In libraries it is used for storing digital information
• In Block chain technology there is a peer to peer network system can used for inter-library loan services.
• In digital archives or rare collection where its originality and authenticity is required
• In R & D libraries and corporate libraries for intellectual property and for keeping records

**QR Code Technology**

QR code was first introduced by Denso Wave in the year 1994. QR Code stands for quick response, developed concept for code and whose aim was to gain the high-speed reading. It is a two-dimensional bar code and can easily read by smartphones and mobile phones with cameras installing QR code reader app. QR Code can be used fir following –

• IT is open source technology; one can create the QR Code by using free software.
• QR Code is very fast to access the information
• Simple implementation process and only required android phones with QR Code scanner for reading the code
• Not required so much hardware
• It helps to increase the information and technology literacy of the users.
• Library professionals can connect their users to library services like OPAC service, IR service, Library instructions, Library news easily

**RFID Technology:**

Libraries are now automated libraries where daily housework is performed with the help of computers. Libraries provide ICT based services to increase the quality of their services and decreased the time consuming transaction. One of the best tools in the security of library is RFID (Radio Frequency Identification). Most of the library are adopting this technology for the security of library resources and provide quick and effective services. By using this technology achieves the fourth law of library services. Some of the advantages of RFID are listed below –
• Can be issuing multiple books at a time
• Reduction in queue at circulation desk (Saves the time of user)
• Saving time of the library staff while issue/return of library resources
• Reduction of staff at circulation desk
• Allow library staff to provide other users’ centric service
• Provide more security of library collection

Remote Control Technology:
This is a great development in the ICT. With this technology one can work with a remotely located computer system. By using this remote technology, we can do online meeting, sharing of software, sharing of desktop, file transfer or web conference etc. By using TeamViewer or Ammyy or AnyDesk remote control software we can share our desktop to our client.

Use of Automation:
Library automation is the application of ICT and the excellent way of reducing human participation for library services. Automation provides excellent services within less time and minimum cost. In the market many automation software are available for library services like – Lisys, SLIM21, Koha, E-Granthalay, etc. The functions of the library such as acquisition, cataloguing, circulation, serials management, stock verification etc are controlled through the software, which minimize the human errors and maximize excellent service to the library users.

Conclusion
Libraries are well-known for knowledge having rich and updated information which are available for their users. The main purpose of the libraries is to dissemination of information easily to their end users. To fulfill this purpose, library professionals use several tools and new technologies to enhance their services. Library professionals can introduce more library resources and services to their users by using different new technology. Use of technology in library services reflects greater impact on their users.

References
Best Practices in College Libraries:
Subhash Baburao Kul Arts, Commerce and Science College, Kedgaon A Case Study.

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Abstract -
College Libraries work to provide information services. While providing information services in the modern era where information is spread rapidly then library departments have to be ready to provide new information. For this some best practices library department are implementing. The paper is a case study Subhash Baburao Kul College Library. The paper highlights some best practices in the library.

Keywords - Best Practices, Library, Library Services.

Introduction -
The role of the librarian is very important in the 21st century, where information is exploding moment by moment. The role of the librarian is very important when the reader gets the reading materials in the library. Librarian role is very important in how to provide maximum services at minimum cost. Providing the right book at the right time to the right reader is an important task of the librarian and for that what facilities are available in the library this is a must see and which are the best services in the library for that best practices case study has been studied in this paper.

About College and College Library -
Kedgaon is an important village is geographically placed at the center of the Daund Taluka and well-connected both by railway as well as State-Highway (Satara-Shirur) and National Highway (Mumbai – Hyderabad). It is well irrigated, well known as green belt, but lacking behind in Education. For this purpose, Late Hon. Waghoji Dagdoji Shelke, established Netaji Shikshan Sanstha and started Jawaharlal Vidyalaya in 1965. Further to address the problems of Higher Education particularly of girl students, Hon. late Mr. Kasandra Maruti Nimbalkar started the college in 2001, which was named after Late Hon. Mr. Subhash Baburao Kul as Subhash Baburao Kul Arts, Commerce and Science College. In the year of establishment of college, the Library started it’s functioning. Since the establishment year, library has done noticeable growth in its services and facilities. The department of library and information science is totally engaged with overall development of college. The library has its own motto, vision, mission and advisory committee which prepares the action plan for the library department and look after it execution and compliance. The library staff is devotedly completing all the day to day work and launching the innovative ideas.

The library has adequate collections of text books, references book, periodicals. Maps, CD’S and newspapers. The e-resources like e-book and e-journals are also subscribed under N-LIST program of INFLIBNET. Further very exhaustive information of the various e-sources have open access is also provided to reader. The library has membership of various bodies like Jaykar Library, Savitribai Phule Pune University, Pune, National Digital library of India, Shodhanga etc. Further, Library is also having number of different schemes, facilities and services for its account holder. To have social awareness and to provide the platform to the students to share their views and ideas students and teachers, department of library and information science is organizing various regular and innovative activities like guest lecture, seminar on advanced areas of research in library science, library orientation for newer students, vachan prerana divas etc. The library is thus committed to bestow, sustain and increase the all possible physical and electronic resources to its account holder looking for overall knowledge gaining in advanced age of 21st century.
What is Best Practices?
“Best practices as quality of most excellent or desirable type of most appropriate, advantageous, highly improved, outstanding, per excellence services or the customary or expected procedure or way of doing something that is usual or expected way in a particular organization or situation, guidelines for good practice. In this process of developing best practices we take action rather that good ideas, and we improve our skills’

Best Practices in Library
Following best practices are implemented in the library to increase readership and awareness of the importance of library.

1. Orientation Programme-
In our Institute we arrange orientation programme for newly admitted students in that we introduce students to the library. We make them aware of library, library staff, collection, library services, library facilities, library rules and regulations and process to use the library.

2. New Arrival Display-
Library has regular practice to display new arrivals. We display a single single copy of new arrival books on display box of library.

3. Book Exhibition
Library arranges book exhibition on different occasions. i.e. Dr. S.R. Rangnathan Birth Anniversary, Dr. Abdul Kalam Jayanti also Vachan Prerna Din, International Book Day, Marathi Bhasha Din etc. we display some rare books, Biographies, Novels in Marathi languages and books related to that occasion.

4. Library Automation-
Our institute have partially Automated Vruddhi Software. Acquisition, Stock Verification, Circulation, and visitor reports are conducted and generated using this software. All books and I cards are barcode based due to which process of circulation is done faster (4th law- Save the time of reader).

5. OPAC-
OPAC is made available for students and staff on 10 computers connected to library database with LAN. Through OPAC student can search books by various field like, title, subject, author, class number, publisher, etc. students get to know that is required book is available in library or not with the help of OPAC.

6. News Paper Clipping –
Articles from Newspapers are cut and paste in the newspaper cutting file and it is displayed for students and staff. Articles like, Economical, Historical, Banking related, Competitive Exam related, college new etc. articles are display in the display box.

7. Competitions-
We held competitions were books are given to students to read and write a review. Best Book review writer is a winner declare and also give him award in the college kalamhaostav programe.

8. Study Tour-
To inculcate the reading habit of the students, the library department organizes a study tour in the book village “Pustakache Gaon Bhilar” every year. Also Jaykar Library department of Library Savitribai Phule Pune University.Pune.

9. Best Reader/User Award-
Every year the Adersh Vachak Award is announced in Kala Mahotsav so that other students are inspired to read books.

10. Suggestion Box-
Library has a suggestion Box near the entry of the library. Students and professor put their completed /suggestions in the box and it is opened in the every month end in principal cabin and a solution is drawn after discussing the library committee which the suggestions received in the box.
11. Granth Parivar Yojana-
Granth Parivar Yojana is implemented in library where students who are interested in reading are given a books and other materials to read at any time and they are asked to review the book they have read.

Conclusion
The college library try at their best to sustain above discussed best practices. The practices are reviewed time to time to accommodate the necessary changes to make the initiative more innovative and user centric. Best practice not only helps to increase reader but also helps to do better study, research projects and library objective success.

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Marketing of Library Services

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Abstract:
Library is nonprofit organization it is basically engaged in the production of services rather than goods. Marketing in library sector is required to aware about the library services. This paper enumerates the concept of library promotion and marketing of library services. Libraries are having many types of collections. To promote the collection for use it is necessary to market library products-library services. As librarians we should be actively marketing and promoting our library services. The marketing policy of the libraries needs careful planning, structuring, execution and evaluation with regular review.

Keywords: Libraries, Marketing, Marketing Strategies, Library Services.

Introduction:
Marketing is frequently viewed as a set of strategies and techniques that belong to administrators. “Marketing is the management process which identifies, anticipates and supplies customer requirements efficiently”. Thus the essence of marketing involves finding out what the users want, then setting out to meet those needs. As librarians we all participate in this process of assessing our users needs and trying to fulfil them. Thus, we are already marketing our library information skills. However, in order to do this effectively librarians need to embrace the total marketing function involving market research and analysis, service planning and promotion.

Libraries are considered as treasures of knowledge. It is also known as storehouse of knowledge. It is true that all libraries in the world are full of reading material which consist books, journals, films, images, manuscripts, audio visual materials etc. which has knowledge, recorded by peoples, eminent writers and eminent personalities. However it is a need to market these resources which possess by the libraries.

Marketing:
Marketing in the library context, refers to those instrument through which information (both raw and processed) are transmitted to its users.

“Marketing is the analysis, planning, implementation and control of carefully formulated programs designed to bring about voluntary exchanges of values with target markets for the purpose of achieving organizational objectives. It reties heavily on designing the organization’s offering in terms of target markets needs and desires, and on using effective pricing, communication, and distribution to inform, motivate, and service the markets.” Kotler.

“Marketing is a total system of interacting business activities to plan, price, promote and distribute want satisfying products and services, and present to potential customers.” Stanton.

Concept Of Marketing Of Library Services Through Five Laws Of Library Science:
Dr. S.R. Ranganathan, father of library and Information Science, philosopher, mathematician devised five laws of library science which promotes the usage of resources.

i) Books Are For Use:
This law itself promotes that each book available in the library is for use. If the books kept in lock and key without providing it to the readers, then it is a dead investment of the organization. Hence books should be
freely available to each user coming to the library. Library staff should take initiative to attract their users to read more and more books. But while giving more books to the users, they should see how it come back for further use to other readers. It is a skill of the library staff, how the attract the students/customers towards the library. Books are for user promotes the use of book. Staff should tell the users what are the good books available, it should be placed on the prominent place, may be entrance of the library where every user come and see.

ii) Every Reader His Book :

Here Reader of the library is main factor/customer, every staff must see how library users are satisfied with the services by the libraries. We must focus to the needs of such readers and their satisfaction. It is true that library cannot satisfy each and every customer, however efforts should be taken by the staff to satisfy users maximum.

iii) Every Book Its Reader :

According to this law Dr. Ranganathan expressed that every book which is purchased by library must get reader. Here we must see what the needs of the readers are. Dr. Ranganathan expect that find a reader for every book. To find a reader for every book library staff should conduct such studies/surveys to obtain the needs of their readers. Once you identify their needs then you can promote the resources and increase the use of it. Here attitude of the library staff is more important. They should be always positive to solve the problems of the users with smiling face.

iv) Save the Time of Reader :

The users time is very precious, to save the time of users in the library, staff should organise the information in such a way to fine it promptly. Reader should not waste their time in searching the information, searching the books and journals in the library. Of course arrangement of library material is a scientific method which is taught to the library staff.

v) Library is A Growing Organism :

Here more emphasis is on evolutionary growth of the library. However librarian must see how library collection grows with qualitatively not in quantity. Now a days e-books are more popular and easy to access. Hence vendors are promoting and marketing their products in package or pick and choose model where choice of selection of required books are with faculty members.

The Medium Of Marketing

Marketing and promotion can take place on a variety of mediums or platforms. The traditional mediums include print, radio, television, direct mail and telephone; while the online mediums include email, social media, pay per click marketing, search engine marketing, and mobile marketing. There are benefits and costs to each type of marketing so it is critical to understand the objectives of each marketing campaign and utilize the medium that best facilitates them.

i) Print

Newspapers, magazines, printed telephone directories and billboards all fall within the category of print media. Although many of these media outlets have dwindles in market penetration but retain key importance with certain demographic groups. For example telephone books have become almost antiquated as the majority of the country utilizes online resources to locate contact information, yet a large number of consumers in rural communities and internet starved areas continue to depend on them.

ii) Newsletters and Leaflets

Newsletters and leaflets are both a means of delivering information. A newsletter can be used to list interesting new web sites, new journals and online services, and perhaps more general science news of interest. It does not have to be long but should be produced on a regular basis. Leaflets and guides can be handed out, and displayed on notice boards. The library notice board should be in a prominent place.
iii) Radio

A broadcast medium like radio can be extremely effective in reaching a key demographic. Because most radio stations are limited to a particular genre of music like pop, classical, urban or country, their listeners often possess similar characteristics. In combination with accurate marketing research, a radio marketing campaign can communicate a promotional message to a target segment with a high degree of success.

iv) Television

This is one of the most expensive marketing platforms and requires considerable preparation in researching the peak times for reaching the target consumer as well as in production of the commercial, infomercial or product placement. Television remains the most powerful form of marketing despite the advent of the internet, with most Americans spending more than four hours a day viewing TV programs. Purchasing ad time is a huge investment for many small and mid-size companies, so a well strategized marketing campaign is essential.

v) Telemarketing

Telemarketing remains a robust form of marketing due to its push nature and the introduction of new technologies, like automation and cross channel lead generation, which has enhanced conversion effectiveness. There has been a number of consumer protections implemented which have limited telemarketing, but it still remains a highly effective way to connect with consumers and induce sales.

vi) Search Engine Marketing

Search engine marketing utilizes paid and unpaid mechanisms for improving visibility on a search engine results page. This increased visibility translates into higher traffic for the e-commerce site and enhanced revenue. These mechanisms may include SEO techniques like keyword insertions, backlink building, and content optimization. Paid techniques include paid inclusion, link farming, and content marketing.

vii) Pay per click marketing

Pay per click is often associated with banner ads, pop up ads and sponsored links. This form of marketing is commonly priced upon the number of clicks upon the ad or link. PPC marketing remains important for its ease of use, highly measurable effectiveness and modest ROI, but the PPC model of marketing has diminished in importance as consumers have become inured to ubiquitous use of ads and links.

viii) E Mail

Email marketing has been an essential medium for marketing strategies since the inception of online marketing. The use of ads, newsletters and other content that is directly sent to consumers who have expressed interest in the product or business remains a very successful way of generating consumer interest and maintaining a relationship with customers. Due to the narrow window of consumer responses, email conversion rates can be measured with a very high degree of accuracy, which allows marketers to develop very sophisticated metrics and strategies for this important medium.

ix) Social Media Marketing

Social media sites like Facebook and Twitter have huge followings that present enormous marketing possibilities for businesses. The ability to gauge consumer interest in products, brands and social trends offers a huge amount of valuable information that marketers can utilize to create effective and narrowly targeted marketing campaigns. There are considerable costs and challenges associated with the use of these platforms, but a highly successful social media marketing campaign can produce enormous consumer interest.

x) Mobile Marketing

Mobile marketing is an emerging form of marketing that is wholly dependent on the use of mobile devices like smartphones and tablets. Although all of the previously mentioned mediums of marketing can be applied to mobile devices, due to application and technological constraints, there are critical differences that must be identified and incorporated into a mobile marketing campaign. The growing popularity of this form of marketing is related to the trend line of a steep increase in number of consumers using their mobile devices to acquire marketing information and make online purchases or other online activities.
Conclusion:

The value of marketing library's products and services has been recognized and now we as librarian, library staff need to develop and formalize our marketing strategies. Marketing in libraries has gone beyond special days and book displays. We need to give the marketing function a priority within our other library duties. In the case of libraries, technologies have made their activities easier and they have changed them. The work done by the information services is an enterprise that requires commitment and a good disposition to devote time, consideration, and love to all these activities and to become part of the change, delivering and communicating this attitude, converting ordinary things into extraordinary achievements. Marketing library and information services is necessary in order to enlighten the users on the relevance of library use, to encourage the use of library, to identify the information needs of users and to achieve the objectives of the library. Librarians agreed that good communication skills, information technology skills, ability to answer users’ query, ability to sell idea/library services, ability to question and evaluate library services as well as interpersonal skills are competences required of librarians for effective marketing of library and information services.

Acknowledgment:

The author is thankful to various contributors, whose research work; articles are freely used and cited. Since this paper is based on various sources/languages, any error in scientific names or spelling is regretted. Suggestions for corrections are welcome.

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Understanding Users’ Attitude towards Digital Libraries

Prof. Dr. Varsha Maindargi
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Kamala College, Kolhapur

Abstract

Digital libraries provide electronic formats of books that can be easily accessed by the users particularly students and teachers simply by logging into an online portal. This system allows the uploading and updating of any content. These documents can be accessed seamlessly from any device and can be shared amongst the users. Students can consult online books, images, videos and all the other educational contents. They don’t have to wait for it and go to the physical library. They can access it in either formal or informal environment, for example at school, or at their homes. At a mouse click they get an instant access to the information they need conveniently and comfortably. Various digital formats (eBooks, audiobooks, videos on demand 24 hrs/day) are available for the users anytime and anywhere with their preferred devices. The present paper is an attempt to understand the user attitude towards digital libraries. It suggests some ways to facilitate a user-centered approach.

The present paper is an attempt to study the importance of digital libraries and the attitude of users towards it.

(Keywords : ebooks, fingertips, accessible)

Introduction

With fast changing way of living, the demand for virtual libraries at our fingertips is skyrocketing. Books have a long history. Traditional physical libraries are now changing with the advancement of Information Technology. More traditional members of the global reading community become concerned about obsolescence of books. But with the wonders of the internet, books are still very much alive. Digital libraries are a type of library that houses a centralized collection of digital items like texts, graphics, audio, and video materials, files in electronic media formats, along with the methods for organizing, storing, and retrieving media. Many large libraries, universities and schools worldwide are steadily digitizing their reading collections.

Digital libraries can range in size and scope, and they can be maintained by individuals, organizations, or established physical library buildings or institutions affiliated with approved or academic institutions. Types of digital libraries include Institutional repositories, National library collections, Digital archives etc. The use of e-books saves time, energy and money also. Storage requirement is not needed for e-books. The importance of digital library is being recognised during Covid-19. Since the outbreak, digital libraries are now well accepted as an uninterrupted access to reading and study materials to millions of users worldwide. The understanding of attitude of the perspective of user and e-book interaction will be helpful in understanding better the determinants of a quality experience.

Objectives of the Study

• To understand the advantages of digital libraries
• To know the 7Ps of digital library services
• To identify the attitude of users towards digital library
• To offer conclusions and suggestions

Advantages of Digital Library

1. Availability of variety of content- Digital libraries store a wide variety of content in a virtual environment in the form of eBooks, magazines, articles, blogs, papers, videos, podcasts, and audiobooks etc. Modern digital
libraries store their resources in the cloud so that their users can access them at any time and from any location.

2. Easily Updated –
   Digital libraries can be updated on a regular basis. Many publishers allow digital libraries to make current editions on a pay-per-read basis and the users can be given access to the most recent publications, which will arouse their interest.

3. Easy and Quick Access –
   The number of people reading books in digital format has been steadily increasing. Younger readers prefer digital book versions because they can read them whenever and wherever they want. Easy and quick access is possible via the internet using devices such as mobiles, computers, tablets or smartphones.

4. Simplified Search –
   Digital libraries are designed with built-in search capabilities. With the use of popular search engines like Google, Bing, and Yahoo content searches are speeded up and readers can find the information they need quickly. Even just by entering relevant words and phrases, they can find and sort digital resources.

5. 24/7 Availability –
   Digital libraries allow readers to read eBooks, listen to audiobooks, and watch videos 24/7 without changing their location. Only an Internet-powered device to access and read digital library materials is required for this.

6. Unlimited Access to Multiple Resources –
   In a digital environment multiple readers can have simultaneous access to the same books, videos, and audiobooks. Many educational institutions are therefore establishing digital libraries to allow a large number of students from various locations to access the same book at the same time.

7. Automation of Library services –
   Routine library services such as indexing, issuing, tracking, and preservation are automated with the library management software. This has encouraged many institutions and businesses to easily establish digital libraries.

8. Real-Time Interactions –
   The latest library management software includes features that make the interaction of readers and administrators easier. Through establishment of online communities, many software solutions encourage reader interaction. Readers can quickly gather specific information about a book or article through these real-time interactions.

9. Reduce Resource Depletion –
   Frequent access and reuse of physical library resources results in deterioration of books, vinyl records, cassette tapes, and other resources. But digitization makes digital resources available to a large number of readers on a consistent basis, with little regard for physical material preservation.

10. Preservation of Knowledge –
    Physical storage devices, such as CDs, DVDs, and cassette tapes, are prone to damage and loss and valuable research can’t be preserved. Digital libraries now store their resources in the cloud. Sophisticated security measures are also used to ensure that only authentic readers have access to the content. Hence digital libraries save important research and studies for future generations.

**Seven Ps of Digital Library services**

<table>
<thead>
<tr>
<th>7 Ps of Digital library services</th>
<th>Issues</th>
<th>Description</th>
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<tbody>
<tr>
<td>P1. Product</td>
<td>What is the digital library providing?</td>
<td>For reference services, this refers to the types of services provided to users and how they are provided.</td>
</tr>
</tbody>
</table>
### Special Issue Theme: Future Academic Libraries:
Designing Technological Innovation and Best Practices in Academic Libraries (Special Issue No. 117)

#### P2. Price
What does the digital library users give up in using the services?
For library users, this includes time and the value of the services they receive in response to the role and responsibility of the library.

#### P3. Place
Where can digital library users use the services? How can they access the services?
This may include places inside the library, such as the reference desk, and virtual reference services via online or other channels.

#### P4. Promotion
How is the digital library going to tell users about their services and persuade them to use those services?
This includes techniques such as events, direct mail, and banners on web pages and in databases.

#### P5. People
Who will provide the digital library services? Do they have the right disposition? Do they have the right training?
This focuses on the roles and responsibilities of the service providers (reference librarians), and their competency to do their work effectively. Moreover, it is the necessity for service providers to be proactive and have cheerful attitude towards users, and to have a marketing culture when providing various information services to the user to achieve the goals of the library. Other aspects relating to the competencies of personnel – including their knowledge, skills and personal attributes – should be also focused on.

#### P6. Process
What are the processes and systems for service management to ensure efficiency and effectiveness of digital libraries?
This can be the service management process, such as planning, user studies, operation and evaluation. User satisfaction and feedback on the services are also critical processes.

#### P7. Physical environment
What does the library do regarding its physical and online appearance of digital library? How does the library organize its infrastructure and facilities to support users in using the services?
This includes service spaces in the library, its appearance, its atmosphere and technological support for the services. Moreover, library space in a form of online service via computers, mobile devices and the Internet, also provides the users' experiences of using reference service.

*Source: Adapted from Leonard and Tedford (2006) and The Marketing Mix (2012)*

### Attitude of users towards digital libraries
This study aims to study the users' attitude towards digital libraries. This study was carried out by conducting a survey using questionnaire as a tool to find out users' views on using e-books as compared to printed documents. This study was carried out of 125 sample undergraduate students users from different colleges in Kolhapur city with wide range of subject background and computer experience.

#### Table No. 1 - Attitude of users towards digital libraries

<table>
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<tr>
<th>Sr.</th>
<th>Particulars</th>
<th>Users</th>
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<tr>
<td></td>
<td></td>
<td>Number</td>
</tr>
<tr>
<td>1</td>
<td>Awareness</td>
<td>75</td>
</tr>
<tr>
<td>2</td>
<td>Willingness</td>
<td>68</td>
</tr>
</tbody>
</table>

*Source: Adapted from Leonard and Tedford (2006) and The Marketing Mix (2012)*
It is clearly seen from the above table that –
1) e-book awareness among students is 60%. More than half of the students are aware of the availability of e-books from the library.
2) 51.2% of the students have used e-books. They are aware of the advantages and limitations of digital libraries and tailor their choice for digital or physical libraries according to their needs.
3) Users often regard e-books as a quick reference tool i.e. 59.20%. According to them e-books help them to find relevant sections and extract information for further use as valuable information resources.
4) Of the total, only 28.00% users are ready to pay the same or slightly lesser price as compared to printed publications.
5) 44.00% respondents find usefulness, desirability, accessibility, credibility of digital libraries.
6) 28.80% users may not have a clear concept of e-books or which online resources are considered as e-books. They do not clearly distinguish among types of resources such as online journals, conference proceedings, and e-books they may be accessing e-books without knowing the exact type of the resources.
7) Searching and navigation functions are thus critical to 28.00% users’ acceptance.
8) Only 21.6% respondents found it complicated to use digital libraries and 78.4% expressed that digital libraries are user-friendly and convenient.
9) Nearly 42.4% of participants rated e-books as “need to have” or “nice to have,” showing the perceived usefulness of e-books.
10) Not all e-books can be accessed through the library catalogue (only 37.6%) due to the lack of individual machine-readable cataloging (MARC) records;
11) For 27.20% users a common concern affecting users’ attitudes toward e-books is the perceived eyestrain or fatigue from reading or viewing information on a screen for an extended period of time.
12) E-books are sometimes limited in meeting users’ requirements of text size and clarity for 24.80% users.

Findings–
Students are generally willing to use and read e-books though they continue to prefer and use printed publications. Users view the convenience of online access and search functions as the most important advantages of e-books over print books. They search for relevant e-book titles and identify the ones that they will further examine. The actual use of e-books involves navigating within the e-book structure, seeking targeted information, and reading the content. The top three behaviors with e-books reported by students are brief look, reading from screen, and downloading PDF. Other usability issues of e-books, such as the book layout with limited display area on the screen and slow response, might also affect students’ willingness to read e-books online. Users’ awareness of e-books varies across different disciplines. Significantly science students are aware of e-books than users in other disciplines. The fragmented nature of e-book collections in libraries may result in missing titles in
library catalogs and in user confusion. However, technical and access barriers still exist in e-book collections and its use.

**Suggestions**

- Awareness about digital library should be increased through promotion by local institutions.
- Recent developments in discovery tools should be made to mitigate the e-book discovery issue by indexing metadata from multiple collections.
- The library catalogue should be updated as frequently as the publishers’ e-book platforms and publisher platforms may offer table of contents and full-text searching not available in the library catalog.
- The engagement of students should be increased through hosting university events in the library, adding a modern tea or coffee house, conducting workshops and faculty development programs etc. Slogans like Save a trip to the Library, No late fees, Read anytime, anywhere, One device, many books, A dictionary at your fingertips, Search in seconds, Customize how you read, Our collection is always growing E-books help the visually impaired, E-books Can Provide a More Immersive Experience, People Retain More Information from Paper, Traditional Books Help with Eye Strain etc. can also increase the interest of students in e library.
- Other e-book features, such as downloading, printing, text highlighting, annotating, copying, and pasting will be helpful to develop positive attitudes toward e-books.
- New display technologies such as e-ink and high resolution screens should be used for creating interest among the users.
- e-book use should be categorised into four types: finding relevant content, selective reading, fact finding, and extended reading.
- With recent technological development, libraries should implement three major mechanisms for improving e-book discovery and access: e-book vendors’ platforms, library catalogs (OPACs), and discovery tools.
- To understand users’ interaction with e-books in different phases, traditional transaction log analysis should be integrated with behavioral research methods to generate a comprehensive assessment of users’ information-seeking activities.

**Conclusion**

Findings of users’ attitude and suggestions thereon will definitely be utilized to drive the design of e-book features and the overall interaction between users and the e-book system. understanding user evaluations will be helpful to interface design for iterative refinement and improvement. Digital libraries is a great addition to users’ current scholarly information resources.

**References**

Mobile Applications used in Academic Libraries

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Abstract:
Digital Technology has provided rapid approach to information and it is also challenging the libraries to redefine and rebuild their services by adopting the technological changes. Today mobile phones are becoming an important part of everyday life and are changing the way one connects and interconnects with the world. In this changing scenario, Mobile Technology will be of great assist to libraries towards build up their relationship and providing no of user oriented services to existing users. Libraries may well connect to the remote users who were reviewed unlikely to connect because of absence of a medium. The paper discusses on the need, advantages, drawbacks, barriers and solutions for optimistic implementation of the mobile technology in libraries. It also searches the type of infrastructure required by the libraries for providing these services in libraries. This paper presents summary of the web app and use of developments in mobile telecommunication systems, web programming (internet/intranet) and geographic systems like GPS supply everywhere, user-friendly, personalized and vital up to date information services to library users.

Keywords: Mobile Technology, Mobile document supply, SMS notification services.

Introduction:
Today we are experiencing huge growth rates in mobile communication systems (mainly in Asia) increasingly mobility awareness in society and the worldwide free competition former monopolized market, while traditional communication paradigms deal with fixed networks, mobility raises a new set of questions, techniques and solutions for many countries mobile communication is the only solution due to the reduction an suitable fixed communication infrastructure. Today more people use mobile phones (over one billion) than traditional fixed phones. There are many new exciting systems currently being developed in research labs. The future will see more and more mobile devices the merging of classical voice and data transmission technologies and the extension of today’s internet applications (e.g. World Wide Web) onto mobile and wireless devices. New application and new mobile networks will bring everywhere multimedia computing to the mass market, radios, PDAs, laptops and mobile phones will converge and many different functions will be available on one device –guide on top of internet technologies. Mobile Technology will help both beginner and experienced librarians to stay applicable in an increasingly mobile society. They need to be cognizant of technological changes, peer forward, and develop for the future of library mobile interaction. Librarians must be equivalent with this trend and integrate themselves into the mobile realm if they wish to deliver enhanced user services.

Impact of Mobile Technology in Library Services:
Mobile technology has now occurred with “Libraries in hand” trend. Our librarians are in move to firm about these devices are affecting information approach and ensure that they are communicating with subscriber and providing web content in the most appropriate and effective ways. Our librarians must be arranged thing to take this challenge to expand the market and demand for mobile access to customize facts and information anytime, anywhere on one’s own portable device. Since mobile handled devices are truly personal devices, search histories and physical locations can be trapped to produce more accurate, personalized information and services. Users don’t want to wait for list of web results, typical scenario in libraries today for mobile communication with many wireless devices. Networks with a fixed infrastructure like cellular phones, Personal Digital Assistant, laptops connect with Bluetooth technology universal mobile telecommunication system (UMTS), Global positioning system (GPS), Digital audio Broadcasing, Mobilizing library contents in a portable form appropriate
for small screen and provide short service in the form of contents with multiple searching features. Librarians will need to become expert in using this mechanism to enable user’s access available 24/7.

Objectives:

- A wide range of computerizing which can bring about meaningful revolution and improvement in information transmission is now available for speedy access and it is also necessary the libraries to redevelop and remodel their services by modify the technological.
- Today mobile phones are becoming an essential part of day to day life and are changing the ways one connects and interconnect with the world.
- In this changing view mobile communication will be the great support towards build up their connection to boost user oriented services to existing as well as new users.
- Libraries may well reach out to the remote users who were considered unlikely to connect because of absence of medium.

Additional Services are provided by library:

Thus audio/video collections no longer are composed only of physical units to borrow, but increasingly are streamed on Libraries can better serve their users by embracing the growing capabilities of mobile technology. They can encourage and expand their existing services by offering mobile access to their websites and OPAC (online public access catalogues): by providing on the go mobile reference services: and by giving mobile access to journals, magazines, audio books, video, e books, journals, presentation, animation, image demand or downloaded, Circulating content in urban, suburban, and rural libraries across the country.

The M-Learning Development in India:

Libraries in hand’ is the latest slogan of the Indian libraries and mobile services in India are quite affordable. The proliferation of mobile phones, PDAs and other mobile devices means that the platform has lot of potential in India, with over two million users being added every week and as per the Telecom Regulatory Authority of India, there were 910.16 million mobile phones and 938.34 telecom service (including landlines) users in India at the end of May 2014, and excellent connectivity across regions. Major mobile manufactures such as Nokia, Sony Ericsson and Motorola in India have linked up with service providers like Airtel, Vodafone and others to provide mobile content, which also includes learning content. Companies that specialize in content aggregation provide the actual content, while mobile value added services providers develop the mobile technology and delivery. The ISRO satellite centre has introduced mobile library services in the first phase to only senior scientists/engineers who are allowed to use mobiles in the campus and in the second phase to the faculty and the students of Indian Institute of Space Technology (IIST). All information services hosted on ISAC library homepage are accessible through intranet and space net can be straight away optimized to mobile based services. Initially library’s alert services like information on new books for suggestion, books on display, arrival on indented document, reserved documents ready for collection, books overdue, library circulars, information about important events, etc, are provided via mobile devices and later by allowing users to comment on the items in catalog and letting users to comment directly from their PDAs and mobile phones to library databases.

Library Services that can be supplied to users via Mobile Technology:

❖ Books Mobile: Bookmobiles and direct-delivery outreach services are, and continue to be an integral, important part of libraries globally Consisting hundred years bookmobiles have provided service countryside, city and tribal areas, Bookmobiles are one of the innovative ways libraries and bookstores bring reading materials and valuable resources to their communities.
Bookmobiles are a primary part of library service. Bookmobiles additional the reach of traditional libraries by transporting books to future readers, providing library services to people in remote areas and circumstances.

❖ **Library SMS Notification:**

Libraries may provide the aware on current news, events and notification via SMS and MMS to users wherever they might be go.

The users can get notified immediate with notice alerts such as alerts on new arrival books, journals, magazines, new suggestions, new services, suggestion, books circulation, overdue books, communicate of arrival of documents by users, informing availability of reserved books or information for collection, reminders to return library books, reminder for renew books, library circulars, subscription of e journals, change in timings, information about important events etc. Such alert notifications can be generated automatically using fully integrated library management software.

❖ **Emerged Trend: Long distance learning - Education learning - Mobile learning:**

Distance learning is a Correspondence Learning. Where students are not present physically they receive their textbooks, study guides, assignments and other study materials via the post.

Education learning A learning system ground on formalized teaching but with the support of electronic resources is known as E-learning. While teaching can be based in or out of the classrooms, e learning completely refer course, program online for users therefore internet and computers are major components of e learning.

Mobile learning in education system it’s also known as m learning. Mobile learning is a other way to access content via mobile. Students are all rounder in using their mobile phones and several mobile applications. Academic libraries can gear the advantage to guide fulfilling of library services through mobile devices to support long distance learning, formal learning and research activities in e-learning conditions by making the information resources everywhere. Library services should also join with teaching and research application of colleges and universities whom they serve.

❖ **Database Browsing:**

A library database is a variety of exploring electronic index of published and sees results are designed for mobile viewing reliable resources like OPAC, OCLC’s Catalogue. Databases provide access to a content of useful research materials from academic journals, newspapers, and magazines. Some databases also cover e-books, applicable web resources, and various multimedia. And mobile applications allows users to find books and other material through smart phone or personal digital assistant’s.

❖ **My Library: your library, anywhere, everywhere:**

My library is an iOS and Android app that gives on the go access to all of library’s resources, which is a exquisite reply to the mobile nature of library users. My library allows you to store your personal books and to perform a quick search within it.

❖ **Virtual Reference Service:**

Virtual reference is reference service bring out electronically, often in real-time, where user computers or other Internet technology to communicate with reference staff, not having physical presence.

❖ **Library Guide :**

The Library provides vital learning materials within library team up and through the Library Guides, which are online reference guides that support student learning, question answer service and library statistics as well as staff and researchers, at library They will point you to a various of resources available in our Library, inclusive of directory, databases, electronic journals, electronic books, and other online resources.

❖ **Text / SMS Reference Service:**

Text or SMS reference services mobile users all of the assistance of live chat without being tied to a website. All users can’t access library website on their phone but they can text most on a librarian number and librarian can provide real time answer or links to articles and references and more user immediately.
❖ **Current Awareness Service (CAS):**

User is obtain Current awareness service. Current awareness service has been broad in the part for keeping the users update in their subject or areas of interest. Libraries now organize current awareness bulletins using prearranged search strategy and running on the database. A large number of gateways offering CAS through list serve weblog, webzines, e-newsletters, etc.

❖ **Selective Dissemination of Information (SDI):**

SDI is an alerting service which informs the users that some documents are available in the library, which may satisfy their requirements. Alerts can be received through a number of ways, including email, RSS feeds, voice mail, instant messaging and text messaging.

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SDI is an alerting service which notifies the users that documents are available in the library, which may useful for their demands. Notification can be received through a number of ways, including email, RSS feeds, voice mail, instant messaging and text messaging. It is a customized service meant for the individuals or group of users having identical information needs or demands.

❖ **QR code:**

A quick response (QR) code is a type of barcode that can be read simply by a digital device and which stores information as a series of pixels in a square-shaped framework. QR codes are constant used to track information about products in a supply chain and frequently used in marketing and advertising campaigns. QR Codes can link immense information. So, you link your library catalogue to a QR Code. All you require to create is a Website URL QR Code and place it at an appropriate place such as book, DVD…etc.

❖ **Mobile Document Supply:**

The mobile environment and technology perform new opportunities for redirect document requisition and scanned images and monitoring the use of collections as well as the computerization of administrative operations. It can support electronic funds transfer, supply chain management, e-marketing, online marketing, online transaction processing, electronic data interchange, and automated inventory management systems. A user can have requested document on his mobile phone by SMS, Email etc.

❖ **Information Literacy (IL):**

Information literacy can be used for academic purposes, like research papers and group presentations. They are used by the library and Information Science (LIS) professionals, have ability to search, analyses, use and share information is an important skill. LIS professionals also use skills by involve fully in a democratic society as an informed citizen by understanding major issues and popular voting.

❖ **Social Media:**

Several types of social media channels can be operate by library for various purposes. Some of them are like information communication (Face book, twitter, blog etc.), Content creation (YouTube, Wikipedia etc.) and knowledge organization (Net vibe, Delicious etc.). The most obvious benefit of having a social media account is that users have a direct line to communicate with users. People can reach out to ask about available books, services, and office hours. Feedback is vital for library and through social media libraries get direct feedback as well.

❖ **Mobile Printing:**

Library can supply user with the facility of printing through their mobile phone for any instant demand on user.
However, the fulfillment of this technology is hindered because of its dependence on the capabilities of mobile devices.

❖ **Marketing:**

The information explosion is the quick increase in the amount of published information or data and the effects of this plenty. Due to information explosion libraries are necessary to meet information needs of users. The world in which libraries exist has switched dramatically. It moves speedy, depends on technology and competes more hard.

Marketing through mobile technologies:
- Online Library Tours
- SMS
- Email
- Blogs
- Social Media (Instagram, Twitter, LinkedIn, YouTube, Facebook, WhatsApp etc)
- Voice marketing
- Mobile search ads
- Location based marketing
- QR Code marketing

**Pros and cons of Mobile Devices application of Academic library service:**

**Easily Operated:** Easy to understand their own devices and technology helps the users in reachable information quickly and not require any special orientation and trail.

**Personalized Experience:** Personalized service help users to link with library staff to find specific information or reference away from library.

**Flexibility and Freedom to Access Information:** Information access from anywhere at any time will be of great help for users who can’t visit library in person and provides a constant link to required information resources.

**Save the time:** Users need not record information about resources while browsing and searching library resources or library circulation (issue-return) counter to renew or issue books and hence the time of the user saved.

**User Contribution:** Libraries can improve OPAC by grant users to incorporated user created content like notes or images uploaded by users.

**Geo located:** Mobile communication permit libraries to offer location-based content through global positioning system (GPS) capabilities. Libraries can direct the users to the location of specific document or service through maps and operate.

**Limitless Access:** All online resources approachable on their mobile devices without any Fear of storage capacity.

**Cons of Mobile Devices application of Academic library service:**

**Technical man power need:** Highly man power needed to handle all the things. Need more capable and elevated server and more bandwidth for access.

**High price:** The infrastructure cost of mobile device i.e. the cost of hardware, software; leasing communication circuit is generally very top. Need more knowledge for preservation and archiving the materials.

**Environment:** Mobile device cannot reproduce the environment of a traditional library. Many people also search reading printed material to be easier than reading material on a mobile small screen.
Conclusion:

The mobile technology devices of the future will be more powerful less heavy and comprise new interfaces to the user and new networks; however, one big problem which has not yet been solved is the energy supply. Top performance of the device, the faster it channel the batteries (assuming the same technology) additionally wireless data transmission consumes a lot of energy. However the area of mobile computing and mobile communication is developing continuously the devices typically used today still exhibit some major drawbacks compared to desktop systems in addition to the energy problems interfaces have to be small enough to make the device portable, so smaller key-boards are used. This makes typing difficult because if their limited key size. Small screen are often useless for graphical display. Mobile technology is greatly influenced by the merging of telecommunication and computer network.

Library strategy and services have to flexible and open so that new information needs of users in pursuit of organizational needs are met with new mobile technologies. The mission of libraries is to utilize new technology in a more productive way to advertise and combine them into the design of future library services in a cost efficient manner. Although one cannot forsake the strategy and excellence of information security of the organization. Since, the feature like reliable and continuous connectivity makes new devices more at risk to security threats, the same need to be addressed cautiously before setting up the library services for mobile devices. While the financial institutions like banks are making use of such technologies without exposing the customer to much risk, it may not be an impossible task for the libraries to overcome such security threats in providing library and information services on mobile devices. It is very essential for libraries to be dynamic and change their outlook to adopt new technologies and to develop new kind of relationships with users.

Reference:
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Information and Communication Services Based on Mobile Application Technology

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Librarian
Sahir Anna Bahu Sathe Mahavidyalaya Mukhed Dist. Nanded

Abstract

Nowadays Mobile phones have become the essential part of human life for communication and it also helps to student in e-learning. In this paper we have discussed about mobile technology and focused on its application and library services. With help of mobile devices, libraries can produce new services and provide faster access to its collection. The implication of mobile library services.

Keywords: Digital technology, mobile applications, services, mobile devices etc.

Introduction

Digital Technology has provided faster access to information and it is also challenging the libraries to rethink and remodel their services by adopting the technological changes. Today mobile phones are becoming an integral part of everyday life and are changing the way one connects and interacts with the world. In this changing scenario, Mobile Technology will be of great help to libraries towards strengthening their relationship and providing enhanced user oriented services to existing users. It is explores the type of infrastructure required by the libraries for providing these services in libraries.

Mobile Application Technology: Academic

Mobile phones are seen as key means for improving access to education. Mobile devices in general and smart phones in particular establish a potential for a ubiquitous learner engagement that is often referred to as “learn anything at anytime and anywhere” There are a number of ways to learn to use mobile technologies, leading to the description of mobile technologies as a gateway to tools and resources. Development of Mobile apps in State and National Level in all education Era

Voter ID Card

The Indian voter ID card is issued by the Election Commission of India. Its main purpose is as identity proof while casting votes. It also serves as general identity proof, address proof, and age proof for casting votes as well as for other purposes such as buying a mobile phone SIM or applying for a passport. It serves as a ID in Elections.

Features:
1. Check voter card status
2. Search voter name in Electoral Roll
3. Apply online for Registration of New Voter
4. Apply online for Registration of Overseas Voter
5. Correction of Entries in Electoral Roll
6. Know your Booth, AC and PC
7. Know your BLO, ERO and DEO
8. Link to STATE/UT CEO’s
9. Voter Education Channel
10. Polling Process
11. Electronic Voting Machines
12. Complaint / Suggestions
13. Indian voter list 2016
14. Help
National Digital India (NDL)

Ministry of Human Resource Development under its National Mission of Education
Through information and communication technology has initiated the National Digital Library of India.
The National Digital Library of India’s Android mobile app ‘NDL India’
"It is a movement to reach out to people at every corner of the country with educational content of not just books, papers or theses but with class lectures, audio books and lectures, tutorials, assignments and solutions, simulations, animations, data sets, etc. through a single window access,“
South Asia Award 2017 – Best Mobile Application

ePathshala

The ePathshala, a joint initiative of Ministry of Human Resource Development (MHRD), Govt. of India and National Council of Educational Research and Training (NCERT) has been developed for showcasing and disseminating all educational e-resources. ePathshala also allows user to carry us many books as their device supports. Features of these books allow users to pinch, select, zoom, bookmark, highlight, navigate, share and make notes digitally.

SWAYAM

SWAYAM (Study Webs Active Learning for Young Aspiring Minds) is a programme initiated by Government of India and designed to achieve the three cardinal principles of Education Policy viz., access, equity and quality. The objective of this effort is to take the best teaching learning resources to all, SWAYAM seeks to bridge the digital divide for students who have hitherto remained untouched by the digital revolution and have not been able to join the mainstream of the knowledge economy.

Free Books - Apps (Digital Press Publishing):

Many books that you know, many books that you’ve missed, many books that you want to read! That’s Free Books – the door to unlimited reading. Download any of our 23,469 classic books, and read with our fully featured-reader. Browse our handpicked collections and download & read as much as you wish completely for free.

This is a The Learning App:

Engaging Video Lessons: Designed by India’s Best Teachers, these unique video class modules will give you complete understanding of even the most complicated concepts in such a simple way that you will fall in love with learning. Special Modules on ICSE, CBSE Sample Papers for Class 7-10 students and AIPMT & IITJEE coaching for Class 11-12 students.

Oodles

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* Take your library anywhere in your phone and read offline
* Personalise your reading experience
* Share e-book files with friends through email

Book Catalogue

An open source book cataloguing application (source on github). Books can be added manually, by ISBN, or barcode. Remember to backup and export your existing catalogue before you upgrade Book Catalogue is NOT a book reader.
Features
* Sorting by author (last name), title, series, etc.
* user-defined sort and list styles
* Search Amazon, Google Books, good reads and Library Thing for data searching
* Thumbnails (download, gallery or camera)
* Loaning books
* good reads synchronization
* Export and Backup
* Bookshelves (books can be on multiple shelves)

RX – RefXplore
Search Science Direct database with over 12 million citations from 3,500 academic journals and 34,000 e-books.

The journals are grouped into four main sections:
Physical Sciences and Engineering, Life Sciences, Health Sciences, and Social Sciences and Humanities. Article abstracts are freely available. Currently over 250,000 articles on Science Direct are open access. Read the PDFs directly in the App.

Research Tools
The Application in title "Research Tools" would be very helpful to researchers. This Application contains four famous research web, that is Research gate, Google Scholars, Publons and Shodganga. Research Gate, is a social networking site for scientists and researchers to share papers, ask and answer questions, and find collaborators. This Application also contains many popular search website, as ScienceDirect, Springer data base, DOAJ, Plis One, BioOne, IEEE Xplore etc.

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PubMed Mobile
Search PubMed database with over 21 million citations for biomedical articles and life science journals.

Features:
* Keyword search with options
* Save search query
* Save citations
* Email citations
* View abstract
* link to full article if available

MA QoD
MedicoAid Quiz of the Day (QoD) free app is designed to challenge learners with complex questions (MCQs) about medical topics that they will encounter in medical PG entrance exams. The app is useful for students preparing for exams such as NEET PG, AIIMS, PGIMER, JIPMER, AFMC, NIMHANS, FMGE (MCI Screening Test), UPSC, USMLE and Medicos pursuing MBBS Course and other Medical Competitive Entrance Exam Aspirants.

Some mobile apps for books
• Google Play Books
• Goodreads
• Scribd
• Moon+ Reader
• Wattpad
• Flipkart Ebooks
• Aldiko
• Comicrack

Aayushi International Interdisciplinary Research Journal (ISSN 2349-638x) Impact Factor 7.367
Peer Reviewed Journal www.aiirjournal.com
Library services from mobile apps:
1. SMS notification services
2. Distance Learning and E-learning
3. Database Browsing
4. E-resources with Mobile Interfaces
5. Library guide
6. Mobile document supply
7. Text reference service
8. Library Virtual/Audio Tours

Advantages mobile technology in libraries:
1. User-friendly Aid
2. Personalised Service
3. Ability to Access Information
4. Time Saving
5. User Participation
6. Location Awareness
7. Limitless Access
8. Access to Print-disabled Users

Drawbacks of mobile technology:
- compared to wired Internet service, has relatively slow transmission speed
- limited computational power
- inconvenient input and output interface
- insufficient contents
- high price

Conclusion
There is a growing influence of mobile technology in Libraries, especially as network access becomes more affordable and reliable, and mobile applications have seen mainstream acceptance in teaching, learning, and research. This trend will likely continue, and one way libraries can respond to this emerging trend is to make the library's website easily accessible via web-enabled mobile devices. Libraries should make conscious choices about what they want to offer in this arena and act accordingly and only time will tell if a completely mobile-accessible library, in terms of its services and collections, will become common place.

"By going mobile, a library takes a giant step toward becoming a round-the-clock service".

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Re-Orientation of Academic Library Professionals in Digital Era

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Abstract

Today we have seen that the era we are living in is digital era. All types of libraries, museums and archives have changing their role and also collection to digitize format and place it on the web. The potential of the digital resources to present information in new digital era is very easy to academic library professionals. Due to these changes definitely academic library professional need to accept the challenges and re orient themselves by attending the various webinar, conferences and courses. This paper deals with why the re-orientation is necessary for academic library professional in changing era of digital age.

Keywords Academic Library Professionals, Digital Age

Introduction

The term ‘Digitizing’ and ‘Digital Library’ are less transparent that one might expect and have evoked a wide range of responses among the academic library professionals in digital information. In last two decade developments in various libraries are take place by changes in information and communication technology and also significant impact on academic library professionals. Due to various technological developments the information world is switched from conventional print to digital information age. Digital resources determine the information handling activities most costly. Thus it is most essential for academic professionals to investigate, participate in orientation program related to digitization of resources and need to understand the various parameter and process of digital library

Digital Library

Library is obviously source of power of knowledge. In academic libraries various and hundreds of thousands learning resources, databases are available in electronic formats. Users are now more independent than before, they can access to electronic formats from their home computer and also from cell phones. Academic library professionals are knows that terminology proves to be barrier in describing a digital library. Library professionals need to take initiative to organize various courses, seminar, webinar, workshops or conference and to update themselves to face the various changes and challenges due to changes in ICT and digital era. They should arrange training program which are helpful to them how to work in digital era. Some important points should be included in while arranging the training as below.

- The course content should be modulated on the nature of work.
- The topic of training program should be specific and practical.
- Review the training methods and its suitability.
- Group discussion should be conducted during the training program.
- Ask the professionals to write down the problems which they are facing.
- Assign them to various practical assignments.

Planning and Implementation

Academic library professional should plan how they should organize and implement the training program for the development of the profession and also how they able to understand the changes of traditional libraries to digital libraries. The action plan should formulate the essential needs, purpose and objectives of digitization and options to overcome the constraints that keep coming in the future. There are many formats are available in the market to digitize the reading material so academic library professional needs to arrange the various activities or program accordingly. They need to think and plan about user requirements while they are going to digitize the...
resources. They should need to plan how to prefer and stick to technical and administrative feasibility of the entire library staff. Academic library professional should need to plan on three major things when they go to digitize the various resources.

1. Why to digitize?
2. What to digitize?
3. How to digitize?

1. Why to digitize?
   Digitization of the available resources is the most important task for any academic library professionals. It is more important to decide academic library professionals why they go for to digitize the reading material? Due to the significant developments of information and communication technology have brought tremendous changes for academic library professionals. To deliver the various e services to the user and need of hour it very much essential for academic library professional to digitize the reading material. It is also real question of ‘to be or not to be’ for academic library professionals for digitizing library resources. Library professional should know that digitized material can be easily search and retrieved which is helpful to save the time of the users. It is very easy to share digitized resources among the user in less time.

2. What to digitize?
   As growing the use of digitize material it is very much needed to make a policy on what types of material digitize and also need to take a sequence of resources which are to be digitized? The transformation from paper based material to digital based material need of the hour. Academic library professional needed make a micro planning about what types of material they wish to digitized?

3. How to digitize?
   Digitization is very key task that involves various things such as skilled staff, financial management, developments of technologies etc. While academic library professional goes for digitization they must have to do following things.
   1. Create digital images
   2. Clean the PDF
   3. Image resolution
   4. Color management
   5. Run a quality control check
   6. Index your digital books
   7. Store the collection on cloud

Re-orientation
   In this digital world, digitization of the reading material is need of hour. Digitization of resources helps to academic library professionals to tap a wider audience, across the geographical area with to less time and less cost also. Therefore re-orientation of the academic library professional is much needed work to deliver effective services to the user. It is also necessary to satisfy the users need of their information seek. The trained human resources are most important to complete the digitalization of traditional resources. Skillful human resources required for editing, inspecting, correcting and tagging etc. in traditional libraries to convert into digital libraries. Therefore the entire staff of the library should require various training program from they able to know the various things about the digitalization. They must have to know about the software and hardware, copyright act, protocols while they are going for digitalization. A main challenge will be for the academic library professionals to more effectively support the information needs of a diverse in a changing information environment. Orientation about various skills regarding digitization is more essential for library professionals. There are three things for which library professional organization should organized re-orientation program for academic library professionals.
• New opportunity in library profession
• Information Management System
• How to manage e-content
• Cluster of various academic library
• Issues and challenges of digitization

Conclusion

Library professionals seen that development in the technologies has change the work of libraries. Mainly the function to deliver the information to the user is changed. Academic libraries are facing a shortage of contents like books or journals there is a wide spectrum of formal and informal sources available with them could be converted into digital form by devising suitable action plan. Digitization of the resources is very big challenge for academic library professionals. For the same they required re-orientation of various skills about the digitization. Academic library professionals must have to attend various seminar and workshop of digitation of resources.

References
Usage of Social Media for Digital Library: Thinking on Mobile Application

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Mr. Ghate Ganesh Mohanrao  
SJJTU

Summary

Now that we live in the digital era, social media platforms are an essential part of our daily life. Humanity These days, most individuals get in touch with one another through some kind of electronic media. These days, almost everyone uses social media or some other kind of online networking or communication. Social media has evolved from a merely communicative function to one of public library's primary advertising strategies nowadays. This research aims to investigate and analyse the level of contentment patrons feel while making use of library-provided social media platforms. For Therefore, the purpose of this article is to evaluate the most recent trends in social media participation. The goal of the library poll is to gauge overall customer satisfaction.

Keywords: Digital Library, Social Media, User Satisfaction and Library User

Introduction

User-generated content (UGC) is a feature of many social media sites, including Facebook, Twitter, YouTube, Instagram, and others. Communications with others by facilitating the public display of thought and feeling via the mediums of images, sounds, and moving pictures, media facilitates a wide range of social interactions. This list of top websites has exploded in popularity over the last several years, according to studies (Alexa, 2008). Statista Study (statista.com) 81% of the Indian populace will apparently be dynamic social media clients constantly 2020, with the majority of these users logging on to Facebook. Social media are "websites and A PC programming that empowers people to interface and offer data by means of the Internet utilizing a PC or cell phone," as defined by the Cambridge Dictionary (2020). The World Wide Web was the first Internet service. The vast majority of websites simply provide unchanging, one-sided information (Goh et al., 2013).

While this was true in the 1990s and early 2000s, people's online communication shifted toward more active participation, including typing out responses as well as reading aloud. They are big fans of Web 2.0 (also known as Internet Social Networking) and often provide comments, queries, and original content on its many sites (Kaplan & Heinlein, 2010).

Privacy Concerns in Social Media

Concerns of public confidence are inextricably intertwined with discussions about individual privacy. Safety, relevance, repute, and "coolness" are the four pillars on which Gomes and Gold's (2010) trust pyramid rests. These scholars claim that libraries provide the widest range of ICT services to their communities (ICT). Even yet, library safety measures are mostly in place. Despite libraries' generally positive reputation for safety, there are surprisingly few that cater to women and children. When applied to the realm of social media, Ur and Wang's (2013) study reveals that user trust affects both user privacy behaviours and attitudes. Policies used by governments and social media companies to ensure the privacy of users' information.
Digital Literacy

In addition, Khan (2020) stressed the importance of computer training programmes in his research. In order to get people to utilise social media in libraries, literacy is crucial. This is because his investigation has shown that the journalist has very rudimentary levels of digital information literacy. In the same vein, public libraries are places where people may come together. Implications for Information and Digital Literacy from Network Analysis Reveal Six Overarching Topics (Carlson, 2015). However, that is not the point. Using social media as a new facet of public library service, this is a void that must be addressed.

Passive Library Social Media Sites

According to studies, many library accounts on social media platforms are dormant. Since their initial creation, several profiles have not been updated (Fasola, 2015). These are Social media sites that affect user satisfaction may lead to library unfollowing. Xie and Stevenson (2014) also raised this issue in their study. They likewise expressed Absence of guidelines for feeling of personality can undoubtedly confound clients in the context of social interactions. Media posts with cross-linking agencies.

Discussion and Contribution

Improvements and new breakthroughs in theory are the foundation of this work. Some reasoning and evidence. Created an analytical structure to back up the hypothesis, and justify the need for the study's central question. User expectations for assistance Libraries to improve their services and meet user satisfaction. Because this study A user-centered category that analyzes expectations and perceptions from the user's perspective. Therefore, the results of this research will help libraries to develop guidelines for libraries. Methods for effectively disseminating content through social media. While conducting this research, the needs of the users can be identified, which help Libraries will understand their users better and use their needs to improve services. Libraries can develop services based on research findings to meet user needs. Each location of the Sabah State Library will have its digital collection catalogued as part of this research. It will serve as a manual for libraries to follow in order to maintain open lines of communication and information. Facilitate the use of information and communication technologies. Libraries may foster a help to limit computerized disparity and computerized education among clients nearby.
Help identify appropriate media or platforms for public libraries to engage with users. This research will provide light on what kinds of social media messages resonate most strongly with users. Spreading information through social media may be done in a variety of ways, including via text, images, and videos, among others. As a result, libraries may cater to individual tastes. One of the major contributions is increased user satisfaction through social media platforms this research. The results pinpoint causes of failure. Communicate through social media, which might result in user unhappiness on both sides. The library may make use of the data gleaned from user feedback. Take whatever necessary steps to make them better. Improving the quality of service to users from time to time is as important as improving user experience satisfied. Therefore, the findings of this study will help to analyze the services provided to libraries and improve the quality of their services. Services should also be updated from time to time. Timing is based on user requirements. If libraries do this, the user can be satisfied undoubtedly increased.

Conclusion

In conclusion, social media is one of the communication tools and advertising tool. This chapter discusses issues related to public libraries and social media today. Privacy issues, the digital gap, a lack of digital knowledge, and social media apathy all fall under this category. Library-based social media accounts. The goal of the research is to learn more about the participant. Happy customers of the public library's social media pages. The authors conclude their analysis by discussing the implications their findings have for public libraries in general and for the, India in particular. The research's goals and questions will be shaped around the perspectives of the people who will ultimately benefit from the study: the people who make use of library reference materials.

References

**E- Resources and Its Importance in Pandemic Situation**

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**Introduction:**

The Government of India under prime minister Narendra Modi ordered lockdown from 24th March 2020. However there lockdown came with severe economic and social consequences, which has also presented unique challenges in the education sector. In response to the nation wide lockdown during march & April 2020, the school education sector was quick enough to shift its whole affair to online platform. Sudden developments of lockdown and shutdown many students to prepare for the examinations. This situation challenged the ways academic libraries used to function.

**Role of Librarian:**

The sudden and unexpected outbreak of the virus forced, the library professionals to ascertain ways of working in a rapid time frame like shifting to digital platform. In fact library professionals have demonstrated their skills, empathy, and flexibility during lockdown to respond to the rapidly evolving situation. And in such circumstances the website an essential and dynamic platform to connect and serve the targeted users. But technology can not do this alone. In this unique and urgent situation the role of library professionals is very crucial to make their users aware about the facilities and services provided by them. All librarians have promoted their digital services during this pandemic situation. The future prospects of smart librarian would involve utilization of skill and knowledge where as the information is also recorded stored, retrieved and disseminated in the e-format at a large scale.

**What are E-Resources:**

E-Resources is an electronic document. E-resources in which information is stored in electronically and it can be assessable thorough electronic system and new work environment. Instant access is quite possible with E-resources within a fraction of second E-resources have changed the whole nature of publication storage ,Transmission, delivery and use of information at academic libraries.

**Types of E-Resources:**

1. **E-Book:** E-books is the many formats competing for prime time, including Adobe PDF, Microsoft Reader, eReader, Mobipocket Reader, EPUB, Kindle and iPad.
2. **E-Journal** :- An e-journal is very important part of every library collection. E-journals are one application of information technology.
3. **E-Newspaper** :- An E-newspaper is also known as online newspaper or web newspaper that exists on the World Wide Web or internet.
4. **E-Magazines** :- An E-Magazine is very important part of every library collection. E-Magazines are one application of information technology.
5. **Indexing and Abstracting Databases**:-These are the reference sources which provide bibliographic information about journal including abstracts of the articles.
6. **Reference database** :-These are many Dictionaries, Almanacs, and Encyclopedias, which are available on internet in electronic format.
7. **Statistical database** :- These databases contain the numerical data useful for the mass community.
8. **Image Collection**:-Due to adventure of e-images facility this type of databases is developed.
9. **Multimedia products:** This type of database are include images, Video’s audio’s and text etc.

10. **E-Thesis:** These databases are contained with PhD thesis and dissertation published through e-format.

11. **E-Clipping:** The main objective of e-clipping is retrospective search and comprehensive analysis of new items.

12. **E-Patents:** E-patents is the exclusive right granted by the government to make use of an invention for a specific period of time.

13. **E-Standards:** Written definition, limit rule, approved and monitors for complains by authoritative agency.

14. **Full text databases:** Today’s there are number of databases available on the network. They are either free or with charges. E-databases is an organized collection of information of a particular subject or multidisciplinary subject areas, information within e-databases can be searched and retrieved electronically.

**Features of E-Resources:**
- Easy access to information any where any time to any one without physical existence.
- Retrieval of e-resources is quicker than print resources.
- The user can be guided to the document by providing a link.
- Easy to search the text.
- The collection available in electronic format can be of any media.
- Ownership not that important.
- In electronic environment the interaction between user and librarian is frequent.
- The information preserves at standard interval and can be reserved always up to date in electronic media.
- In corporation of special media (Image, sound, video) etc.
- Afford hyper links to related additional resources.
- It allocates interactive facility.
- The user can get the data in digitalized format so there is no need for printing & binding.

**Need of E-Resources:**
- E-Resources enable the librarian to provide better service to user community.
- To get access to an information source by the more than one users.
- E-Resource can be found easily by the users.
- These resources can be stored in huge amount.
- Analyses the purpose of using e-resources by respondent.
- To collect, store, organize information in digital form.
- To promote efficient delivery of formation economically to all the users.
- To encourage co-operative efforts to save and share the investment in research resources, computing and communication network.

**Advantage of E-Resources:**
- It allows remote access.
- It can be used by many user simultaneously.
- It is interactive and allows interaction between author, publisher and users.
- It eliminates printing and postage cost.
- It does not require physical processing.
- It save the time of user.

**Importance of E-resources in Today’s environment**:
- Special feature of E-Resource is easy access it helps students, researchers, scientist, lecturers to collect information & data from their personal computer or smart phone that keeps social distance and control spread of virus.
- E-Resources are helpful for teachers, lectures for online education, they delivered their lectures with the help of zoom, meet, Google meet, Google classroom etc. i.e. keeping social distance.

- Medical researcher can take information about virus from internet, news channel, you tube etc. it helps to find vaccination without going library.

- E-Journals publishing articles about washing method of hands, how to sanitize home, offices etc. This information helps people for prevention & control of spreading virus.

- E-News, you tube, whatsapp etc. sharing information about covid-19 speedily to aware the people about symptoms, social distance, use of mask, sanitization, quarantine method etc.

- E-Resource provide pleasure reading to all through E-Book, PDF books, Story books etc.

Social networking sites:-

In lockdown period social networking sites are also becoming useful for people & students for sharing their personal or social comments, images, video, thoughts, schedules to friends and relatives in their network. Social networking sites are used to share hobbies, stories, activities or real life incident. In this pandemic situation social networking sites playing vital role to develop better relation in library staff and users. It helps not only share information but also personal thoughts. i.e. What App, You tube, Face book, Twitter, Blogs, Linkendin, Orkut, Instagram, Google etc.

Conclusion:-

E-Resources or Technological advancements have revaluation. The library services in this pandemic situation, information societies are seeking information in digital format, all types of libraries have promoted their digital services during the corona virus pandemic situation. The whole world is suffering with covid-19 pandemic every institution, industry and public domain has been affected with the corona virus. In this Situation E-resources have been a gateway of relevant information and knowledge for conducting research and development in the related subject areas. E-Resources playing a vital role in pandemic situation.

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Application of Content Management System in Libraries

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Abstract :
The growth of Internet, the increased sophistication of web based tools, the intranet and campus networks within the organization have changed the role of libraries. Huge volumes of data are available in this networked environment for academic sharing. The success of the library depends on how effectively and efficiently they capture, create, manage and deliver the information contained in internal and external databases and websites. Most libraries do not have an effective way of making relevant, valuable digital content available to users. In this context, librarian can apply content management techniques that are designed to manage the content of websites and other databases. This paper provides an overview of Content management which includes concepts related to library created content, components of CMS. Using the content management system library professionals can create and update the website’s. Attempt has been made here to focuses more on Joomla Content Management System for library building website.

Keywords : Content management Systems, Web Content Management, Joomla.

1. Introduction :
Libraries are repositories of knowledge and the tremendous growth in digital resources has forced library professionals to use various information technology tools to manage and render services to the users. To achieve greater efficiency in the rapidly changing environment libraries are increasingly looking for new paradigms to deliver services to users on their desktops. Library patrons appreciate the timely dissemination of information about library activities through the libraries websites. Creating and maintaining dynamic content on a website is great challenge for information professionals and library authorities, it requires money and professionals manpower. Compared to traditional website development, open –source content management systems are really viable in terms of functionality, cost and maintenance.

2. What is Content Management System ( CMS ) ? :
The definition of CMS is an application ( web-based ) that provides capabilities for multiple users with different permission levels to manage ( all or a section of ) content , dataor information of a website project, or intranet application.

A Content Management System is publishing,编辑, and changing content displayed on a website’s web pages. These types of web pages are commonly referred to as dynamic instead of static web pages because the HTML is assembled and served to the end user only when requested. Dynamic web pages are generated by using some type of built-in-functionality for managing and displaying the HTML content items as well as a variety of other data types , such as menus, contacts and web links.

A Content Management System is a combination of large database and file system which are used to store and later retrieve huge amounts of data. It is a system used to organize and facilitate collaborative content creation. Recently, the term has been associated almost entirely with programs for managing the content of web sites.

Managing content refers to creating , editing, archiving, publishing, collaborating on reporting, distributing website content data and information.

2.1 Components of CMS :
The Content Component database is stored prior to being stored in the component database , the individual components (texts, pictures, videos etc ) are enriched with additional information ( metadata ) which facilitates their classification and their retrieval. The following are the components of CMS.
3. Content Management Process:

Content Management is an inherently collaborative process. It often consists of the following stages

3.1 Organization:
The first stage where categories are created, taxonomies designed and classification schemes developed.

3.2 Content Creation:
Content is classified into architectural categories Content creator is responsible for creating and editing content.

3.3 Storage:
Content format and storage decisions are made based on ease of access, delivery, security and other factors dependent on the organization’s needs.

3.4 Workflow:
Rules are designed to keep content moving through various roles while maintaining consistency with the organization’s policies. The workflow capabilities enable the co-ordination of collaborative web-based work, such as the collaborative creative and management of a website.

3.5 Editing:
This step involves managing multiple content versions and presentation changes. Editor is responsible for turning the content message and the style of delivery, including translation and localization.

3.6 Publishing:
Information stored in the repository is distributed or delivery to users this is called publishing. Web content management system comprises so-called publishing engines which generate web pages from the content stored in the repository and publish them to users. Publisher is responsible for releasing the content for use.

3.7 Content Presentation:
The functional area of presentation is concerned with the standardized appearance of a website. The published pages must meet certain standards in order to be of value to the users.

3.8 CMS Integrated Modules / Applications:
It is normally offer a wide range of integrated ready-to-use applications or features which are either available directly after installation of the Content Management System.

4. Joomla Content Management Systems:
Joomla is a free and open-source content management system (CMS) for publishing web content. It is built on a model-view-controller web application framework that can be used independently of the CMS that allow you to build powerful online application.

Joomla is one of the most popular website software’s thanks to its global community of developers and volunteers. Who makes sure that the platform is user friendly, extendable, multilingual, accessible, responsive, search engine optimized and so much more.

It is a PHP based system for creating dynamic web pages. Joomla’s Flexible and extensible structure allows functionality to be added using extension changing the display (appearance and layout) of the content to the ‘end user’ (someone viewing a web site) is achieved through the use of templates and modules.
Joomla is used all over the world to power millions of websites of all shapes and sizes.
Joomla can be used for
- Corporate websites or portals, intranet and extranets.
- Online magazines, newspapers and publications
- Small business websites
- E-Commerce and online reservations
- Community based, school and church websites on portals
- Personal or family homepages
- Government non-profit and organisational websites.

5. Characteristics of Content Management System using Joomla:
The following characteristics of CMS using Joomla are below

5.1 Protected Content: It can make certain pages viewable only to people you choose. For example, you can allow visitors to your website to view all of your basic articles but require registration for them to view premium content.

5.2 Quick and Easy to Update: Content Management Systems allow users to add new pages to a website with minimal effort. Your entire website is managed via your administration control panel where you can add new articles, images polls and many other features via an intuitive interface.

5.3 Fast Search: Using a CMS will allow your entire website to be searchable enabling people to find content fast

5.4 No need of Web Experience: Traditionally you would need to hire a web designer/developer to manage your website. Using a CMS eliminates the need to do this. Everything from the look and feel of your website to article management can be handled via your control panel.

5.5 Extendible: Such as Joomla, have excellent resources of extensions allowing you to develop your website further and offer more functionality. There are hundreds of extensions available, including e-commerce, Forums, Galleries classified Advertisement and so much more.

5.6 Scheduled Content: With most Content Management System you can post date articles allowing you to publish them on a certain time or day of the work.

5.7 Consistent Design: The article page will be created from a single template and no matter how much content you add, you can rest assured the look of your web site will stay the same.

6. Application of Content Management System in Libraries:
Low-cost computer and high-speed scanners make it faster and cheaper to digitize local collections, newspapers, photos, archives and documents and to post them on the Internet. At the college level, The Library content management stores and manages the college’s electronic documents, journals, magazines and other resources so that the students and faculty members of the college can reuse the information across different applications. The basic idea behind a library CMS is to separate the content management from design. Page designs are stored in templates while the content may be stored in a database or separates files.

Library Content Management Systems is a Web content Management system. A web content management system is a bundled or stand-alone application to create, manage, store and deploy content on web pages. Web content includes text and embedded, graphics, photos, and video, audio and code that displays content or interacts with the user. The following factors need to be considered to understand the application of content management in library environment.

6.1 Collection development of digital content:
Digital content is being delivered in libraries that derive from different sources. Some of the digital data acquired by libraries includes purchased data bases on CD-ROM, Online data sets are subscribed, electronic publications with paper equivalent like indexes and abstracts, electronic journals, electronic reference works with or without paper equivalents, e-books etc.
6.2 Organizing Information resources:
Organization of the content involves provision of orderly structure that links relevant information of the content available and accessible. The manipulation of the captured content can be done by using metadata formats that provides a range of powerful solutions. The metadata can be used for capturing relationships and links between different pieces of information or related web pages. This of course is what exactly information professions are trained to do.

6.3 Providing human and technologically moderated access to information:
Library Content Management Software will be a web Content Management System and this will provide an online and easy access to all the library for the users wanting to access the resources that are store online. The students and teachers will no longer to have unavailability of resources and thus they can get an easy access whenever they want.

6.4 Assisting users to identify, locate, obtain and evaluate information
The library Content Management System has been designed and developed to fulfil all the requirements and needs for archiving the resources of a library. It will also come handy when the resources elsewhere for supervised learning as the user can save the articles of their area of interest for learning and research purposes. It will be very beneficial for those students who wants to read magazines or journals, but unable to do so because of the unavailability of the same.

6.5 Digitization of in-house publication:
Digital library services are originated from the Collection development and management practices implemented by library. They are acquiring digital content, content creation by digitization of in-house publications and copyrighted literature, providing integrated access etc. Thus it will allow the digitization and archiving of magazines, digital video and audio materials so that users may annotate, analyse, evaluate and share materials.

Conclusion:
Content management is relatively a new concept in Library and information Centres. The development of content and organization of the information sources using digital technology and disseminating the knowledge through ICT which plays a vital role in teaching, learning and research. The Content Management system in library improves productivity of staff, provides better experience and service to the library patrons. The scope for future work is wide open for the Library Content Management System. As the content management system have a wide range of applications, we can implement these features of CMS to this Library Content Management system.

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Emerging Technology used in Libraries

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Abstract

Advancement of Technology has more impact on library services from time to time. The emergence of technology has many solutions for libraries and the last decade is evidence for introducing latest technologies in library 1.0 Library 2.0, Library 3.0 has radically shifted the libraries from traditional to modern library services. Imagining the Library 4.0 technologies trends creates a model for future libraries and its user services. Emerging technology helps in trends creates a model for future libraries and user services. emerging technology helps in improving the quality products and services among the libraries and professionals. So to introduce and adopt the latest trends in libraries and libraries and library professionals. Knowledge and understanding the technology is more important. So this paper is an attempt to find out some of the major emerging technology trends for libraries and library.  
Keywords: Technology trends, libraries, library services

Introduction

Emerging technology can change libraries and library professionals and helps in stay up-to-date with recent technology trends which helps in developing the libraries. Benjamin Franklin, founder of one of the earliest lending libraries in America, once said, "When you're finished changing, you're finished." Fortunate for all of use, academic and research libraries (ARLs) are not finished just yet. At least, they are not finished according to NMC horizon Report 2017 Library Edition. In this report education and technology, experts identify six trends and predicted influence technology-related decision-making by academic and research libraries over the next five years, as they evolve into the libraries of the future. The professional library associations like ALA, ACRL and LITA have been working on the top technology initiatives that help for academic libraries to grow in higher education. ACRL Research planning and Review Committee has defined the top trends in higher education as they also related to the academic librarianship in 2018. The trends are related to current technological and educational environment including the impact of market forces, technology and the political environment on the libraries. Top trends of ACRL includes publisher and vendor landscape, fake news and information literacy, project management approach in libraries, text books affordability, and OER, learning analytics, data collection and ethical concerns research database acquisition, text mining and data science, collection management including acquisition, open access collection development, legacy print Collection etc.

American Library Association (ALA), center for the future of Libraries has been works to identify emerging trends relevant to libraries and the communities they serve promote future and innovation techniques to help librarians and library professionals shape their future and build connections with experts and innovative thinkers to help libraries address emerging issues. Till now, there are 37 seven trends ("Aging Advances Anonymity, Budging, Basic Income Block chain, Co-Working / Co-Living, Collective Impact, Connected Learning, Connected Toys Corporate Influence, Creative Place making, Data Everywhere, Design Thinking, Digital Natives, Drones, Emerging Adulthood Experimental Retails, Inequality, Internet of Things, Maker Movement, Micro-Mobility, Privacy shifting, Resilience, Robots, Sharing Economy, Short Reading, Smart Cities, Unplugged, Urbanization, Virtual Reality and voice Control") These trends are available to help libraries and library professionals to understand how technology advances library user services that can increase the value of libraries.

Technology Trends in Libraries

The Traditional library users ask question at the reference desk and cheek out physical books. But now library also has a new type of its users who brings number of electronic device and experts those devices to work
with the library's technology. They want to plug into the public computers, connect to their library's Wi-Fi network and upload and download content from their device to Face book, Integra or You Tube. They want to download eBooks, digital audio books, and music, recharge their devices etc. The users love to read books, magazines, and newspapers are moving from to digital formats. Library professionals must be ready to help these customers find their news and entertainment sources in online and digital formats. Today, library professionals continuously involved in introducing technology-oriented services such as 3-D printing, RFID technology, digital storytelling, maker space, and artificial intelligence to needs of user diversity. The most important things is the library professional start thinking about current trends as every trends can be library trends and trends don't work in isolation. The future of libraries will be defined by the leading library professional who can understand the larger context of technology trends in which libraries operate.

**Major Technology Trends For Library**

The study illustrates the major technology trends identified by the American Library Association (ALA), Center for the future of libraries. The major technology trends are Block chain, Connected Toys, Data Everywhere, Drones, Facial Recognition, Haptic Technology, Robots, Unplugged, Virtual Reality and Voice Control. The world is constantly changing and adapting the new technologies from time to time. Identifying and understanding the technology trends for future libraries is essential for library professionals to plan and incorporate new solutions. The focus of technology trends to impact on society similar it also on libraries too. Some of the major technologies trends are briefly discussed below.

**Blockchain**

Blockchain technology trends was used to distribute the database that organize data into records. It helps in improving digital badges, facilitating the transfer, authority, and reputation of awarded and another digital credentials. It promotes more secure and trusted, certification and it could expand across formal and informal learning that happens in academic, public, school, and special libraries American Library Accession.

**Connected Toys**

A New crop of toys takes advantage of trends in wireless connectivity, the interest of things, artificial intelligence, and machine learning to create highly personalized exchange between object and child. connected Toys, technology trends developed in response to children engagement in digital screens. It builds the expert knowledge platform and rebuts education where children established the interaction. Connected toys support children digital educational goal.

**Data Everywhere**

Data collection and management is an essential task in modern libraries, new technologies have great opportunity to collect, store, and analysis accurate user data and personal information. Data can be exposed to device such as mobile, iPod and other internet based devices. Data collection can use in the news to develop products and services, improve marketing and promote the content. Data services become valuable information services for libraries to connect the researchers with research across studies.

**Drones**

Drones are part of research, transpiration and delivery, artistic production, news coverage and reporting, law enforcement and surveillance, and entertainment. It will provide new opportunities for content creation and research. Users may expect drones to be part of the technology resources available from libraries. Additionally, video or survey content produced by drones may become content collected and managed by libraries. Drones can be used for creating content for library, collection data or as port mentions in his article, the drone can be used for delivery service for the library users who don't have the possibility to go to the library, be it because of the long distance to the library.

**Facial Recognition**

Facial recognition is a type of biometric technology that uses statically measurements of people's features to determine identify digitally. The facial recognition technology can be used in library to the identifying the
library walk-ins, it could replace the traditional library cards and who they are. Where they live, what books they checked out, and if any overdue etc. Though facial recognition allow for more ease in day-to-day life, it comes with significant security and privacy issues that might cause concerns for users.

**Haptic Technology**

Haptic technology were first developed and introduced in the 1970s' and it become of home gaming consoles controllers, joysticks and starring wheels. Haptic technologies required for libraries to rethink their systems for describing, classifying, or even retrieving resources. Hating technologies will help libraries to make text-based or image resources available to broader audience, including those with visual or audio disabilities. Haptic technologies provide be the wearable technologies in which library users presumably were them into the library.

**Internet Of Things**

Internet of Things is most influenced technology for the library services in the current days. Smaller computing, radio devices, cloud, user interface, gateway, analytical intelligence will sense and transmit the data(ALA, Internet of things,2018). IOT refers to the possibility of connecting everyday device and transferring data between them. It provides "opportunities for library applications, from tracking room usages and program attendance to monitoring humidity levels for special collections and more". Therefore, the library can offer a better use experience by enriching its service and collections.

**Robots**

Robots were initially introduced into industrial and factory setting to accomplish task that were deemed too dangerous or difficult for humans and moved work, educational, research, and living spaces. There are the number of library who have already successfully implemented Robots, for example, the joe and Rika Mansueto Library in Chicago, Connecticut's Westport Library which recently acquired two robots. "Robotics is the next disruptive technology coming into it... From an economic development perspective and job-and career-development perspective, it's so important ALA Robots. Libraries and other educational institutions may have a role in developing new skills for displaced workers and improving skills so that workers and improving skills to that workers can transition to new roles and responsibilities in environments where robots assume significant portions of the Workflow.

**Unplugged**

Unplugged technology provides the constant connect with an immense amount of information news, e-mail, social network etc. Modern libraries are capable of using the unplugged technology in the quiet spaces to marketing at least some spaces in the library building as unplug, concentrate and focus. It may be renamed as "Quiet reading spaces" "quiet reading spaces" to "unplug zones" or "digital escape spaces" in the technology trend's languages. Unplugged benefiting for both professional and personal experiences and it more essential for reflective, or quietly focus on specific work activities and it more essential for reflective, or quietly focus on specific work activities.

**Virtual Reality**

Virtual Reality technology is the computer-generated simulation that provides users with the headset which transports them to immersive destination. Today's libraries have an opportunity to offer the Virtual Reality services to their users bring virtual reality to education with many innovators focusing on two of key services of libraries: collection and spaces. In the Wonder Lab at the Ferguson Library in Stamford, Connecticut, Connecticut, and California State Library, users are getting to play with virtual reality, and even learn how to code entire VR games from scratch.

**Voice Control**

Voice Control technology provides a new options for interacting with computers and technologies through advanced machine learning, speech recognition natural language. Voice-controlled technology could also change the way people access and "read" content. Library children users and young users will grow with voice-controlled technology, becoming more accustomed to having these device answer homework questions, settle disputes, and
entertain them. The virtual assistants of voice control become more intellectual equalizers, substituting in for a superb memory or acting as an on-hand reference.

Conclusion

The range of technology trends have presented about and these trends useful to implement innovative technological library services. As the 21st the roles of libraries play in the connecting communities and users with knowledge creators. Information becomes more digitized and omnipresent; technological advance makes an impact with social change on the skills required of virtual library professional to deliver the value users services against traditional library services. Most of the virtual libraries exist, without physical space and there is massive technology developed that can be great addition to the user's experiences. The main mission for every user through digital use and implementation of emerging technologies. The main mission of the libraries to offer the best library services and provide the equal access to information for every user through digital use and implementation of emerging technologies. The rise in popularity of electronic resource access including e-books, digital libraries transforming the traditional libraries to digital centers featuring computer and Wi-Fi access. Technology trends have the potential impact on the higher education and can be used be in primary, secondary and higher education. The future libraries will become an intelligent library. Where no only inference and research are available, but the system will information by itself and discuss finding with users like a colleague.

References

Emerging Technologies Used in Libraries

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Abstract:
Application and execution of new trends and technologies in different areas of libraries, innovative changes in working system of library with the help of new trends. Though we are in the era of information & technology, there are very few libraries implementing the new technologies. There are various problem for the execution of these technologies such as money, unskilled staff, sufficient space, etc. Librarians are expected to familiar with the system inorder to adapt the technologies to provide the best services to the users. Emerging technology identity, evaluate and implement the application of current and emerging technologies for the use in the library services and management. Technological advancement has brought tremendous change in library and information services. Application and execution of new trends & technologies in libraries have resulted in a meaningful, effective and substantive change in libraries, their collections, services and method of delivery of services.

Keywords:- Emerging technology, librarian, global trends, networking of libraries, RFID, ICT (Information & Communication technology), innovation, Artificial intelligence, Blogs, covid-19.

1] Introduction:
Today, technology plays a vital role in every field of our day to day life. It changed the world by the impact on every individual, organisation, Government and non-government bodies etc. Though it is the fact, in this world of information and technology very few libraries are using the various technology for its users. We can say only academic libraries mostly seen by using technological advancement. This picture was seen in the last decade, but after the covid-19 (post corona period), suddenly it has changed. The new trends and technologies, the rapid growth of information communication technology (ICT) has put a great impact on librarians also. This technology has changed the libraries from traditional to digital library, virtual library, hybrid library, library without walls, library 2.0 etc. As a result in post covid-19 era, libraries have been exploring the collections of potential e-resources and providing remote access to the users.

2] Method:
The method of this paper is the collection of literature of earlier research as an information and data sources. This information is collected from various earlier research papers, conferences, thesis and other relevant material. Author collected it by searching on the internet, some other reference books also plays an important role for this paper.

The study findings will provide an accurate picture of current hiring trends & the opportunities through the review of related literature.

Conclusion from this study will inform the recent trends and technologies in libraries and the scope of development in the neglected areas.

3] Emerging Technologies in libraries :-
Application of ICT gives a birth to many new technologies. With the application of these new technologies in the libraries the working of libraries has totally been changed. Now a days libraries are providing the unrestricted access of information in many ways and from many resources. Libraries have also started to provide the services of specialists who are expert in the fields of information and communication. Emerging technologies has affected the libraries in the many different ways.

Following are some of the important emerging trends and technologies which can be used in libraries. We will discuss in brief.
1) Instant messaging (IM) -

Instant messaging or IM is a form of real-time, virtually instantaneous communication between two or more people using textual format. Libraries are already deploying IM for providing “real-time reference” services, where patrons can synchronously communicate with librarians much as they would in a face-to-face reference context. Software used in libraries for “live reference services” are usually much more robust than the simplistic IM applications. This software often allows co-browsing, file-sharing, screen capturing, and data sharing and mining of previous transcripts. Libraries can benefit greatly by adopting this technology as it evolves since it facilitates reference services in an online mode quite similar to traditional reference services of the physical library.

2) RSS Feed (Real Simple Syndication or Rich Site Summary) -

RSS stands for Real Simple Syndication or Rich Site Summary. The technology, on one hand allows a web site (or e-publisher) to list the newest published updates (like table of contents of journals, new articles) through a technology called XML; on the other hand, it facilitates a web user to keep track of new updates on chosen website(s). Like a personal search assistant, RSS feed readers visit pre-defined web sites, look for updated information and fetch it automatically on to the user’s desktop. It provides users a way to syndicate and republish content on the Web. Users republish content from other sites or blogs on their sites or blogs, aggregate content on other sites in a single place, and ostensibly distil the Web for their personal use. Libraries are already creating RSS feeds for users to subscribe to, including updates on new items in a collection, new services, and new content in subscription databases. They are also republishing content on their sites.

3) HTML Feeds -

HTML feeds are basically RSS feeds converted into HTML codes so as to facilitate peer-to-peer interaction amongst researchers and sharing of RSS search results. The HTML codes can be placed onto the web sites and the resulting HTML feed can be customised to compliment the page. HTML feeds allows quicker access information to visiting users. The Elsevier Science has implemented HTML feeds for Scopus, the citation database from Elsevier.

4) Streaming Media -

Streaming multimedia is sequential delivery of multimedia content over a computer network that is displayed (or played back) to the end-user as it is being delivered by the provider. The streaming of video and audio media is an important application that existed before Web and finds its application in Web too. With availability of computer and network infrastructure to support multimedia streaming, library instruction delivered online began incorporating more interactive, media-rich facets. The static, text-based tutorials are being transformed to multimedia-based interactive tutorials. Several tutorials use Flash programming, screen-cast software, or streaming audio or video, and couple the media presentation with interactive quizzing; users respond to questions and the system responds in kind. Tutorials were the first library applications to migrate into more socially rich Web Besides its applications in computer-generated instructions, streaming media would also be available increasingly in its collections. As media is created, libraries will be responsible for archiving and providing access to them. Libraries are already beginning to explore providing such through digital repository applications and digital asset management technologies.

5) Podcasting -

The word “pod casting” is derived from two words, namely “broadcasting” and “iPod” (popular MP3 player from Apple Computer). Pod casting is defined as “process of capturing audio digital-media files that can be distributed over the Internet using RSS feeds for playing-back on portable media players as well as computers. Users can subscribe to such feeds and automatically download these files directly into an audio management program on their PCs. A podcast is distinguished from other digital media formats by its ability to be syndicated, subscribed to, and downloaded automatically when new content is added, using an aggregator or feed reader capable of reading feed formats such as RSS or Atom. Several libraries use podcasts to support library orientations programmes. Taking advantage of podcasting and other consumer technologies as a deliver media of Library’s content and services is a great leap forward for library profession.

6) Vodcasting -

The “VOD” in Vodcasting stands for “video-on-demand”. It is identical to podcasting. While podcasting is used for delivering audio files, vodcasting is used for delivering video content. Like podcast content, vodcasts content can be played either on a laptop or on personal media assistant device (PMA).
7) SMS Enquiry Service-

Short Message Service (SMS) is a mechanism of delivery of short messages over the mobile networks. The SMS enquiry services in a library allow patrons to use their mobile phones to SMS their inquiries to the library. The reference staff deployed to attend to such queries can respond immediately with answers or with links to more in-depth answers.

8) Blogs-

A blog is a website, usually maintained by an individual, with regular entries of commentary, descriptions of events, or other material such as graphics or video. Entries are commonly displayed in reverse chronological order and they are usually considered as lightweight publishing tools. Blogs provide control to an individual or group of individuals for publishing contents or making commentary on it. Technologically, blogs are easier to use, platform-independent, and accessible online over the Internet. Broadly, blogs can be said to be online diaries, however, thousands of blogs are maintained by experts in different subject areas who are willing to share their knowledge, understanding and opinions with other people. Michael Casey, who coined the term Library for example maintains a blog called Library Crunch on Library. The most obvious application of blogs for libraries is to use it as a tool for promotion, publicity and for outreach services. Libraries can disseminate information to their users; make announcements for its new resources and events through its blogs. Blogs can be used to initiate debates and interaction amongst users and staff. Moreover, library staff and user can be encouraged to use Library blogs to get to know each other and interact at personal level.

9) Wikis-

A wiki is a collection of web pages designed to enable anyone who accesses it to contribute or modify content, using a simplified markup language. Wikis are often used to create collaborative websites and to power community websites (Wikipedia, 2008). For example, the collaborative encyclopedia, Wikipedia is one of the best-known wikis, that has broken down one of the golden rules of librarianship, i.e. content validation and authenticity of information. Wikis are also used in businesses to provide affordable and effective Intranets and for knowledge management. Wikis can essentially be equated to open web-pages, where anyone registered with it can publish on to it, add to it, amend it and change it. As in case of blogs, Wikis do not have reliability as traditional resources. In spite of this, their value as information resource cannot be undermined. Libraries can use wiki as a communication tool to enable social interaction among librarians and patrons. Users can share information, ask and answer questions, and librarians can do the same within a wiki. Moreover, a record of these transactions can be archived for perpetuity. Transcripts of such question answer sessions would serve as a resource for the library to provide as reference. Furthermore, wikis will ultimately evolve into a multimedia environment, where both synchronous and asynchronous audio and video collaborations will take place.

10) Social Networks-

A social network service is web-based software that facilitates creation of virtual social networks for communities of people who share interests and activities or who are interested in exploring the interests and activities of others. Most social network services are web-based interfaces that facilitate community of users to interact with each other deploying tools such as chat, messaging, email, video, voice chat, file sharing, blogging, discussion groups, etc. FaceBook, WhatSapp, YouTube, e.t.c. while FaceBook and WhatSappenable users to share themselves with one another (detailed profiles of users' lives and personalities), YouTube enables users to share Videos on the web resources. Social networking services could enable librarians and patrons not only to interact, but to share and exchange resources dynamically in electronic environment. Users can create accounts with the library network service; see what other users have in common to their information needs, recommend resources to one another. Besides, libraries can also recommend resources to users through their network, based on similar profiles, demographics, previously accessed resources, and a host of data that users provide.

11) Tagging-

A tag is a keyword or term or subject heading assigned to a piece of information (a picture, a geographic map, a blog entry, a video clip etc.), thus describing the item and enabling keyword-based classification and search of information. Tags are usually chosen informally and personally by author/creator or by its consumer/viewers/community. Tags are typically used for resources such as computer files, web pages, digital images,
and Internet bookmarks. While cataloguing is a fundamental skill of librarians, but the art of tagging is essentially a prerogative of users which enables them to assign keywords to a piece of information or object. The user can define and categorize information based on his or her own perception of given piece of information. In Library, users could tag the library’s collection and thereby participate in the cataloguing process. The best thing about tagging is that everyone is allowed to categorize the information the way they want. The catalogues of Library would enable users to follow both standardized and user-tagged subjects, whichever is more convenient or makes better sense to a user. In turn, they can add tags to resources. The user responds to the system, the system to the user. This tagged catalogue would be an open catalogue, a customized, user-centered catalogue.

12) Social Bookmarking Services -
Social bookmarking is a method of storing, organizing, searching and managing bookmarks of web sites using descriptive metadata. In a social bookmarking system, users can save links to web pages that they want to remember and/or share with other users. These bookmarks can be made public, or saved privately or shared only with specified people or groups of people. The authorized people can usually view these bookmarks chronologically, by category or tags, or via a search engine. Most social bookmark services encourage users to organize their bookmarks with informal tags instead of traditional browser-based system of folders, although some services feature categories/folders or a combination of folders and tags. These services also enable viewing of bookmarks associated with a chosen tag, and include information about the number of users who have bookmarked them. Some social bookmarking services also draw inferences from the relationship of tags to create clusters of tags or bookmarks. Libraries can make use of social bookmarking sites using RSS feeds for subject disciplines or in areas of specialization relevant to them.

13) Hybrid Library-
The hybrid library is a term used to describe libraries containing a mix of traditional print library resources and the growing number of electronic resources. Hybrid libraries are mixes of printed books and magazines, as well as electronic materials such as downloadable audio books, electronic journals, e-books, etc. Hybrid libraries are the new norm in most public and academic libraries.

14) Automated Library-
A library where access points and housekeeping operations are computerized is called an automated library. The graphic records are still print-on-paper publication.

15) Digital Library -
A library in which a significant proportion of the resources are available in machine-readable format (as opposed to print or microform), accessible by means of computers.

16) Block chain-
It is a chain of blocks or a list of linked records by using cryptography. The concept of Block chain was introduced in 2008 proposed by Satoshi Nakamoto to create a purely peer-to-peer version of electronic cash which would become the digital bitcoin currency in 2009. Applications of Block chain in Library

- To build a metadata system for libraries
- To protect digital first sale right
- To connect the network of libraries
- To host digital peer to peer sharing
- To share partnership across organisations.

17) Cloud computing-
Information Technology plays a vital role in handling library resources management. Libraries are shifting their services with the attachment of the cloud with the facilities to access anytime, anywhere. Cloud computing offers many exciting possibilities for libraries that may help to increase performance for some technology activities. With the help of this technology, library staff will be free from managing the servers. It is commonly seen that it is difficult for library professionals to work with the technologies. Cloud computing technology can be of immense importance in helping libraries undertake library activities’ automation.
18) Artificial Intelligence-
Computers provide the perfect medium for the experimentation and application of Artificial Intelligence technology in the present Era. Artificial Intelligence has more success at intellectual tasks such as computer-based game playing and theorem proving than perceptual tasks. Sometimes, these computer programs are intended to stimulate human behaviour and are built for technological applications, such as Computer-aided instruction. In many cases, the main goal is to find any technique that does the task quickly in a better way.

19) Remote Access an E-resources-
This type of library service was provided during pandemic. During the Covid-19, when one cannot go anywhere and it was a slogan "stay home stay safe", at that time dissemination of knowledge was not stopped at all. E-resources have paved a way to enhance educational standards, especially during this pandemic. Many Universities and Colleges have widened their E-resources to access remote areas, especially outside the Campus of the educational institutions.

20) SWAYAM online courses -
During the lockdown time, the UGC has taken initiatives to strengthen the academic community of our country. All the resources are available in the digital platforms that can be accessed by teachers, students and researchers in various colleges and universities for widening their areas of learning. SWAYAM is India's national MOOC platform. It offers over 2,150 courses taught by close to 1,300 instructors from over 135 Indian universities.

21) Web based services-
Modern libraries have also started the web based services to provide the more comfortable services to the library users. These services include web access of e-materials like e-books, e-journals, e-thesis etc. Users can get the user id and password from the library and can access the material on the library website by filling the user id and password. Even the users can make queries, see any notification from the librarian, and make chatting with the librarian on the web by using the Web2.0 services. Author in7 Web 2.0 has made a revolution in the field of library and made the Traditional Libraries to Library 2.0. Web 2.0 is a two way web technology in which user can read and even write any information on the web. Web 2.0 services include: Folksonomies and social tagging, Video Sharing, Photo Sharing, Instant Messaging, Social Networking, Blogs and Wikis, Scencasting, RSS Feeds, Web Mashups, Podcasting With the help of above said services user can read and write the important information anytime and at anywhere without the constraint of time and place. These services have challenged the working of librarians because now librarians should be very much known to these technologies otherwise they can provide the latest services to the users.

22) Web OPAC-
Web OPAC (Online Public Access Catalogue) has also changed the working of libraries to much extend. Now with the help of Web OPAC users can check the availability of any library material on the Web without leaving the place. Web OPAC is a catalogue of library material which tells us that the required material is availability or not. Users can fill the Username and Password on the Library Web site and can access the material on the library website by filling the user id and password.

23) Intelligent Return and Sorter System-
In conventional Library System the entire library functions such as check in/ check out of items and shelving of items is done manually. This is time consuming task and also misplacement of books and other items is quite common. With the automation, all these problems can be avoided. There is an Intelligent Return and Sorter System which is used in libraries for automating their check-in and sorting process. Users can quickly self return their issued items with “real-time check-in”. Users can be assured that items have been returned by receiving return slips from the machine. These systems are designed specifically for libraries with limited space. The technology utilized by the sorter for directing items into the bins reducing damage to items. It is easy to use and can also perform administrative tasks such as configuring receipts, generating statistics and system diagnostics. The Intelligent Return and Sorter System help in decreasing the time, helping to increase staff productivity while enhancing user satisfaction.

24) Networking of Libraries -
ICT has made possible of networking of libraries within the country or even throughout the world. Networking of libraries has increased the services of libraries for the users. With the help of networking, users can use the material of other libraries with whom the present library is connected. With the help of it libraries’ Inter Library Loan Service, Resource Sharing, etc make easy and convenient. Networked libraries can take many benefits like they can use the Union Web OPAC, Document Deliver and Access to Digital Material etc. They can also arrange the combine
Tutorials, Workshops, Lectures, and Training Programs etc. There is much professional news which can be share by the librarian. There are many more benefits of networking also like libraries can take the advantage of Library Consortia, in which libraries can make collective purchasing of library material and can avail higher discounts on bulk purchasing. So, networking of libraries also help in saving the money. here are many Indian library networks are present e.g., INFLIBNET, DELNET, CALIBNET, ADINET, SIRNET etc.

25) RFID -

RFID (Radio Frequency Identification) is the latest wireless technology to be used in library theft detection systems. It is another form of automated identification system. Earlier EM (Electro-Mechanical) and RF (Radio Frequency) systems were used in libraries for decades but RFID-based systems move beyond security. They provide tracking systems that combine security with more efficient tracking of materials throughout the library. Besides security they provide easier and faster charge and discharge, inventorying, and materials handling. RFID in India was developed in the 1940’s for defense applications. Ist time it was used for commercial purpose in 1980 for cattle tracking applications. Recent interest is in making RFID technology more ubiquitous in the global value chain. The first Library suppliers started to market their systems in the mid 1990’s. RFID has automatically checkout, anti theft and inventory control system. It contains two parts one is integrated circuit for storing and processing information. Another is antenna for receiving and transmitting the signals. In RFID system, RFID tags are placed on the library items when these items comes under the range of antenna without requiring a line of sight, it transfer the information to the computer system, if it is not issued then a siren is burst out. This technology is same as bar-coding system but it is very much refined and improved then bar-coding system.

4] Conclusion :-

Information technologies are already a firm part of daily life. Rather than trying to assess how tenhnologies wil change our lives, we should accept these technologies as another set of tools and proceed to make the best use of them for the library and all of its users. We must, however, seize the initiative to ensure that we control and are not controlled by, the technologies of the future. Applications of new technologies in libraries have resulted in a meaningful and substantive change in libraries, their collection, services and methods of delivery of services. The concept and practice of providing remote access to e-resources by libraries are not new. Still, the user-friendly way adopted by many libraries and the number of resources made available by them during the pandemic is exemplary. The above mentioned new technologies that comes in the field of library and its uses in the different libraieres, these technologies have given a challenge to the library professionals. i.e they should have proper knowledge of these new trends and technologies and should be well qualified so that they could use it easily. But these new technoloiges don't reach to every library mainly because of money and awareness.

Emerging technologies provide libraries with a unique opportunity to substantially enhance user centred services and to facilitate and promote collaborations between libraries and their users in this digital era. These new trends, services and emerging changes are likely to make libraries more interesting, more relevant. With the growing intervention of technology, challenges related of it also grows equally. Therefore it is necessary for library resources and servies to go in sync with the emerging library technologies.

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Changing Nature of Academic Libraries & Librarians

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Abstract:
Library is considered „the heart” of an institute offering higher education. The role of library in higher education is much more important since library is considered a prime requirement in Education. Academic library is the vital component which develops the teaching-learning and research activity. The fundamental objective of a library is to make available reliable information to their clientele in a timely, accurate, pertinent manner. The traditional methods of accessing library services are being altered. Academic libraries are changing their methods of service delivery; they are experimenting with mobile devices and providing services to support the information needs of their users irrespective of time or distance. The new technology has important role to play in academic libraries. By using this technology, academic libraries are helping users access the vast amount of library resources, evaluate and select the best information for their specific needs. E-learning is adapted readily adapted by teachers and library plays important role in providing them authentic resources.

Keywords: Academic Libraries, Librarians, information literacy, critical information literacy, student Success, academic success

Introduction:
The digital age has changed the way libraries operation. In the case of the academic library renovate the collection and the space in which the library operation has been a constant follow to keep up with the changing goals and roles of information communication and technology. The main change to happen to the academic library was a change in the way of compilation were curated and expanded. The electronic information age, we all need to learn how to use efficiently and effectively the huge variety of information and communication technology for information search, discovery, organization, investigation and assessment. Information and knowledge Technologies are changing and becoming more complicated day by day and librarians need to approve them for providing better services to their users. Here we see the changes in the role of library and librarian in education due to ICT. Librarians assist faculties and students to search out their information needs, critically evaluate the materials they locate, and use technological means to synthesize their findings into new knowledge. Librarians must become skillful in the use of the new technologies to promote them and educate students and teachers in their use. As students become more self-learners, the librarian acts as a resource person in the mission for supporting information and the development of appropriate presentation strategies. Mobile technologies refer to handheld devices which can be accessed through a mobile device ranging from a cellular phone to an iPod Touch. Mobile technologies are distinguishable by their small size and portability, their portable nature and communication options provide easy access to the Internet from a single device. The invention of mobile phones such as smart phones, tablets, iPads, iPhones, e-book readers and netbooks which have advanced computing abilities, complete operating systems and Internet connectivity has enabled seamless access to information irrespective of time or distance.

With the advent of the computer, the nature of libraries has changed dramatically. Computers are being used in libraries to process, store, retrieve and disseminate information. As a result, the traditional concept of the library is being redefined from a place to access books to one which houses the most advanced media, including CD-ROM, internet, and remote access to a wide range of resources. Today libraries are surrounded by networked data that is connected to the vast ocean of internet-based services. Moreover, electronic resources relevant to the
professions are developing at an unprecedented pace. Academic libraries are considered to be the nerve centers of academic institutions which support teaching, research, and other academic programs in various ways.

**Changing Role of Academic Libraries:**

Academic libraries have always been regarded to be the nerve center of universities as these are responsible to support the teaching, research and other academic programs of the university. Now these libraries are passing through a phase of great transition being influenced by social, political, economic and technological developments that are taking place in the society. The era is over when academic librarians were involved in housekeeping jobs like classification and cataloging, etc. Now they have to act as the knowledge navigators and change facilitators to fulfill the clientele’s specialized needs. For this, it has become essential to use cutting edge Technology tools and techniques. The re-engineering of the teaching and learning framework is under way in the progressive universities worldwide. This provides a window of opportunity for their libraries to demonstrate their existing and potential contribution to educational change.

- Literacy programs
- Outreach programs
- Library exchange activities
- Support and input of members of the community

**Special Features of the 21st century libraries they are as follows.**

1. **Library Automation** –

   Libraries have automated adapting library software’s. At the initial stage these software’s were homemade, prepared by the ICT department of the parent organization. This software’s played very important role in library advancement. They were cost effective & therefore implemented easily. Some libraries have chosen the option of (free) software’s available on internet.

2. **Library support software’s** –

   The software are gaining importance day by day as they are adding a huge value for the library services. Now libraries are adopting multiple software’s for different library tasks as well as enhancing library function. This software’s play quite important role as they improve the quality & efficiency of special information services in the library usually these software’s are available free of cost on the internet & quite user friendly.

   Training programs are also organized for them. There are software’s like D-Space, Greenstone are used for digitizing library material. The software Zotero is useful in literature search and organization essential for research purpose. To develop information literacy modules software Moodle is useful.

3. **Electronic Resources** –

   They are the books, periodicals, reference sources etc. converted or produced into electronic formats. Audios, Videos, different kinds of presentations are also included in them. They reduce storage space in the library, save paper and can easily send at distinct places also. E resources can be stored and communicated in different forms like audio, video, computer CD’S, pen drives, portable hard discs etc. Internet technologies, Wi-Fi, Bluetooth technology are the most commonly used technologies used to share the information. A digital library is emerging in the academicians day by day that serve the archival function of the libraries also. Many libraries are developing their own institutional repositories in E format. A library webpage gives all these links and services are provided to the remote users.

4. **Library Organization** –

   The role of library is changing from administration of stock house to the service providing industry. The staff has to work accordingly and to be in the mode of continuous advancement. There is a significant change in library services, library facilities and thus a change is required in the library rules, regulations, and facilities and even in the timings. As discussed earlier users may not be dependent on the libraries as they used to be till last
century to get their required information. In academic environment the libraries has to play vital role in other institutional activities. In such situation they have a challenge to attract the users and maintain their importance in the organizational structure. They have to influence students by providing extensive study material and other value base facilities. In such situation providing maximum services is a challenge. Libraries having stack room, counter and office at least should maintain reading area, a computer section having communication facilities like Wi-Fi, data browsing and transfer etc. This is the changing organizational pattern of the library.

5. Inter – Library co operations –

Libraries are stared working in groups with easy linkages and developing themselves as giant providers of information services. In academics environment projects like INFLIBNET, DELENET have proved very helpful. Library consortia are boon for small low budge libraries. Library professionals having different designations like information officer, knowledge manager, documentation officers etc. have joined together and formed their groups like ‘Indian Librarians online study Circle’, Professional Librarians’, etc. Many such groups are created by using mobile technologies like ‘Whatsapp’. These groups play important role in exchanging ideas, solving problems, updating knowledge and serving to library users also.

6. Information communication Technology in Libraries -

Libraries which were considered only as the storehouses of knowledge have got a new outlook in the modern information communication Technology era. The activities which were carried out manually in libraries with so much of pain and strain are being carried out smoothly with the help of information Communication Technology with greater effectiveness. Library organization, administration and other technical processing have become easier and more quantum of work can be done in relaxes mood.

- Information Communication Technology enables one:
  - To capture, store, manipulate, and distribute information
  - To introduce and provide new services, Revitalize the existing services by providing faster access to the resources, by overcoming the space and time barriers;
  - To provide need-based, browsing and retrospective search services to the users;
  - To have large number of databases in CDs;
  - To utilize the staff for providing better information services;
  - To develop/ upgrade the abilities to professionals;
  - To encourage networking and resources sharing at local level;
  - To digitize the documents for preservation and for space saving;
  - To supports library functions such as circulation, serials control, acquisition control, stockmaintenance and other routing office works and developing in house database;
  - To access library catalogues databases of other libraries through library networks;
  - To improve the efficiency of library functions; and improve the cost effectiveness of library operations.

Conclusion -

In the last century the professionals tried to adopt the new technology and tried to move ahead. The present situation the changes are very fast and to keep a pace with them is a real challenge. In the era of information explosion there is a big struggle of existence. The libraries need administrative as well as financial support. The librarians have to orient themselves through short term or long term courses, workshops and seminars. Information Communication Technology is a key technology. Therefore in the age of information, every librarian should aware the latest trends in library and information science theory as well as in practically.

References


Green Libraries A New Portfolio for Librarian

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Abstract

'Green concept' has become a trendy discussion not only among the library professionals but also in other fields as a result of severe environmental issues faced by the entire mankind. Besides other countries have already taken better solutions based on green concept and done various researches but rarely seen in the library science field in Sri Lanka. Therefore, the purpose of this article is to examine the green library concept as a new vision to the library science field. This article will be a supportive document to fill the knowledge gap of articles on green library concept in Sri Lankan library system.

Keywords: Library Building, Green Library, Sustainable Library, Green Concept,

Environmental Issues

1. Introduction -

It has something to be wondered, in this information and technology seeking era why it is necessary to discuss and go back to the “Stone Age” in which period of time the whole life of human beings fully depended on the environment. Not only Sri Lanka but also the whole world faces severe environmental issues with the rapid change of modern technology. With the industrial revolution, the ruling authority went to the fascists’ hands. The capitalism emerged in the world resulting huge gap between developed and developing regions and countries. This gap could create an inferiority complex in the people of developing countries. Even self-sufficient countries such as Sri Lanka, could not protect themselves from this trap. Next, the powerful countries which owned only tactful and foreseeing sapience as well as marine technology were able to migrate and establish the colonialism. This was the tap-root of today’s environmental issues. Construction of railways, expressways, plantation of extrinsic crops such as tea, rubber instead of valuable compatible crops was major causes for these long-term environmental issues. The green library or sustainable library is a new concept and it is gaining popularity among the library professionals. Green Library Movement which comprises of librarians, libraries, cities, towns, and college and university campuses committed to greening libraries and reducing eco-degradation. Environmental destruction sets of a downward spiral of ecological deterioration. The paramount goal of green buildings is to develop and use sustainable energy-efficient resources in construction, maintenance and overall life of the structure. Green Libraries can serve the way libraries have always served as landmarks in their communities and in a way provide pleasant environment to the user community. Libraries must respond to this increasing focus on Green Movement and should simultaneously act as role models for sustainability by reeling of suitable and relevant information related to green issues and concerns. The “Green Library” movement came out in the 1990s and gained instigation in 2003. A green library also called a sustainable library that's designed, constructed, repaired, and operated with environmental enterprises in mind. It refers to a structure that certifies the library as an environmentally friendly structure. It's concerted trouble of all mortal beings to make green earth by lessening global warming. Green libraries contribute towards supporting the natural ecological balance in the terrain and conserving the earth as well as natural coffers. It also improves the diurnal operations and processes of the library and intimates the community about responsible environmental practices.

2. Review of related literature -


3. What is a Green Library?

The consideration of the role of humanity in climate change and the notion of sustainable development are core concerns of society, and consequently of libraries.” According to the Online Dictionary for Library and Information Science (ODLIS), Green Libraries are “designed to minimize negative impact on the natural environment and maximize indoor environmental quality by means of careful site selection, use of natural construction materials and biodegradable products, conservation of resources (water, energy, paper), and responsible waste disposal (recycling, etc.)” They also focus on related services, activities, events, literature and projects, demonstrating the social role and responsibility of libraries as leaders in environmental sustainability. Under the US Green Building Council's LEED performance system, a green building is one that is built incorporating the following design elements. Sustainable site selection and development Waterconservation Energy efficiency Local resources, material conservation and waste reduction Indoor environmental quality Innovation in design W. W. S. ThrishalaWarnasooriya (2019)

**Green building** - Green library buildings support to use energy sources effectively, and reduce carbon footprints. This also ecologically and resource efficiently designed, rebuilt, operated and reused. When designing or rebuilding a green library, the librarian, architecture and the engineers are responsible to pay their attention on natural lightening, ventilation, heating and cooling, interior fitting, installing solar and geothermal energy systems, water harvesting systems, water and electricity efficiency and the use of sustainable environmentally friendly materials. When being eco-friendly, the librarian should consider about the conservation of library collection too.

4. Parameters for Green Library

- Management of the design and construction
- Indoor environmental quality
- Energy
- Transport
- Water
- Materials
- Land use and ecology
- Emission
- Innovation

5. Green operations and practices –

Operations and practices in a green library can be vary depending on the type of the users, type of the library, rules and regulations of the mother institution or country. The fundamental practices of ‘reduce, recycle and reuse’ are important for a sustainable library system. The library should not be limited to the above 3 practices. The managerial staff should ensure that entire staff involves in planning, implementation and management of new procedures and practices. Educating the staff about green library concept is essential for the best continuity of green practices. Some of practices are mentioned below. But the library should not be limited to the followings.
6. Guidelines for Developing a Green Collection

6.1 The first effort towards developing a green collection is when librarians educate themselves about green practices, green collection resources and green programming materials.

6.2 The second effort is to gather green information in the library for its patrons. ALA (2009) suggests some ways to support community needs for green information. These are:

- Offer open forums for green book clubs and amenities for environmental video viewings or lecture presentations.
- Create occasions for children to get to know their environment and its impact through poster competitions or poems or essays on the subject of environment.
- Offer open forums for green book clubs and amenities for environmental video viewings or lecture presentations.
- Create occasions for children to get to know their environment and its impact through poster competitions or poems or essays on the subject of environment.
- Select collection materials on organic gardening and composting or green computing and energy conservation.
- Create outreach relationships with local groups interested in environmental concerns and inquire about their information needs.
- Work with local schools to support green curriculum and projects, such as murals or models of ecosystems.

7. Portfolio and services of Green Library –

Green concept pushes the libraries to offer green library services in addition to the sustainable constructions and buildings. The green message should be transferred to the society not only through green library resources but also through educational outreach programs and workshops to broaden their awareness. This will be a platform for them to adopt green practices in their own lives, office environment, activities, and events. The green education and green literacy play a major role to reach the ultimate goal of green world. The library can offer portfolio programs as given below.

- Providing information to cultivate food and herbal plants.
- Maintaining community gardens to educate patrons with practical experiences.
- Maintaining a depository of genetic materials like seeds and plants.

8. Conclusion –

Green image is a good image for the libraries and should use their way of going green to promote a powerful green image towards their stake holders and users. The librarians should take some decisions to make green library. The paper concludes that librarians have to be keen on updating themselves on sustainability trends in the field of librarianship and should provide awareness and create the space in the libraries to exemplify the Green practices. Even though green library concept is widely spread in other regions, countries like Australia, USA, Indai and Sri Lanka are still in its infant stage. Application of the green concept to the library is extremely important rather than having discussions. This can be started from academic and special libraries in the area of world. Then the green library concept can be widely spoken through library seminars, workshops, guest speeches, handbooks, websites, notices, leaflets so forth. Then the library professionals should make this a point to communicate this message in national and international level. Each person should bear their individual duty and should do a justice to the world by their side. In simply terms, it is quite clear that ‘going green’ should be started from its primary level. Then the whole mission will be a great success. The librarians have to take immediate and durable decision to establish the green concept to overcome the current environmental issues and to play the best librarian’s role in the mission of making the world green.
9. Reference


Increasing Role of social media in Academic Library

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Abstract

The growing role of social media in academic libraries has led to increased communication and engagement with students, faculty, and other members of the academic community. Social media platforms such as Facebook, Twitter, Instagram, and YouTube are being used to promote library services, events, and resources, as well as to provide information and assistance to users. The objective of a study on the use of social media in academic libraries may be to understand the current usage and effectiveness of social media in academic libraries, identify best practices and strategies, and provide recommendations for effectively using social media to connect with users, promote resources and services, and gather feedback. Overall, social media can be a powerful tool for academic libraries when used strategically and with consideration for the potential challenges and limitations.

Keywords- Academic libraries, Importance, Social media, Services, Tool, etc.

Introduction

Social media has played an increasingly important role in academic libraries as it allows libraries to connect with patrons and promote their services in a more dynamic and interactive way. This can include promoting events, highlighting new resources and collections, and providing updates on library hours and closures. Additionally, social media can be used as a tool for outreach and engagement, to provide support and assistance to users, and to solicit feedback and suggestions. Overall, social media is a valuable tool for academic libraries to connect with their users and promote their services in a more dynamic and interactive way.

The growing role of social media in academic libraries has led to increased communication and engagement with students, faculty, and other members of the academic community. Social media platforms such as Facebook, Twitter, Instagram, and YouTube are being used to promote library services, events, and resources, as well as to provide information and assistance to users. They can also be used to share news, events, and updates, and to create virtual communities around specific topics or interests. Additionally, libraries are using social media to gather feedback and to stay informed about the needs and interests of their users, which can help improve services and resources. Overall, social media has become an important tool for academic libraries to connect with their communities, to promote their services and to support teaching, learning, and research.

Objective of the study

The objectives of a study on the use of social media in academic libraries may vary depending on the specific research question and goals of the study.

Overall, the objective of a study on the use of social media in academic libraries may be to understand the current usage and effectiveness of social media in academic libraries, identify best practices and strategies, and provide recommendations for effectively using social media to connect with users, promote resources and services, and gather feedback.

Important role of social media in academic library

The growing importance of social media in academic libraries is due to the fact that it allows libraries to reach a wider audience and engage with users in new and dynamic ways. Social media platforms provide opportunities for libraries to connect with students, faculty, and staff, promote library resources and services, and provide virtual reference assistance. Additionally, social media can be used as a tool for research, such as collecting data and surveying users. Additionally, Social media also allows academic libraries to increase their visibility and promote their brand. By sharing news and updates, creating online communities, and collaborating
with other libraries and institutions, academic libraries can enhance communication and collaboration and improve the user experience. Overall, social media plays a vital role in academic libraries, by enabling them to reach new audiences and connect with users in new and innovative ways.

The growing importance of social media in academic libraries can be seen in its ability to:

1. Increase visibility: Social media platforms allow libraries to reach a wider audience and promote their resources and services to students, faculty, and staff.
2. Enhance communication and collaboration: Social media can be used to create online communities and facilitate communication and collaboration between library staff, students, and faculty.
3. Improve user experience: Social media can be used to provide virtual reference assistance and support, as well as gather user feedback to improve library services.
4. Support research and learning: Social media can be used as a tool for research and learning, such as collecting data and surveying users, and sharing information and resources related to academic research and study.
5. Provide outreach: Social media can be used to reach out to potential students, faculty, and researchers and also attract funding opportunities.

Overall, the use of social media in academic libraries can help to improve the library's overall effectiveness and support the academic mission of the institution.

Social media can also help academic libraries to connect with and engage with their users in new and innovative ways. Additionally, social media can be used to promote library resources and services, increase visibility, and gather feedback from users, which can help to improve the library's offerings and user experience.

Furthermore, social media can provide a platform for virtual reference assistance and collaboration with other libraries and institutions. Overall, social media is becoming an essential tool for academic libraries to stay relevant and connected to their users in the digital age.

Need of social media in academic libraries-

The need for social media in academic libraries has grown in recent years as the use of social media has become more widespread among students, faculty, and staff. Social media can help academic libraries to connect with and engage with their users in new and innovative ways. Here are a few reasons why social media is important for academic libraries:

1. Reaching new audiences: Social media can help libraries reach new audiences and connect with users who may not have been reached through traditional methods.
2. Enhancing communication: Social media can be used to enhance communication with users and provide timely information about library resources and services.
3. Providing virtual reference assistance: Social media can be used to provide virtual reference assistance, answering user questions in real time and providing access to information at any time.
4. Gathering feedback: Social media can be used to gather feedback from users, which can help to improve the library's offerings and user experience.
5. Collaboration: Social media can be used to collaborate with other libraries and institutions, and to share best practices and ideas.
6. Cost-effective: Social media can be a cost-effective way to communicate and promote library services, as most platforms are free to use.
7. Keeping up with the times: With the rise of digital technologies, social media has become a crucial means of communication and information-seeking, and libraries need to keep up with these trends to stay relevant to their users.

In short, social media is a powerful tool that can help academic libraries to stay connected with their users, promote their resources and services, and gather feedback, which can help to improve the user experience and stay relevant in the digital age.
Types of growing social media in academic libraries-

There are several types of social media that are being used by academic libraries, including: Social networking sites such as Facebook, Twitter, and Instagram: These platforms are used to connect with students and faculties, promote library resources and services, and provide virtual reference assistance. Video sharing platforms such as YouTube, Blogging platforms such as WordPress and Blogger. Online community platforms such as Slack and Discord, Survey and feedback platforms such as SurveyMonkey and Google Forms. Overall, academic libraries are using a variety of social media platforms to connect with users, promote resources and services, and gather feedback to improve the overall library experience.

There are several types of social media that academic libraries are using to connect with students and faculty, promote library resources and services, and provide virtual reference assistance. Some of the most popular social media platforms used by academic libraries include:

**Facebook**: Academic libraries use Facebook to post updates, share news, and create online communities.

**Twitter**: Academic libraries use Twitter to share news, updates, and provide virtual reference assistance.

**Instagram**: Academic libraries use Instagram to showcase library resources and services, highlight library events, and engage with students and faculty.

**YouTube**: Academic libraries use YouTube to create and share instructional videos, tutorials, and webinars.

**LinkedIn**: Academic libraries use LinkedIn to connect with alumni, share library news, and engage with the professional community.

**Zoom**: Academic libraries use Zoom to provide virtual reference assistance, and host online events, workshops, and webinars

**Blogs**: Academic libraries use blogs to provide a platform for library staff to share their expertise and insights, and to provide a platform for users to share their own experiences and thoughts on library services.

These are some of the most common types of social media that academic libraries are using, but many libraries are also experimenting with new and emerging platforms to connect with users and promote their resources and services.

Advantages of social media in academic libraries-

There are several advantages of using social media in academic libraries, including:

1. Connecting with users: Social media can be used to connect with students, faculty, and staff in new and innovative ways. This can help to increase engagement and promote library resources and services.
2. Promoting library resources: Social media can be used to promote library resources such as books, journals, and databases. This can help to increase awareness of library offerings and encourage users to take advantage of them.
3. Providing virtual reference assistance: Social media can be used to provide virtual reference assistance and answer user questions in real time.
4. Gathering feedback: Social media can be used to gather feedback from users, which can help to improve the library's offerings and user experience.
5. Collaboration: Social media can be used to collaborate with other libraries and institutions, and to share best practices and ideas.
6. Cost-effective: Social media can be a cost-effective way to communicate and promote library services, as most platforms are free to use.
7. Reach: Social media can help to reach a wider audience and connect with users who may not have been reached through traditional methods.
8. Analytics and measurement: Social media platforms provide access to detailed analytics and measurement tools, allowing libraries to track their reach and impact, and adjust their strategy accordingly.

Overall, social media can be an effective tool for academic libraries to connect with users, promote resources and services, and gather feedback, which can help to improve the user experience and stay relevant in the digital age.

Disadvantages of social media in academic libraries-

There are also some disadvantages of using social media in academic libraries, including: Time-consuming, Cyberbullying and harassment, Privacy concerns, Limited audience reach, Legal and copyright issues, etc. Overall, social media can be a powerful tool for academic libraries, but it also comes with its own set of challenges and limitations. It is important for libraries to weigh the pros and cons and develop a strategic approach that takes into account their goals, resources, and audience.

Conclusion-

Social media has become a valuable tool for academic libraries to connect with students and faculty, promote library resources and services, and provide virtual reference assistance. Social media can also be used to share news and updates, create online communities, and collaborate with other libraries and institutions. Additionally, social media can be used as a tool for research, such as collecting data and surveying users. However, it is important for libraries to be aware of the potential disadvantages of using social media, such as the time and resources needed to manage social media accounts, the potential for cyberbullying and harassment, privacy concerns, and misinformation. It is also important to be aware of the legal and copyright issues that may arise when posting content on social media platforms. Overall, social media can be a powerful tool for academic libraries when used strategically and with consideration for the potential challenges and limitations.

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Application of QR Code Technology for College Library Services

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Abstract:
This paper shows that how QR Code is useful for college library services by using Smartphone technology. QR Code has not only save the time of the peoples in the society and library user in their routine activities but also made available various online activities in figure tips. By using QR Code technology these types of services Library Membership Registration, Library Contact, Full text databases, Full text databases, Bibliographic databases, E-books & E-Journals, E-Thesis: /E-dissertations, News clipping Services, and WebOPAC. All these services are possible to college to the user by college libraries.

Keyword: QR Code, WebOPAC, E-books, FASTtag

Introduction
The impacts of Information and communication technology are not just the changing the way of the lives of the people but the change is in the communication, activities and seeking the information. The Smartphone technology has not only save the time of the people in various field in the society from their routine activities but also made available various online activities in their figure tips. The forth law of library and information science given by Dr. S.R. Ranganathan that is ‘Save the time of the Reader’ is applicable here. The Smartphone device has given this facility to fast access of any information from any ware.

Quick Response Code (QR Code) is used for money transfer, mobile & TV recharge, online shopping, FASTtag and product information details within a seconds. Which cater to the user’s requirements to access e-resources through Smartphone and other portable devices.

What is Quick Response Code
The Quick Response Code (QR Code) is one of the technology which convert physical mode to digital/virtual mode through android mobile phone cameras and Hyperlinked content at the speedy rate. It is also similar to barcode technology. They have two dimensional pictographic images scanning that their hyperlinked that page.

According to Encyclopaedia Britannica “QR Code, in full Quick Response Code, a type of bar code that consists of a printed square pattern of small black and white squares that encode data which can be scanned into a computer system.”

QR Code Structure and Size
Each QR Code is a regular square array prepared of several nominally square modules, including an encoding region and function patterns, timing patterns, namely finder, separator, and alignment patterns. The QR Code symbol is surrounded by quiet zone on all four sides. The function patterns cannot be used to encode data.
Figure No.: 01

The image QR Code has 40 Versions, ranging from Version 1 to Version 40. So, there are 40 sizes of QR Code in all and the size begins from 21 X 21 modules and up to 177 X 177 modules (not including quiet zone), increasing in steps of 4 modules per side.

Application of QR Code Technology for College Library Services

Following library services can be possible for application of QR Code technology in college library services

- **Library Membership Registration**: The new member can take membership by register through QR Code from anywhere or library website.
- **Library Contact**: Applying QR Code technology any member of the college library can direct contact to the library person email, website, and phone no, address.
- **Full text databases**: Through QR Code user can just scan it and they get data from their relevant subject without any delay.
- **Bibliographic databases**: Relevant bibliographical data easily can get the user by just scan QR Code by his/her Smartphone. They can get direct link of the bibliographic data.
- **E-books & E-Journals**: Any user can access e-books & e-journals on their mobile/Smartphone using QR Code. It will show to the user in his devices which are subscribed by his/her library or institute, just scan code and user can download it.
- **News clipping Services**: Library can provide multiple newspapers clipping in single QR Code to the user. Which newspapers subscribed by the library.
- **Library WebOPAC**: Through QR Code the users can easily get the information about catalogue record the particular library record of books.
- **Old Examination Question Paper**: Old examination question paper required to every students for reference purpose for their upcoming examination. By scanning QR Code and they can access it from anywhere and download it.
- **Library Overdue charges payment**: If the users have not cash in hand they can pay library overdue charges through scanning QR Code in direct library or college account.
- **Library Websites**: Now a day the number of websites is available of the institutions. The library website QR Code made available to the students/user. They can scan QR Code and they can direct visit to the library websites.
The college libraries can make available different types of services by using QR Code technology in college library and information centre. The QR Code not only saves the time of the user but also save the time of the library staff. All the college libraries must application of QR Code technology for fast and smart library services to the user.

**Conclusion**

The QR Code technology is useful technology that their users are increasing day by day in various field to provides various types of services such as such as money transfer, mobile & TV recharge, online/offline shopping, FASTag to fulfil the user’s information need. It is only possible that those have their own android app and cameras. The use of QR Code technology in college libraries is very useful to provides library services such as library membership, important e-books, e-journals, e-theses & dissertations, Library Websites, Multi URLs, Library Contact, Full text databases, Scan & download article files, Bibliographic databases, newspaper clipping and old examination question papers can be provided with the use of QR code technology in college libraries.

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Transformation of a College Library with the help ICT:
A Case study of Adarsh College Library, Hingoli

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Abstract:
Information access and its services are changing day by day with access of Internet and electronic devices. The major challenge with digital transformation is how fast and how far should organizations go on their digital transformation path.

The journey of Digital transformation is complicated and involves wide-rangingobjectives; Complexities, and covers a huge area. It requires a logical and well-organized digital strategy to effectively report technology and process transformation together with supporting governance and delivery models.

Keywords: Library, Automation, Transformation, Adarsh College, digital.

Introduction:
A library is nothing but a place where ideas can be switched and from that anyone can come the idea of progress and upliftment of a society and revolution can take place. A library is the central responsibility for functioning of any institution. Academic libraries have an important role in providing equal access to information. Librarians and Librarianship have observed the revolutions in the LIS system and libraries are transformed from the manuscript libraries to virtual and cloud libraries or digital libraries.

The changes have brought revolution in the professional activities as well as manpower requirement. There are many challenges also to be faced by the library profession also while adapting the rapidly changing environment in which librarians are expected to work differently than before. The information society is moving from industrial age to information age due to more usage of ICT.

The main objective of any library is to reach all the users by collecting information and knowledge on various subjects from all over the world. The library has a wide variety of reading materials. This literature allows the reader to develop his intellectual, political, socio-economic condition from this it accomplish that overall development can happen through the library.

The role of library is very important in today’s age of technology. Due to the ever-increasing advancement of this technology, the service facilities available to libraries also change according to the situation.

Adarsh College
Hingoli is situated at the northern part of Marathwada in Maharashtra. Borders of Hingoli are surrounded by Washim and Yevotmal in northern side, Parbhani in western side and Nanded at south-eastern side. The district came into existence by division of Parbhani district on 1st may 1999.

Adarsh College is a reputed college in Marathwada. The college is affiliated to Swami Ramanand Tirtha Marathwada University, Nanded. The College of Arts, Commerce and Science was established in the year 1967 under the auspices of Adarsh Shikshan Sanstha by the distinguished business class of Hingoli district to provide higher education to the rural and backward sections. The college has received B plus grade from the net committee in 2016. The college has maintained the tradition of success.

To adopt and intensify the desire of knowledge among the students addressing from rural area and to achieve their sustainable multi-dimensional development & also to expand progressively the horizons of academic activities, keep pace with latest developments and innovations being made in every sphere of knowledge and emerge as an ideal and pre-eminent Educational Foundation having institutions imparting quality education in diverse fields, thereby providing winning edge to the aspirants. The focus of college is on integrated and multidimensional development of student’s personality.
Almost everything in the world is changing. Similar changes were taking place in the library sectoring the early days, libraries functioned in a traditional manner. But with the advent of information, things that seem impossible to man have become possible through the Internet in the computer age. Finding and collecting information has now become much easier. So, the reader’s time also began to save. This information can be stored through various means of electronics.

Libraries are being transformed into digital libraries and virtual ones. In a digital library, all the work done in digital format. In this type of library, the collection of material is in numerical form and it is also managed in numerical manner. Such a library is a collection of all kinds of information from around the world. This information can be made available through the Internet.

**Library Transformation**

Libraries themselves are undergoing transformative changes using technologies. With a much greater focus on technology integration, new media, and 21st Century Learning themes such as collaboration, the traditional concept of what a library can be is evolving. These advancements are fundamentally changing the libraries. Libraries of all types are currently undergoing changes that most agree are transformative in nature.

While the dramatic growth in the use of eBooks and other digital content has attracted the greatest media attention regarding library services in the past couple of years, equally dramatic changes are occurring in almost every dimension of our work.

**Components of Transformation:**
The transformation of the library system is due to mainly following developments:

- Computer technology
- Library automation
- Networking of libraries and information resources
- Bar code, RFID and Smart card technology
- Web and Internet technology
- Social networking (Blogs, Facebook, Twitter, Apps, Skype, Wikipedia) etc.

**Functions of Library Staff in Changing Environment:**

- To provide easy access to information available in various electronic formats.
- To identify the user’s needs
- To subscribe online journals, e-books, databases and provide internet facility for the utilization of resources to gain knowledge.
- To automate the library with library software and provide faster access and reference service to the users.
Need of transformation

In today’s world, library and information services delivery are being transformed from their manual operations to new ways using technology. This is identified as the paradigm shift in libraries and information services as a direct consequence of innovation technologies. The new technology and communication tools are employed in rendering services to the users through appropriate channels for access to information with cluster of technologies referred to as the internet. Information technology has brought in sweeping changes in the way libraries function. Libraries need to access, evaluate, and measure the impact of information technology on them. Such effort will equip them with knowledge of turning IT into a boon for improving their services. The continuous shift in libraries from manual approach brought about positive impact over library and information services.

Library:

Adarsh College Library is well equipped with various sections such as circulation section, Reference section, periodical section, Reading room. At present there are 89 thousand plus reading material is available. Encyclopedia, geographical, biography, reference books as well as periodicals on various topics are available. At the same time, a total of twenty-two newspapers in Marathi, Hindi and English are running regularly. A Library Advisory Committee has been set up to make the work of the library transparent. 2-3 meetings are held regularly in an academic year.

Objectives of the library

- To meet the information needs of educational and social elements.
- Procurement of various types of educational and reference texts.
- Provide reading material required for various courses.
- To provide reading room facility to the readers.
- To provide information and reference services to the readers.

Library Automation:

Adarsh college Library is automated with soul (software for university libraries) to perform various functions like Acquisition, Circulation, Cataloguing, OPAC, Serial control etc. based on requirements of college and university libraries. Soul is designed and developed by the INFLIBNET Centre. It is a user-friendly software developed to work under client-server environment. The software is compliant to international standards for bibliographic formats, networking and circulation protocols.

Cataloguing: Cataloguing is the most important module of the LMS. In soul bibliographic details such as Title, Author, Publisher, Edition etc. are able to enter in MARC 21 format.

Using Catalogue module user can add bibliographic and authority records in the library catalog, the database of books, serials, sound recordings, moving images, cartographic materials, computer files, CD/DVDs-resources etc. that are owned by a library.

Circulation: Circulation module allows us to create or edit or delete or search User records. Renew membership and also establish relationship between the user and resources by creating transaction records is possible. Reserve the item, issue the item on ILL, Book bank transaction facility and get number of routine reports and some management reports.

This module actually deals with all operation related to library members i.e., creation, deletion and modification. Apart from these users may copy an existing membership record update it with a new membership code. User can able to search membership records by using the option search member by using different searching parameter such as code, name, department, designation, entry date, category and if user want to delete any member that there are two options to delete membership record, either single member or Group member deletion.
OPAC: It has simple and advanced search facility with the minimum information for each item including author, title, corporate body, conference name, subject headings, keywords, class number, series name, accession number or combination of any of two or more information regarding the item.

Internet: As internet is very important component in case of libraries, it is mainly used to improve the services & facilities provided by libraries. Internet is a medium for digital communication, so internet service is provided by Adarsh college library at free of cost.

Webpage:
A Web page is nothing but a representation of a document that is actually located at a remote site. Required information on a Web page is displayed online with the help of a Web browser such as Internet Explorer, Mozilla Firefox or Google Chrome. A Web page can be accessed and displayed on a monitor as well as on mobile device through a Web browser. As Adarsh college library has its webpage as http://sites.google.com/view/aeslibrarywebpage/home which includes information regarding library, like services and facilities, rules and regulations, about staff and library advisory committee, gallery as well as contact information of library. This library is made available on library website.

E-Resources:
All types of Libraries are implementing digital collections, although most libraries will continue to offer both printing and digital collections. Purchases of journals, magazines, and abstracting and indexing services are heavily weighted toward digital, while E-books are only beginning to become a presence in library collections for many reasons.

E-resource refers to the products which a library provides through a computer network. The electronic resources are also known as online information resources covering bibliographic databases, electronic reference books, search engines for full text books, and digital collections of data. The following E-resources are available in the library these are explained as follows.

NLIST: This project basically provides access to E-resources to students, researchers and faculty from colleges and other beneficiary institutions through server installed at the INFLIBNET Centre. Only the authorized users from colleges can now access E-resources and download articles required by them directly from the publisher's website once they are duly authenticated as authorized users through servers deployed at the INFLIBNET Centre.

NDL: The National Digital library of India is a nothing but virtual repository of learning resources which is not only just a repository with a search or browse facility but also provides a host of services containing textbooks, articles, videos, audio books, lectures, simulations, fiction and all other kinds of learning media for the learners/user’s community.

SWAYAM: Swayam is a programme initiated by government of India and designed to achieve the three cardinal principles of education policy for ex. access, equity and quality. The objectives of this effort are to take the best teaching learning resources to all.

Virtual book exhibition:
To develop the reading habits among users, Adarsh college library frequently arranges virtual or online book exhibition. In the Virtual Book Exhibition, the empaneled users are showcasing the subject-wise list of books including title, author, publisher, ISBN, year, price, and URL etc. The list of books is being obtained from vendors and updating the virtual book exhibition collections on regular basis as well as books in PDF format.

Group on social media
Social media is nothing but internet-based and gives users quick electronic communication of content, such as personal information, documents, videos, and photos. Social media refers to the means of interactions among people in which they create, share, and/or exchange information and ideas in virtual communities and networks. Adarsh college library has a social media group.
Which is named as “Adarsh Mahavidyalay Library”

**Gmail**

A single Gmail account is specific to a particular user and he is the administrator of that account. It is a method of exchanging digital messages via the internet within few seconds. There are various email service providers. Gmail is the email service provider by Google. The user can log in to his Gmail account using electronic devices. Adarsh college library has a mail account as “aeslibrary2018@gmail.com”

**Biometric for staff:**

This biometric technology is mainly used for identification for individuals and access control who are under surveillance. The basic premise of biometric authentication is that every person can be accurately identified by intrinsic physical or behavioral traits. There is biometric attendance is compulsory for the staff in Adarsh college library, which is done by giving finger impression.

**Closed Circuit Television:**

It is nothing but a closed system comprising of video cameras, screen and wired or wireless data networks which allows users to transfer images from video cameras to screen. The video surveillance systems are designed to ensure security at protected sites, monitor personnel activities, keep track of production processes, etc. There are near about four close circuit cameras are available in the library. Which are very supportive to cope up with inadequate library staff.

**Conclusion**

From above explanation it concludes that now a days libraries are transforming to serve its users best only. Libraries are playing an important role in rural areas. Information technology is making a significant difference in the field of education.

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Innovative Practices in Academic Libraries

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Abstract

The present paper is an honest attempt to show the innovative practices that can help to enhance the quality of work in academic library. Sky is limit and it is applicable in the all field of education. Library is source and resource of knowledge. Already many researchers and expert have put their theories and researches in this field. But changing paradigm of education and role of library in academic field also requires new innovative ideas. The researcher has kept this notion and venture to shed light on the innovative practices in the academic library. The present world is the world of science and technology that affect every section of society. New ideas to be implemented in the changing role of library. Library is the main support of all the academic activities of any education institutions. In this paper highlights the innovative practices in libraries for enhancing the quality of teaching learning process and also suggests the new initiatives and practices. The paper review of innovative academic Library practices. The present paper also highlights innovative practices in academic libraries. Paper also mention IT based best practices like Web page, Blogs, Wikis Virtual library tour, E-alert services, library face book etc. This paper is useful guide to other libraries to get an idea about various ways and practices in their libraries for creating an effective library management.

Keywords: Innovative Practices, Libraries, E-resource

Introduction:

Innovate practices are an activity that leads to a superior performance. Successfully identifying and applying best practices can reduce cost and improve quality. These practices will help to inculcate good environment among the user community. Joseph M. Jaran, says that 21st Century is devoted to ‘Quality’ whereas 20th Centaury was for ‘Production.’ We have to discuss the issue of quality to improve library customer satisfaction. Higher education’s experts are much concerned about quality of education provided by the universities and colleges in India. There is apprehension that education received in these institution is not commensurate with the fees charged from the students. Education experts feel that this is cheating with the people. It is because of this reason Government of India, UGC and NAAC are seriously concerned as how to improve standardsof education and establish best practices in the universities and colleges and their libraries.

Best Practice: - Definition and Meaning

Oxford Advanced Learners Dictionary Best practices as a quality of high standard, excellence, highly improved outstanding par excellence service. It means way of doing something that is usual or expected way in particular organization or situation, guidelines for good practices. In this process of developing best practices we taken action rather than good ideas and we improve our skills.” According to Wikipedia “Best practices are guidelines which are used to obtain the most efficient and effective way of completing a task using repeatable and proven procedures.” According to National Board of Accreditation and Assessment (NAAC). “Best practice may be innovative and be a philosophy, policy, strategy, program, process or practice that solve a problem or create new opportunities and positively impact on organizations. Institutional excellence is the aggregate of the best practices followed in different areas of institutional activities.” From above definition, best practice means, it is a method or technique used to improve the current workflow of an organization to obtain its objectives effectively and with predetermined standards. In simple works the practice that is giving best results in terms of its usefulness and appreciation feedback from its user group.


While assessing the quality of Higher Education in the country, NAAC has providing the useful guidelines to improve the overall quality of Library & Information Center and services offered by these centers. In order to effectively meet the challenges posed by the global changes of technology, and to satisfy the
multidimensional information needs of the library end users, NAAC has developed the set of forty eight best practices for the library and information centers. The data on best practices have been collected from the libraries across the country on a specific format developed by NAAC. The best practices are proudly divided into four categories such as

- Management and Administration of Library.
- Collection and Services.
- Use of Information Technology in Libraries.
- Extent of the user of services.

**Innovate Practices in Libraries**

- Computerization of Library with standard Software.
- Inclusion of Sufficient information about the library in the college prospectus.
- Compiling user statistics.
- Displaying newspaper clipping on the notice board periodically.
- Career/ Employment information services.
- Internet facilities to different user groups.
- Information Literacy programs.
- Suggestion box and timely response.
- Displaying new arrivals and circulating a list of those to academic departments.
- Conducting book exhibitions on different occasions.
- Organizing book talks.
- Instituting Annual Best User Award for students.
- Organizing competitions annually.
- Conducting user surveys periodically.

**Practices in Academic Libraries:**

With the increasing impact of ICT on Higher Education, Academic Libraries on the ways of radical changes. The traditional role of libraries as custodian of recorded knowledge is convened into the gateways of the knowledge. In the era of IT, due to information explosion the information needs of the library users are drastically changed and the nature of information needs became multidimensional. It has great impact on the overall management of library activities and services. In order to cope with this changing environment and to meet the user’s expectation effectively, it became necessary for the college library to adopt some best practices in their overall management and service areas. Here following are the best practices which is to be adopted in College libraries are in briefly. For convenience we can group best practices in to five categories.

- Traditional practices.
- IT based Practices.
- Other practices.
- Library Extension services.
- General Practices.

**A) Traditional Practices. :-**

**Book Exhibition:**

Arrange book exhibition on different occasion display rare books, newly added books or books of particular subject which are available in the library. This will lead to increased awareness among readers about knowledge wealth the library possess they can demand the books accordingly.
Orientation Plan :-
Orientation is one of the best practices to create awareness among the students about the library resources, services good reading habits and activities for maximum utilization of the library. The orientation helps and useful to the fresh students at the beginning of each academic year about the importance of the library, exposing the students to its various library services.Librarian should highlight his collection and services.

Book Display Programme :-
Book display programme is the best activity of library which helps & provide an opportunity for users to know the various types of information resources available on a particular aspect in library.

Library Halls :-
Library should start Library hour for students, It made compulsory for all the students by adding it in their daily class schedule. In Library hour students should. Visit the library for spending an hour in the library for reading materials. By keeping an hour in their time table students spend an hour in the library which brings them closer to the reading Materials, indirectly it helps to increase reading habits to of students.

Putting the list of newly available books on notice board :-
Putting the list of newly available books on notice board will make the reader aware about the new reading material so that accordingly he could demand for those new books get it.

Staff User Meet :-
The libraries may organize activities to staff users, which involving to work and share their ideas with each other relating to the new information services and their requirements. This helps to keep abreast the staff and the users about the latest developments and trends in library principles and practices, there by bridging the gap between the staff and users for this arrange various activities such as guest lectures, movie show etc.

Library Information Broachers:-
It is one of important sources for creating accurateness about the faculties, services & collection of the library students can be provided the information broacher at the time of Admission. The information brochures include information about the library facilities, like Xerox, internet etc, latest publications, late additions to the library, CD / DVD list, book bank facilities, library rules and regulations, electronic resources and online information services etc.

Library short Term course :-
The aim of this practice is to create understanding about library, use of ICT in library to know the mechanics of library. For this library should organize a two to three months duration course for the benefit of student community. In this course, feeding of data entry for books, creating reader books, generating barcode and scanning the broilers, generating barcode & scanning the photo of reducers etc training should be given.

Training to use E-Resources :-
Training programmes should be conduct for student, teacher every year for two to there day as per their need. In this programme, how to find out library books by using Library OPAC, use of N-list database, free online journals (such as DOAJ), link to various useful websites etc. training should be given so that library resources, services use more effectively and efficiently.

Review of Book :-
User should asked to read all the book and give his review on book. At the end Librarian should collect it & displays it on notice board under the name of reviewer.

Book Talk program :-
Student should discuss on a specific book or writer which they have selected. Script reading sessions are also arranged on a specific book users also comment about books they have read.
Readers Club :-
Library should give its facility to outside reader campus. Library also establish reader club. This club maintains good relation between library & outside users.

GranthadanYojana :-
In this scheme user can donate any number of books which he likes more on his birthday.

Interaction with Author:-
This is practical base programme which should organized by Library once in a year; for this program, Library should invite a author to interact with student. Author share his Experience how to get inspiration to write a good book.

Best Library user Award :-
This practice should encourage students to make maximum use of library resources and services.

Counseling Center Regarding Competitive Examination :-
All of us very well know that library is soul of every educational institutes, users are also main part of library. User comes to library for searching information regarding their carrier or educational development. Today competition is going on top level, students must aware of this situation. In this context Library and Librarian should play a important role to solve their problems. Library should have very rich collection of competitive examination. Library should invites to gets lecturer for guiding to students for preparing the competitive exam.

Innovative Practices in Academic Libraries:-
1) Computerized Library with some software.
2) Develop Dynamic Library Webpage
3) Virtual Library Tour should be developed and linked to Library website.
4) Develop Web OPAC to know the status of library collection with 24 x 7 accesses.
5) Poster Presentation
6) Library Tour
7) Days Celebration
8) Library WhatsApp groups for Students
9) Digital Reference Service :-

This is new form of traditional reference service. In this type service users may get the answers of their queries online. Users can submit their queries through online or may directly chat with concerned Library staff.

E-Alerting services: - With the help of E-mail or SMS.

E-Resources :-Make available facility of free E-Books, E-Databases, Newspapers for students & indexed them properly, it will help the users in searching information.

Institutional Repository: - Library should develop institutional repository of Question paper, Syllabus, Research papers, Notes etc can be made available for students.

Following IT based practices should be provided to the users.
• On line Assistance
• Information Download.
• Printing facility
• Remote Access to e-resources
• Wi-Fi Access can be given, so that users can use the e-resources anywhere from the institute.
Other Best Practices :-

Book Bank Facility :-
Under this scheme the students who are from very weak economical back ground and promising can be granted two books free of cost for the complete academic years, so that it will result in increased performance in academic, by them.

Special Facility Scheme:-
In this scheme Librarian may provide special concession to students like for the students getting more than 75% marks in the previous examination he can allow to take 5 books for the whole semester to study, accordingly 3 books for students getting 60 to 75% of marks and 2 books for students with 50 to 60% marks. This will lead to the Increased merit and student’s environment.

Reading Room Facility:-
Reading Room can be kept open for 24 x 7 or else at least late hours in night during examination time. Librarian also make an arrangement to keep the question papers of previous examination of every class in the reading hall so that it will be beneficial for the students to study properly, reflecting into increased result of the college, because of Which every element of college becomes happy and satisfied.

Compilation of Bibliography for students & staff for reference.
Apart from regular study book, additional book such as Fiction, Novel etc. can be issued to students to motivate their extracurricular reading habits.

Library Extension Services:-
Following are the Library extension services which should be provided by Library.

- External Membership Facility: - To provide service to the society, this facility is useful, in which membership facility for general users can be given for some nominal fees.
- Inter Library loan
- Document Delivery Service
- Earn and learn Scheme
- Reprography.
- Provision separate desk for Discussion.
- Suggestion Box
- Newspaper clipping services
- Career Notification
- Feedback register
- Departmental Library
- Journal Alert
- Current Awareness service Specially for research students & staff.
- Library Help Desk : - To Guide the users about Library resources.
- Library security:- CCTV camera, 3M technology at entry gate, separate property counter.
- Special Facility for Differently able persons.

Conclusion:-
Innovative practices in libraries for enhancing the quality of teaching learning process and also suggests the new initiatives and practices. Use of technology in the marketing of information products and services is always made good results. All higher education institutions are now in the process of digitization in all their services and sections like admission of students, examination. The Innovative practices help for improving quality of library services. The web based services are essential for providing up-to-date information to all users. The development of any new research is based on the timely and accurate information given to the users, so the libraries must follow innovative practices. Thus undertaking all above innovative practices by every college Library creates its own image in the mind of students and society. The nature of the students to look Librarian became as not only the Teacher but as Information finder. It is observed that the above mentioned innovative ideas can help to enhance the quality of work in academic library.
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Web Resources:

Digital Library

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Abstract:
This paper gives an overview of current trends in digital library research consists of digital library definitions, advantages, functions and services. To develop and implement a successful digital library resources system, it is to identify the most important technological aspects of digital library resources the use of digital databases makes it possible to understand rational growth, research productivity, planning and identification of user information needs. To envision the role and the functioning of digital libraries in India to respond and meet the changing needs of communities.

Keywords: Digital library definition, digital library services Purposes, limitations.

Introduction:
Today we are living in the age of information. The information is a dynamic and unding resource that affects all disciplines and all walks of life. Information also supports education, research and development. The main functions of a library are to acquire information from various sources and arrange process and disseminate them to satisfy the needs of students, academicians and researchers in the right form and at the right time. Communication and information technology has made a dramatic input in the process of information management. It has changed the role of the libraries to a greater extent and with a direct impact on the working condition of the informational Professional and user’s information needs. The developments provided ample new tools or improving access to need based information and sharing of knowledge. Libraries have taken advantages of the new information technologist. To provided a wide range of services and Products. Today CD-ROM Library services to users. Library networks and resource sharing programs have been developed in recent yeas. The Library issuing computer for housekeeping services management support activities, networking, fax, e-mail and internet.

What is digital Library:
A digital library is a collection of documents in organized electronic form, available on the internet or on CD-ROM (compact-disk read-only memory) disks Depending of the specific library, a user may be able to access magazine articles, books, images, sound files, and videos.

Definition of Digital Library:
A digital Library, also called an online library, an internet library, a digital repository, or a digital collection is an online database of digital objects that can include text, still, images, audio, video, digital documents other digital media formats or a library accessible through the internet.

Main purpose of digital library:
The purpose of a digital library is to provide coherent organization and convenient access to typically large amounts of digital information.

History of digital library:
The early history of digital libraries is not well documented, but several key thinkers are connected to the emergence of the can concept. Predecessors include paul of let and Henri La fontanel’s Mundane, an attempt begun in 1895 to gather and systematically catalogue the word’s knowledge, with the hope of bringing about world peace. The visions of the digital library were largely realized a century later during the great expansion of
the internet, with access to the books and searching the documents by millions of individuals on and the world wide web (www)

Vannevar Bush and J.C.R. likelier are two contributors that advanced this idea into then current technology. Bush had supported research that lea to the bomb that was dropped on Hiroshima. After seeing the disaster, he wanted to create a machine that would how technology can lead to understanding instead to destruction. This machined would include a disk with two screens, switches and buttons, and a keyboard. He named this the “Memex”. This way individual would be able to access stored books and files at a rapid speed, in 1956, ford foundation funded likelier to analyze how library could be improved with technology. Almost a decade later, his book entitled “Libraries of the future” included his vision He wanted to create a system that would use computers and networks so human knowledge would be accessible for human needs and feedback would he automatic for machine purposes. This system curtained three components, the corpus of knowledge, the question, and the answer. Likelier called it a precognitive system Early projects centered on the creation of an electronic card catalog age known as online public Access catalog (OPAC) By the 1980, the success of these endeavors resulted in OPAC replacing the traditional card catalog in many academic, public and special libraries. This permitted libraries to undertake additional rewarding co-operative efforts to support resource sharing and expand access to library materials beyond and individual library.

An early example of a digital library is the Education Resources information center (ERIC), a database of Education citations, abstracts and texts the was created in 1964 and made available online through DIALOG in 1967.

In 1994, digital libraries became widely visible in the research community due to a 24.4 million NSF managed program supported Jointly by DARPA’s Intelligent Integration of information program NASA, and NSF itself successful research proposal came for size U.S. universities. The universities included Carnegie Mellon University. University of Michigan, University of Illinois, and university of California sent a Barbara, and Stanford university. Articles from the projects summarized their progress at the halfway point in may 1996. Stanford research, by Sergey Brim and Larry page, led to the founding of Google.

Characteristics of Digital Library:
There are some major characteristics that are
- Variety of Digital information resources.
- Digital libraries reduce the need for physical space.
- Users at Remote
- Provide access to distributed information resources.
- Paradigm shift both in use and ownership
- Ability to handle multilingual content.
- Digital Library breaks the time, space and language barrier.
- Digital information can be used and viewed differently by different.

Digital Library Services:
Digital Library services provides a wide array of services to assist members of the Library with organizing collections of materials or making them more widely available the following services offered by the Digital Libraries.
- Catalogue Databases.
- Current Awareness Bulletins,
- Eternally purchased databases,
- CD-ROM Databases.
- Remote Information services
- Internet Information sources Mirroring & cataloguing.
- E-mail
- Bulletin Board service,
- Netnews system,
- Audio and video communication,
- Electronic Documents Delivery service
- Electronic table of contents,
- Electronic Theses and Dissertations.
- Reference service.
- Electronic publishing
- Discussion groups and forums
- Central storage facilities for Hosting Digital collections and indexes
- Tools for loading, staring, searching and displaying digital object
- Special collections service.

Advantages of Digital Library:
- Digital Library needs no physical boundary you can get access to information whole over the world through the internet connection.
- It can be accessed at any time 24/7
- Same resources can be used at the same time by a lot of users which is called multiple access.
- It provides the right to use much richer content in a more structured manner i.e. you can easily move from one particular catalog to another particular chapter.
- An exact copy of the original can be made multiple times without any waste in quality.
- It does not need much more space because digital information requires very little physical space to content them.
- One digital library can create a link to any other resources of other digital libraries in a very convenient way.
- The maintenance cost of a digital library is cheaper than a traditional library
- It gives user friendly interfaces, giving clickable access to it resources.

Limitations of digital Library:
There are also some limitations of a digital Library as below.
- Lock of screening or validation
- Lock of preservation of a fixed copy.
- Job loss for traditional publishers and librarians.
- Copy right, initial high cost, bond width, speed of access and preservation.

Conclusion:
- In short we can say that digital Libraries can save the time and money of the society by its services. We can use this time and money in services. We can this time and money in other developmental work.
- So digital Libraries other development work so digital library play a major roll in the development of the country of the country. Although this perspective of the “Digital Library” is Predictable because of existing library models, there remains an anachronistic quality to it. Reading the costs, technologies legal issues and Administration of “Digital Libraries” militate against achieving this old paradigm vision.
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A Study: Awareness of Academic Digital library in Higher Education with respect to Arts and commerce students.

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ABSTRACT

Digital Libraries are the best way to upgrade yourself, especially during the COVID time. Digital libraries are the need of the hour, as gateways to knowledge and culture, libraries play a fundamental role in society. The resources and services they offer create opportunities for learning, support literacy and education, and help shape the new ideas and perspectives that are central to a creative and innovative society.

Digital Libraries are a blessing to students, schools, universities, and everyone who loves learning. They are proving helpful, especially today when the coronavirus has badly hit us. With all physical sources of knowledge shut down, there is one thing that has not impeded expertise, and that’s Digital Libraries.

Introduction

A digital library, also called an online library, an internet library, a digital repository, or a digital collection is an online database of digital objects that can include text, still images, audio, video, digital documents, or other digital media formats or a library accessible through the internet. Objects can consist of digitized content like print or photographs, as well as originally produced digital content like word processor files or social media posts. In addition to storing content, digital libraries provide means for organizing, searching, and retrieving the content contained in the collection. Digital libraries can vary immensely in size and scope, and can be maintained by individuals or organizations. The digital content may be stored locally, or accessed remotely via computer networks. These information retrieval systems are able to exchange information with each other through interoperability and sustainability. The purpose of a digital library is to provide coherent organization and convenient access to typically large amounts of digital information.

Promote independent learning by providing a separate space with books of different interests, authors, and publishers. Access knowledge through different ways and principles. Develop the habit of reading and understanding things. Develop intellectual level through genuine information and fictional stories.

Libraries play an essential role in local communities by providing access to information and resources, supporting literacy and education, promoting lifelong learning, and serving as a community gathering space. So the importance of libraries can be experienced by all community members.

Importance of digital library

Digital education helps learners build the skills they need to navigate technology and to get the best out of it. Students of digital education become comfortable with finding, accessing, consuming and sharing content online.

Digital Libraries are the new face of the traditional walk-in library. They are an online database of various digital objects like images, texts, video, audio, etc. Although digital libraries’ service has been prevalent since the last few years, the recent pandemic has made the students more aware of this service. During the lockdown, when students were locked up in their houses, they started exploring the digital platforms, and thus the popularity of
Digital Libraries rose amongst other digital services. Many digital libraries like the National Digital Library of India reached out to students with 3.5 Crore content to enable them to study from their homes.

Digital Libraries certainly have a much broader scope; there are no physical restrictions and have low maintenance costs compared to the old traditional libraries. We shall delve into a little detail and explore the features of a digital library and what makes them different from traditional libraries.

**Features of a Academic digital library**

1) **No Physical walls:**
With the traditional libraries, one has to physically make arrangements and go to a library to access books or other documents. There are no such physical restrictions in the case of digital libraries. One can access it from anywhere, even from the comfort of their homes! All that is required is a good Internet connection.

2) **Multiple Access:**
One main problem in traditional libraries is the restriction in using the same resource by multiple people simultaneously. It is not a problem in the case of digital libraries. Several individuals and institutions can access the same resource at the same time. Mintbook is one such digital library where resources are available to universities, training centers, banking, and even schools. It has a variety of content that matches everybody’s choice.

3) **User friendly :**
DLs are more comfortable to use as compared to physical libraries. All you have to do is search for the title or the author, and you’ll get your book in no time. You don’t have to go from shelf to shelf looking for a book. Moreover, their digital libraries are customizable. Such DLs can be easily customized with your academic requirements by getting integrated with your setup.

4) **Conservation and Preservation:**
Physical books get damaged after being used and reused again. Their pages get torn, and print disappears with time. Thus, DLs have an advantageous position in this area. No matter how many times a resource is being accessed, it will not affect its condition. It remains preserved in its original form for a more extended period. However, it is still debatable whether DLs are the ultimate preservation solution for physical books.

5) **No storage Space:**
The storage capacity of the traditional libraries is restricted due to the limited amount of physical space. On the other hand, there is no such limitation in the case of DLs. DLs can store thousands of resources without facing any difficulties because media storage is very affordable. Mintbook Digital Library has about 10 lakh content stored in more than ten regional languages! Their resources are in the form of videos, e-books, magazines, quizzes, simulation labs, media clippings, etc. They also have annotation features such as notes, highlighter, dictionary, etc. In a nutshell, it has everything you can wish for from a library during this pandemic.

6) **Scope of Improvement:**
Digital Libraries have improved and advanced due to technological changes. In the future, too, we’ll see the improved version of these DLs. For instance, the quality of pictures might improve, removal of visible flaws like discoloration and stains.

7) **More Than a Library:**
Another exciting feature of digital libraries is that it’s not just a library. Its spectrum is broader than the old school libraries. For instance, digital libraries engage with their clients via formal as well as informal mode.

8) **Not Time-Bound:**
The one thing we are all lazy at doing is returning the book to the library. Admit it that we always return the book late, and then what? We pay the late fee. In some libraries, the time you can issue a book is as low as a week. Who can finish a book in a week? Nobody! (unless you’re an avid reader).
Digital libraries also solve this problem. All you need is to pay a minimum subscription price, and then you’ll have access to all of their material until the subscription expires. There is no headache of returning the book on time!

9) Unlimited Knowledge:
Digital Libraries reduce the regional and national boundaries of knowledge. For instance, if someone from one country wants to access books from another country. In that case, he or she can easily access the book via a digital library. A walk-in library can’t include every book in the world, but that’s not the case with Digital Libraries. You can access any text from any corner of the world!

10) No Language Bar:
Apart from having a wide variety of texts and books, a digital library also has texts in many languages. Language isn’t a hindrance to DLs.

11) 360-Degree Virtual Learning Experience:
Some technologically advanced Digital Libraries have a 360-degree Virtual Learning experience. It allows customers to land up in a versatile training program. Apart from academic resources, digital libraries also have vocational content. It indeed does have something for everyone!

Digital Libraries are a blessing to students, schools, universities, and everyone who loves learning. They are proving helpful, especially today when the coronavirus has badly hit us. With all physical sources of knowledge shut down, there is one thing that has not impeded expertise, and that’s Digital Libraries. If you are interested in seeking knowledge, you should not restrict yourself to physical books or resources. Here are 10 advantages of digital libraries that you should know about.

Digital Libraries are the best way to upgrade yourself, especially during the COVID time. It has thousands of resources; it’s economical, easy to use, and easily accessible. Digital libraries are the need of the hour, and switching to them is a decision that you will not regret!

Objective of the Study---
To study the awareness of digital libraries in higher education with respect to Arts and commerce students.

Sub Objective of the study -
· To study the awareness of digital libraries in higher education.
· To study the use of digital libraries in higher education.
· To study the Arts and commerce students participate in searching related materials on digital libraries.

Methodology –
· This research study was based on interview and questionnaire technique.

Sampling——
The sample size was 50 Students of Arts and commerce UG classes from Kamala college were selected for the study.
The questionnaire form was prepared and filled by the students.
Each student was interviewed by asking some questions personally.

Result and Discussions
Digital Libraries are the best way to upgrade yourself, especially during the COVID time.
Digital libraries are the need of the hour,
According to findings the result was -

1. Selected students are studied under regular mode.
2. 83.3% student search there course material with illustrations and videos and are available and use for study.
3. 80.6% students use the digital library
4. 41.7% student search course subject on various digital libraries and 52.8% students use digital library when required.
5. 63.9% student feel that digital library meet the required course material.

The decline in visits to conventional libraries suggests that patrons these days want to access information and read content without visiting a library in person. Many large libraries and universities have already started the digitization process to make the materials accessible to members and the general public. Also, Google has launched the Library Project with the aim to help universities and libraries digitize millions of books. Corporates, of various sizes, have also started analyzing the digital library advantages and have started adopting digital libraries for their employees. Digital Libraries are the new face of the traditional walk-in library. They are an online database of various digital objects like images, texts, video, audio, etc. Although digital libraries’ service has been prevalent since the last few years, the recent pandemic has made the users more aware of this service.

6. 61.1% of students trust the information on digital libraries and 38.9% trust sometimes.

7. Students visited the digital library

8. 72.2% student feel comfortable with the language of digital library

9. Language material preferred to search for study is

10. From the point of view of student, the importance of digital library is--
To search and collect the information
- Digital library is available to every student.
- Go green.
- Every time book available, it is important for educational sector.
- It's very convenient for use!...
- Easy to explain subjects.
- It is a very easy concept & learning easy.
- Digital libraries give access to multiple contents with a potentially infinite number of resources and selections at hand.
- To get more information about the subject.
- Unlimited words are there in digital library.

11. Limitations of digital library is –
- Sometimes information is wrong so please aware.
- Computer viruses, a lack of standardization for digitized information, rapidly degrading properties of digitized material.
- Different display standards of digital products and their associated problems.
- The health hazard nature of monitor radiation, and other factors make digital libraries handicapped at times.
- Some time confused about the information got from the digital library.
- Computer viruses.
- No internet no study.

Conclusion –
Digital Libraries are a blessing to students, schools, universities, and everyone who loves learning. They are proving helpful, especially today when the coronavirus has badly hit us. With all physical sources of knowledge shut down, there is one thing that has not impeded expertise, and that’s Digital Libraries. If you are interested in seeking knowledge, you should not restrict yourself to physical books or resources.

The decline in visits to conventional libraries suggests that patrons these days want to access information and read content without visiting a library in person. Many large libraries and universities have already started the digitization process to make the materials accessible to members and the general public. Also, Google has launched the Library Project with the aim to help universities and libraries digitize millions of books. Corporates, of various sizes, have also started analyzing the digital library advantages and have started adopting digital libraries for their employees. Digital Libraries are the new face of the traditional walk-in library. They are an online database of various digital objects like images, texts, video, audio, etc. Although digital libraries’ service has been prevalent since the last few years, the recent pandemic has made the users more aware of this service.

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Data Mining, Data Warehousing and Bibliomining

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Abstract:
The present paper discusses how the library can use the technique of data mining, warehousing at different levels in libraries. The concept and similarities between of data mining, secondary data analysis, and Knowledge discovery are explained. The use of data mining and data warehousing techniques in libraries has discussed how the new concept of Bibliomining has emerged. Various steps in datamining process explain with the example.

Keywords: Data Mining, Data Warehousing, Bibliomining

Introduction:
Each day, modern library management systems generate a considerable volume of information and data. These data have grown into invaluable sources for data mining and machine learning. The library’s resources play a crucial part in a user's acquiring knowledge. However, with the development of information technology and the widespread use of the Internet, libraries are now able to provide the public more and more e-book materials in addition to traditional paper books. The library system also keeps track of the readers’ information sources and updates existing data to make things easier for users. However, as time goes on, the amount of information will grow, the size of books’ contents will increase, and reader-library interactions will become more challenging. In order to provide data support for library creation, a better system is therefore required to process information data. The issue of enormous data has been resolved by the development of data mining technology. It can rapidly find the books that readers want, as well as assess readers’ reading preferences to suggest literature and make sensible buying recommendations and other problem in libraries.

Data Mining:
The term "Data Mining" describes the process of "Mining" knowledge from massive amounts of data or a data warehouse. Data mining attempts to extract knowledge from stored data by combining artificial intelligence, statistical analysis, and database management systems (Dwivedi & Bajpai, 2004).

The Word Data Mining consist of data and mining. Mining means searching the valuable things means here is searching the Data or information or Knowledge from large amount of data or from big data. In other word It is the process of discovering or mining the knowledge from large amount of data. Another term for datamining is knowledge discovery form data (KDD). According to Online Dictionary of Library And information science the definition of data mining is “The process of using database applications to identify previously undetected patterns and relationships within an existing set of data, for example, common interests among the clientele of a business or other organization.” Data mining is the use of automated data analysis techniques or algorithms to discover the patterns in the correlations of different databases, whether they are observed or unseen (Bin, 2013).

Secondary Data Analysis
The objective of the data mining exercise plays no role in the data collection strategy. This is one way in which data mining differ from much statistics, in which data are often collected by using efficient strategies to answer the specific questions. For this reason, data mining often referred to as “secondary” data analysis (Hand et al., 2013).

Knowledge Discovery in Databases (KDD):
The terms of KDD originated from Artificial intelligence (AI) (Hand et al., 2013). Knowledge discovery, which is the total process of transforming data or raw information into valuable information, includes data mining
as an integral component of the whole process. The processes in this procedure range from pre-processing through post-processing of the data mining results. (Tan et al., 2011). There are two types of knowledge discovery: directed and undirected. Directed Knowledge discovery is Goal-oriented. We may want to anticipate the value of a particular field, assign a predetermined set of classes to every record, or investigate a particular relationship. There are various steps in the directed knowledge discovery method (Dwivedi & Bajpai, 2004).

**Data Warehouse:**

A data warehouse is a system that regularly gathers and organizes data from the source systems into normalized or dimensional data storage. It often retains years' worth of historical data, which can be mined for the purpose of finding patterns for business intelligence or other analytical tasks. (Sarma & Roy, 2010). A data warehouse stores databases created through various computerized processes. For example, many small and large data bases created from various computerized operations of an organization are stored in the organization's data warehouse. After the process is completed, the relevant information is sent to the warehouse without storing in the software. From this repository, useful databases are selected and used for specific data mining analysis (Phadake, 2010).

**Data Ware Housing:**

Data warehousing refers to the procedures of choosing databases that are appropriate for analysis, choosing storage options inside the data warehouse, grouping or structuring the databases, processing the data to make it usable, and so on. A data warehouse is one possible format for such huge databases. Thus, data mining may be done using the data warehouse that was designed here (Sarma & Roy, 2010) (Agarwal, 2014).

**Steps in Data Mining Process:**

1. **Prepare the sample data pattern:** First step is Making a model of the problem pattern based on the provided data or pattern
2. **Data warehousing:** The main goal of data mining analysis Finding and mapping the necessary data patterns from the database, or data warehouse. After searching for useful databases, gathering data, and thus creating an improved database that excludes personal and computerized Confidential sensitive details it is an important phase of data warehousing.
3. **Selection of Algorithm:** The next step in the process is to select a software or algorithm that is appropriate for the targeted problem in mind for data mining. Regression and Classification are the primary algorithms used for this. Regression analysis uses statistical information like weight, speed, and age and Classification algorithms take into account descriptive categories like colour names, gender etc.
4. **Selection of Determining Software:** Remaining last step after Completing above three steps is the selection of software package analysed the data and find the conclusion.

**Application of data mining and data warehousing techniques in library**

Nicholas and Staten first started the discussion regarding the use of data mining and data warehousing techniques in the field of library and Information Science. While doing this, he first coined the new the phrase "Bibliomining" while talking about data mining for libraries. They realized that when trying to find information related to library and information science using the concepts of data mining and data warehousing, the search process leads to library software and databases. The term is related to Bibliometrics in Library and Information Science (Shieh, 2010).

Bibliomining is simply a different term for data mining in libraries, and it too involves several expertise. To provide specific services, to address management problems, or to assist in library decision-making, domain experts, librarians, or library specialists, find the necessary data sources (Nicholson, 2011).
Although it appears that most research in librarianship is currently based on average and aggregate measures, data mining/ tools have made it possible to uncover fresh data patterns. The biblomining technique makes it possible to identify a variety of patterns, including reader group, reader demands, new services for readers, reader satisfaction, and utilisation rate of different resources. Various Steps involving Biblomining Process.

- Identifying the Proper Problem
- Choosing a database from related problem
- Design of a data warehouse
- Selecting data analysis tools
- Data Mining and Data Mining Tools
- Reporting and implementing the conclusion (Sengupta, 2017).

**Identifying the proper Problem:**

It is need to Proper Identifying the problem in our system accurately. Suppose there are some problems in the circulation section or periodical section of the library. When identifying problems, data mining in the manner described above necessitates the application of numerous tools. Additionally, a combination of internal and external databases is needed. Additionally, it is essential to select a broad database format because it becomes challenging to determine the frequency of the samples.

**Choosing a database from related problem:**

After identification of problem second step is selection of databases related to our problem. Several problems necessitate a database of both local and external types. because many a times the record of taking a book from the circulation section disappears from the computer software after the book is returned and after the process of reserving the reading material the record disappears after the process is completed.

**Data Formatting, Data Merging, and Design of Data Warehouse:**

A method for determining inaccurate, incomplete, or unreasonable data and then improving quality by correcting detected errors and omissions. Format checks, completeness checks, reasonableness checks, limit checks, data review to identify outliers (geographic, statistical, temporal, or environmental) or other errors, and data assessment by subject area experts may all be part of the process(Chapman, 2019).

The merging of two or more databases will both identify and create new errors (where there are differences between the two databases) (i.e. duplicate records). Duplicate records should be flagged during merging so that they can be identified and excluded from analysis in cases where duplicate records may bias an analysis, and so on, but they should not be deleted in general.(Chapman, 2019).

Formatting the database of collected data for data mining involves cleaning and anonymising it to remove unwanted data. It is necessary to removing the data which is personal data by keeping the data relevant to the problem. When using the web base method, the user's Login ID, Password, I P Addresses etc. are recorded. As there is a possibility of such data becoming public, cleaning and anonymising process can avoid the risk in this case (Osborne, 2011).

**Example of Data Anonymising:**

<table>
<thead>
<tr>
<th>Table-I:Transaction Database</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Book Acc. No</strong></td>
</tr>
<tr>
<td>7038</td>
</tr>
<tr>
<td>487</td>
</tr>
<tr>
<td>4546</td>
</tr>
</tbody>
</table>
In above Table No. 3 personal information has been removed by data formatting Process so There is no problem to use such data for datamining.

**Data Mining and Data Mining Tools:**

The main objective of data mining is to find the data related to problem and that we can process on it and for that, tools like statistical and artificial intelligence are used. Ready-made software packages are now available for the data mining process such as SAS, SPSS, S-Plus, Darwin, SQL Server, and free We ka Data Mining Suit (Jović et al., 2014).

**Reporting and implementing the conclusion**

The validity of the conclusion is checked by examining the original database at the end of the data mining process, after the report is prepared. Is the conclusion satisfactory? If the results are not satisfactory, the data mining process is repeated with changes. Alternatively, decisions are implemented as agreed.

**Conclusion:**

The concept of data mining and data warehousing was generally used in the corporate sector but the present study referring some literature on it points out that in the field of library and information science it can be used to solve various library problems and find solutions. Tools for data warehousing and data mining of this kind can assist library management systems with effective methods for decision support.

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Abstract:-
In the past few years, the development of information technology has changed the nature of libraries. Progress can be seen in all areas of libraries, including library collections, library services, staff and the facilities provided through the library. Due to the new technology like cloud computing, email, telnet, world cat, RFID etc., the view of the library has changed and it has become an information center. With the help of these media, information is being made available in the information center. What are the various new information access tools are available can studied in this article.
Keywords: - Information Technology, Libraries, RFID, Information Dissemination

Introduction:-
Today's age is known as computer age. If the only place to get knowledge is the library. In the first half of the 20th century, the new technology came into being because of the invention of the computer. Computer started to do most of the human work, during this time the nature of the library is also changed. The library was not only focused on books, periodicals etc. but also videos, Cassettes, Audio Devices. The film has started to fulfill the knowledge needs of the readers. Through the Internet, the reader is getting information about the research courses, literature, Specific Books through the computer. The traditional method used to acquire knowledge has also changed, the use of source material, The concept of publishing e-books is on the rise and its widespread use, hence the study of these new concepts, It has become necessary.

New Technologies of Information Availability:-
Teleconference:-
Mass Communication through electronic media This facility of information is increasing both quantitatively and qualitatively, facilitating discussion E-mail.

Electronic mail:-
Electronic mail has made it possible for computer users to exchange messages locally as well as globally sent through e-mail. Messages are delivered to any part of the world in an instant.

Tel Net:-
Tel Net provides access to online databases through online database, library catalog viewing, Internet chatting etc. are available through internet

News Group:- News groups are the articles and news group discussions can be read and participated in these groups.

Consortia:-
Library Consortia concept is quite new. The subscription of periodicals is based on the convenience of joint payment by libraries. Subscriptions of international periodicals are increasing every year and the prices of foreign exchange also. As a foundation, foreign publishers are forming consortia. Consortia means four libraries jointly subscribe for four copies of a journal and discount is given for each additional copy after the first copy. This concept of consortia has been established by Indian National Digital Library in Engineering, Science and Technology.

Portal:-
A portal is a web site that provides quality information using the internet.
Portal is a search engine which provides connectivity with the outside information ex. Yahoo, Info librarian, Library Website etc

Subject Gateway:-

Yes, Subject Gateway is an Internet based innovative system that provides information and information retrieval tool about selected and high quality sources on a subject. This type of portal consists of two parts. Help There are links available according to this information source. Ex J-gate, J-gate@indest or j-gate@infonet

J Star:-

portal is doing important work of making available the back volumes of J Star journals in electronic format. A database of back volumes of 117 journals in electronic format is made available to libraries through J Star portal. The database is made available by identification number and is a citation-format database that enables researchers to search for information in the literature as well as quality web resources.

MUSE Project:-

Muse is a prominent example of collaboration between a library and a publisher. Full-text high-quality humanities, arts, social science journals published by sixty well-known publishers are available through the Muse Project, which began in 1933 as a joint collaboration between John Hopkins University and the Mr. S. Isen Over Library. Through this project University press periodicals and other publishers periodicals are accessible.

Meta Data:-

Meta data refers to additional elements of information presented about the data that were not previously recorded, such as the information technology tools used to generate the data, the location in the network where the data is located. It describes a collection of sources as well as a portion of a larger source.

Data Mining:-

Data mining is the use of automated data analysis techniques to discover previously undetected patterns in the inter relationships of various databases. The techniques mainly include regression, classification and clustering statistical methods. 3 M Security System. This system is based on electronic or magnetic technology. 3M is one of the leading companies in the development of security systems in America. It is known as 3M includes following tools. This company has successfully tried to use the security method used in department stores for library security. It involves various tools.

1) Security Strips- This is a metal strip which is electronic or magnetically heavy called security strip. It is available in two types, for pasting deep into the pages of books and for pasting into the back binding of books. These strips are pasted into each book. When the book is properly handed to the reader, the magnetic effect is temporarily turned off, and when the book returns to the library, the book is recorded and re-magnetized by the machine and placed on the shelf.

2) 3M Detection System this detection system is an electronic gate or door.

3) 3M Sensitizing Machines

4) 3M Self Check Out Machines are included in 3M Security System

RFID (Radio Frequency Identification):

The term RFID refers to a machine or device using radio waves and is a system based on its interaction with RFID. RFID technology has become available for use in libraries where identification of books with their catalog data, self check out, check in, book sorting, book counting, missing books etc. are done through RFID technology. The unique feature of RFID is that it does not use the barcode method but simply reads the cataloged information of the books through radio waves

World Cat-

The term indicates that a single table of all the libraries of the world is available to all readers. In this, 72 thousand libraries in 170 countries of the world have included their data in this union list.
Scopus:

Scopus is a large abstract and citation format database that enables the researcher to search for information from quality literature web resources. Scopus makes information available to scientists in a fast, easy, comprehensive way.

Cloud Computing- Library can use a combination of information storage, information retrieval, data sharing, command and application tools under cloud computing. It has become possible to use the computing power located in the cloud together.

ADVANTAGES AND LIMITATIONS OF NEW INFORMATION TECHNOLOGY METHODS:–

1) Information technology is a system that provides convenience to the user
2) Enables the user to access a large pool of information
3) The concept of libraries without books is coming into being
4) Difficult subjects are easy to understand due to the influence of audiovisual media
5) Saving money and time
6) High quality, advanced and reliable computer systems must be continuously available
7) Power outages can shut down the system due to lack of network
8) Can't be said to be economically viable
9) Technology Manpower with full knowledge is required. Without knowledge of technology, Facilities cannot be fully utilized

Conclusion-

Today's libraries have changed in modern era. The revolution in information technology has led to the emergence of the electronic age and technological advancements in information storage, retrieval, and communication have made it possible to meet the needs of consumers. Projects have been prepared by implementing various activities in many information centers and it is being used globally. Libraries and Information Centers are working together to meet your needs and save money. Although information technology has played a major role in the modernization process, it has limitations in some cases. Financial provision, infrastructure, technical aspects, environment conducive to adequately trained manpower are also equally important. There is no doubt that future consumers will flock to libraries and information centers in large numbers to satisfy their information needs

References:-

Digital Libraries and their Important

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Abstract:
In this research focus is upon digital libraries and it’s important for various sectors given. E-Library or e-granthalaya is an example of it. With the help of these applications students can take advantage of this facility by registering online. Resources available in the libraries of colleges and universities can be uploaded on it so that other colleges and universities can take advantage of them. The era of learning and teaching is becoming digital. Along with this, the trend of e-library is spreading rapidly in the country. Recently a Private Digital Library has been launched as a commitment to support the Digital India initiative and to increase the reach of e-content across the country. This digital library is also in line with the objectives of the new education policy of the country. Digital Library established by a leading publishing company aims to provide a comprehensive digital learning solution to various educational institutions, teachers and learners of the country. The library will offer a wide range of e-book collections and digital content across multiple disciplines. NIC officials should provide training to the staff and professors posted in the college library regarding the use of the software. With the help of e platforms we can grow together.

Keywords: Technology Library, Digital Library, E-Research, ICT, E-Library, E-Geanthalaya, E-Library.

Introduction:
In this library, readers will not only be able to read books, but will also be able to read content of national and international level through digital medium. Where on one hand readers can read books of their favorite subject, on the other hand books related to competitive exams can also be studied in this library. A mobile app for the members of the digital library is also being developed by the Gwalior Smart City through which readers will be able to read books from the comfort of their homes. Students and participants will also be able to prepare for group discussion, mock interview etc. in this modern library for employment or higher education. There is also a provision of kids play area in this library, which will definitely play a positive role in attracting children towards the library. Giving information, CEO of Smart City, Jayati Singh said that this library has a golden history. Gwalior Smart City has developed this building with new and modern facilities along with returning its ancient glory. Soon another project by Gwalior Smart City in the series of conservation of heritage will benefit the general public.

Institutions are looking at quality rather than quantity of research:
All the regulatory bodies of higher education are emphasizing on the quality of research rather than the quantity of research. From this point of view, he talked about promoting inter-disciplinary research in the university. The research supervisors and research scholars have to follow the norms of research completely they should emphasize on increasing the sample size in social science research, so that the reliability of research findings can be excellent with the help of digital technology. At present, researchers can study various research materials sitting at home. If they do original and quality research, then the name of the university will also be glorified.

Teachers, Research and E-Library:
It is necessary to have uniformity in the policy of all the faculties for research work. Departmental teachers and non-teaching staff should prepare detailed documentation of all researches at the departmental level. The e-library of the University is subscribing to many research journals for latest data and technology. Which researchers will also be able to use online. He said that after giving a modern look to the university library and...
setting up of the Advanced Research Center, the quality of research will improve a lot in the future. Research scholars will also use these facilities online.

Make the most use of technology:

We have to promote technology according to the demand of time. Through modern technology, we can reduce mutual distances. A commendable effort has been made by the authorities to make maximum use of technology. With the introduction of e-library, complete information will be available to the students. There is a need to consider what other efforts can be made in this direction.

Access of Digital Library:

Which book is in which corner of the cupboard. Its information will be available on one click. Apart from this, the date of issue and return of books will also be entered on the computer system only. State government libraries are being modernized under the Digital India campaign of the central government.

This campaign is being run in collaboration with NIC and IT department. In this series, wherever there is provision of computer systems and rooms in schools and colleges in Himachal Pradesh. There from the e-library software itself

Libraries will continue to function. It has been decided to use e-software to modernize the libraries located in all district headquarters including Central Library Solan, Government Library Shimla.

Higher Education Director has issued a letter to all district deputy directors, heads of libraries located in other places including school, college principals and asked them to use the software by contacting NIC and IT department.

About E-Granthalaya app:

Integrate your libraries fast and easily access your favorite e-books online with e-Granthalaya. 1706 Libraries, 6231668 Catalogs and 9157246 Holdings mapped and thousands of millions of members on board. Get access to articles, journals, e-books, news items and online e-resources from around the world with a single click with your member login - no matter what part of the world you are in. Data security: The security of your data depends on how developers collect and share data. Ways to keep data private and secure can vary. These are determined by your location, age, and app usage. This information is provided by the developer and from time to time this information can also be updated.

Digital Library and Education:

E-Granthalaya can be considered a big step in the direction of Digital India and Digital Education. All universities and college libraries have been given rights to use this digital library under e-Granthalaya. Libraries at the local level will give login rights to students. You can consider it like a roll number. With their respective login ID, students will be able to read books of their need and choice from e-Granthalaya, that too at their own time and place at their own convenience.

The biggest advantage of digital library would be that lakhs of students or teachers would be able to read a book at the same time. There will be no need to wait for the issued book to be returned like in a traditional library.

But won't the problem of internet connectivity in remote areas limit the access to e-Granthalaya? In response to this question. At present books are being made available online only, but soon e-books will also be included which can be downloaded and students will be able to read them offline as well.

Conclusion:

Digital Library aims to offer accurate quality content using built-in analytics. This Digital library apps integration for educational institutions will give the advantage of single-sign-on access for students and faculty, which means they can access products across the college system with a single credential instead of requiring a separate login. Can Based on a subscription model over cloud and IP, it will help organizations move to digital and increase cost efficiency by making significant savings on physical infrastructure. Designed keeping in mind
the New Education Policy, this digital library will also act as a one-stop, digital handy repository for students, giving them the freedom to learn on-the-go with hassle-free study material anytime, anywhere. Will get The National Digital Library of India has emerged as the first choice of students for studying from home for undeveloped areas. It was prepared by the Ministry of Education, Government of India.

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Use of Artificial Intelligence and its applications for Academic Library

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Abstract:
Artificial intelligence (AI) is one of the emerging trends and applications of computing in libraries. It involves programming computers to do things, which if done by humans, would be said to require intelligence. The ultimate promise of artificial intelligence in libraries is to develop computer systems or machines that think, behave, and rival human intelligence, and this has major implications for librarianship. The application of artificial intelligence in the library has become pervasive. They include expert systems for reference services, book-reading, and shelf-reading robots in virtual reality for immersive learning among others. Although the incorporation of artificial intelligence in libraries can be perceived to alienate librarians from their users, it will probably help libraries do more rather than take over the jobs of librarians. It will enhance their service delivery. Artificial intelligence will greatly improve library operations and services and will upgrade and heighten the relevance of libraries in an ever-changing digital society.

Keywords: Artificial Intelligence, Expert System, Natural Language Processing, Pattern Recognition and Robotics, Library

Introduction
Artificial Intelligence (AI) according to Nwakunor (2021) is computer-controlled robots that think intelligently like human beings. These robots are controlled electronically with the aid of the computer by mimicking the competencies of the human mind. Artificial Intelligence keeps records and analyses every action being made by the user. As a result of innovation in science and technology, Artificial Intelligence is used in all facets of life for human development and comfort.

In the educational sector, AI is used to teach the little children who are in the playgroup, preparatory, and kindergarten classes to impart knowledge to them using robots as teaching aids to be used in the classrooms.

In the economy and commerce, experts in Integrated Marketing Communications (IMC) are of the view that AI technology is assisting customers’ daily lives thereby making every task and chore easier. Artificial Intelligence will help companies in getting better results in their operations. It is therefore suggested that brand managers and marketers should use artificial intelligence as a game changer to optimize value in an increasingly competitive market. The use of Artificial Intelligence in all facets of life will help to cut wastage and cost of production and delivery of goods and services thereby helping to get a better result in their operations.

In the Academic Libraries scenario, intensive pressure on librarians to provide high-quality services to library users due to the information explosion in our present society has led to the incorporation of modern technologies. Artificial Intelligent has found its way into the library as a chat box that handles directional questions on the library website, overdue alerts, responses to simple informational requests, and directs users to relevant resources in the library. Artificial Intelligent is a collaborative robot used to interact with the human on the library floor and perform complex or repetitive tasks. Artificial Intelligence (AI) is a suitable attempt to replace human power with machines. The adoption of AI in the library will influence the connectivity of information technology and actively support information usage as well as ease clients' search and immediately address their needs. The impact of artificial intelligence and advanced computer technology on the nature of future libraries will be enormous and the quality difference varies among experts (Vijayakumar & Sheshadri, 2019).

Academic librarians have seen Artificial intelligence as a new driving force for the development of the intelligent library. To meet up with the current global trends in librarianship, Librarians have begun to incorporate artificial technologies in the library system to meet up with the current trends in the country. Despite their efforts...
to meet the current trends, there is little or no documentation on the incorporation of Artificial Intelligent in academic libraries in Indian educational institutions. Moreover, most available literature on Artificial Intelligent in libraries was mostly carried out in the western world and developed countries. Little or no documents were available on the application of artificial Intelligent in Libraries in developing countries. There is a need to have a document that will expose the application of Artificial Intelligent in academic libraries.

**Justification for Applying Artificial Intelligence in Libraries**

Similarly, a library was formally defined as a function of the physical building where books were kept for reading and other purposes. However, the definition of a library today has gone beyond the physical building. It now centers on the collections and services offered, since virtual libraries have no physical walls and services could be rendered to users from remote locations. Interestingly, artificial intelligence is the current technology that has evolved with huge prospects and promising applications in libraries. Hence, the need to also explore this tech, and its pros and cons, to adequately maximize its rich benefits for innovative and optimal service delivery in libraries, as Corke (2013) asserted that artificially intelligent systems will be an important technology in this century.

Ultimately, since computers can operate efficiently at a scale and speed beyond human abilities, they will maximize speed, efficiency, and effectiveness in processing library materials and enhance library service delivery at all levels.

**Artificial Intelligence**

The sound of the term artificial intelligence often conjures images of robots or computers that talk. Artificial intelligence is the programming and development of computers to perform human required-intelligence tasks, such as speech recognition, decision-making, visual perception, language translation, talking, and emotional feelings. According to Heath, artificial intelligence is the technology that enables machines to have the ability to plan, learn, reason, solve problems, move, and to some extent be creative. Accordingly, Liu viewed AI as intelligent machines or intelligent systems that simulate human intelligence activities and extend the science of human intelligence.

Artificial Intelligence focuses on non-algorithmic methods for solving problems and symbols. New applications have created great opportunities for informational researchers, such as multimedia systems, digital libraries, GISs, and e-commerce. As the application becomes increasingly powerful, diversified, and pressing, several known problems in finding information became even more important in this technological era. Symbolism is an intelligent simulation method based on logical reasoning to simulate human intelligent behavior.

**Applications of Artificial Intelligence in Libraries**

AI applications allow libraries to change their emphasis and attention. The way we navigate the information is kept altering. AI gives a very useful shortcut to apply this knowledge and produce better outcomes. The libraries are positioning themselves to take advantage of the application of cognitive computing in general
and artificial intelligence in particular for their potential utility as a tool for refining the quality of library services. Below is how Artificial Intelligent could be applied in Academic library services in

i) Applications of Expert Systems in Reference Service:

Reference service is a prime activity of any library and the Expert System will work as a substitute for a reference librarian. Following are some examples of Expert Systems used for Reference Services.

(a) RESEARCH: It is a system that supplies patrons, with the recommended sources to lookup for a certain question. The system can be used to teach students reference skills or as a computerized aid for practicing reference librarians and information specialists.

(b) POINTER: It was the early successful working application of computer systems in the area of reference work. It directs the users to the reference sources; it is not a Knowledge-Based System but a computer-assisted reference program.

(c) Online Reference Assistance (ORA): This system is intended to stimulate the services of an academic reference Librarian for questions of low and medium levels, by using several technologies: a videotext-like database, computer-assisted instruction modules, and a knowledge-based system. ORA consist of Directional transactions like library locations, services, and policies.

(d) ANSWERMAN: A Knowledge-based system to help users with reference questions on agriculture topics. It uses a series of menus to narrow down the subject of the questions and the type of tool needed. It can function as either a consultation system or as a front end to external databases and CD-ROM reference tools.

(e) PLEXUS: This is a referral tool used in Public Libraries. It includes knowledge about the reference process, information retrieval about certain subject areas, reference sources, and Library users. All the above systems are advisory systems for locating reference source books and factual data.

ii) Application of Expert System in Cataloguing:

Cataloguing is one of the oldest library crafts. Recent attempts to automate cataloguing through Expert Systems have focused on descriptive cataloguing because it is considered rule-based (AACR2). There are two approaches for applying artificial intelligence techniques to cataloguing

(a) A human-machine interface, where the intellect effort is divided between the intermediary and the support system; and

(b) An Expert System with full cataloguing capability linked into an electronic publishing system, so that as a text is generated on-line, it can be passed through knowledge based systems and cataloguing process is done without any intellectual input from an intermediary. There has been a problem in every attempt to convert AACR2 into the highly structured rules necessary to run the Expert System.

iii) Application of Expert System in Classification:

Classification is the fundamental activity in the organization of knowledge. For this reason, it is prominent in all systems for organizing knowledge in libraries and information centers. Application of Expert System in the area of classifications in libraries includes the following:

(a) COAL SORT: It is a conceptual browser designed to serve either as a search or an indexing tool. COAL SORT consists primarily of a frame-based semantic network and the software needed to allow users to display portions of it and to move around in the conceptual structure. The expert knowledge in the system is embodied almost entirely in the semantic network. There is no procedural knowledge in the system.

(b) EP-X: The Environmental Pollution Expert (EP-X) has certain things in common with coal SORT in that both are concentrating on enhancing interface using a Knowledge Based approach. The knowledge base of EP-X consists of a hierarchical frame-based semantic network of concepts and a set of templates that express the patterns called the pragmatic relationship among concepts. These patterns are referred to as conceptual information.
(c) BIOSIS: BIOSIS uses a knowledgebase, including a significant amount of procedural knowledge, to assign documents to categories automatically. It is designed as an indexer aid. BIOSIS uses the information in the titles of biological documents to assign as many categories as possible of those that would be assigned by human indexers. The indexing languages are the structured and practical representations of information that can be used to very good advantage of AI applications.

IV) Application of Expert System in Indexing:
Indexing of periodicals is another area where expert systems are being developed. ‘Med Index’ is the best example of indexing system used in the library an indexing activity. Very few library users have interacted with knowledge based systems. In general, users have had very little contact with these systems because most of them are not perfect enough to be used by the everyday library patron.

v) Application of Expert System in Acquisition:
The collection of documents is another integral part of the library. The users of the library have a significant role to play in building electronic collections and their help and advice should be solicited in the process building library collection. The knowledge base has to be broad enough and the interfacing aspect must be easy enough for the library to get the desired information from the machine.

Applications of Natural Language Processing in Library Activities:
To apply this to the field of Library and Information science and more specifically to a searching database such as online public access catalogs Indexing is the basis for document retrieval. Library patrons may not recognize the ambiguity of their search strategy. The use of natural language for Dialog database searches would allow the library patrons to search Dialog database directly, without the assistance of information professional. A patron using an electronic catalog in a library may prefer to have the catalog understand a complete sentence like Find all your sources which contain a mention of natural language processing for the use of Library and information science.» The human librarian has the advantage of being trained in search & query as well as natural language and can act as an intermediary between the machine and the library patron.

In the future, it may be possible to use natural language to access the website also. Library patrons must become computer literate to take the advantage of this new technology.

Application of Pattern Recognition in Library Activities:
In this era of the Internet and distributed, multimedia computing, new and emerging classes of information systems applications have swept into the lives of office workers and everyday people. New applications ranging from digital libraries, multimedia systems, geographic information systems, and collaborative computing to electronic commerce have created tremendous opportunities for information researchers and practitioners. As the application becomes more overwhelming, pressing, and diverse, several well know information retrieval problems have become even more urgent in this network centric information age.

Recent advances in the development of languages and platforms such as Java, OpenGL, and VRML and the availability of advanced graphical workstations at affordable prices have also made information visualization a promising area for research.

Applications of Robotics in the Library Activities:
The goal of Comprehensive Access to Printed Material is to build a robotic, on-demand, and batch scanning system that will allow for real-time browsing of printed material through a web interface. The user will engage the CAPM system that, in turn, will initiate a robot that will retrieve the requested item. The robot will deliver this item to another robotic system that will open the item and turn the pages automatically. By using existing scanners, optical character recognition software, & indexing software developed by the Digital Knowledge Centre, the CAPM system will not only allow for browsing of images of text, but also for searching and analyzing of full-text generated from the images.
In libraries, AI is used in search functionality. Specific examples include DynaMed and Micromedex with Watson and Expert.ai’s connection in EBSCO. Other ways AI is in libraries are through chatbots, training others on AI capabilities, and research.

AI has penetrated the world of librarians and researchers in the form of chatbots that can answer directional or simple questions, alert when a new book is published, and direct a customer to specific library resources.

https://www.slideshare.net/MuhammadYousufAli/artificial-intelligence-role-in-libraries

➢ List of AI Tools & Frameworks

From the dawn of mankind, we as a species have always been trying to make things to assist us in day to day tasks. From stone tools to modern day machinery to tools for making the development of programs to assist us in day to day life. Some of the most important tools and frameworks are:

- **Scikit Learn**
  Scikit-learn is one of the most well-known ML libraries. It underpins many administered and unsupervised learning calculations. It includes a lot of calculations for regular AI and data mining assignments, including bunching, relapse, and order.

- **TensorFlow**
  On the off chance that you are in the realm of Artificial Intelligence, you have most likely found out about, attempted, or executed some type of profound learning calculation. Is it accurate to say that they are cool when done right? Truly! So you don’t need to compose at the C++ or CUDA level to keep running on GPUs. It utilizes an arrangement of multi-layered hubs that enables you to rapidly set up, train, and send counterfeit neural systems with huge datasets.

- **Theano**
  Theano is wonderfully folded over Keras, an abnormal state neural systems library that runs nearly in parallel with the Theano library. Keras’ fundamental favorable position is that it is a moderate Python library for profound discovery that can keep running over Theano or TensorFlow. What sets Theano separated is that it exploits the PC’s GPU. Theano’s speed makes it particularly profitable for profound learning and other computationally complex undertakings.
Caffe

‘Caffe’ is a profound learning structure made with articulation, speed, and measured quality as a top priority. It is created by the Berkeley Vision and Learning Center (BVLC) and by network donors. Google’s DeepDream depends on Caffe Framework. This structure is a BSD-authorized C++ library with Python Interface.

MxNet

It allows for trading computation time for memory via ‘forgetful backprop’ which can be very useful for recurrent nets on very long sequences. Built with scalability in mind. Lots of cool features like easily writing custom layers in high-level languages.

Keras

It is a high-level library for neural networks, using TensorFlow or Theano as its backend. The majority of practical problems are more like picking an architecture suitable for a problem, for image recognition problems – using weights trained on ImageNet, configuring a network to optimize the results.

PyTorch

PyTorch is an AI system created by Facebook. Its code is accessible on GitHub and at present has more than 22k stars. It has been picking up a great deal of energy since 2017 and is in a relentless reception development.

CNTK

CNTK allows users to easily realize and combine popular model types such as feed-forward DNNs, convolutional nets (CNNs), and recurrent networks (RNNs/LSTMs). It implements stochastic gradient descent (SGD, error backpropagation) learning with automatic differentiation and parallelization across multiple GPUs and servers. CNTK is available for anyone to try out, under an open-source license.

Auto ML

Auto ML is probably one of the strongest and fairly recent additions to the arsenal of tools available at the disposal of a machine learning engineer. While the benefits reaped from them are lucrative, success in determining optimal hyperparameters is no easy task. Thus we enter a new realm of meta, wherein software helps up build software. AutoML is a library that is used by many Machine learning engineers to optimize their models.

OpenNN

Jumping from something that is completely beginner friendly to something meant for experienced developers, OpenNN offers an arsenal of advanced analytics. It features a tool, Neural Designer for advanced analytics which provides graphs and tables to interpret data entries.

H2O: Open Source AI Platform

H2O is an open-source deep learning platform. It is an artificial intelligence tool that is business oriented and helps them to decide data and enables the user to draw insights. There are two open source versions of it: one is standard H2O and the other is paid version Sparkling Water. It can be used for predictive modelling, risk and fraud analysis, insurance analytics, advertising technology, healthcare, and customer intelligence.

Google ML Kit

Google ML Kit, Google’s machine learning beta SDK for mobile developers, is designed to enable developers to build personalised features on Android and IOS phones.
The kit allows developers to embed machine learning technologies with app-based APIs running on the device or in the cloud. These include features such as face and text recognition, barcode scanning, image labeling and more.

Developers are also able to build their own TensorFlow Lite models in cases where the built-in APIs may not suit the use case.

**Top 10 Artificial Intelligence Apps in the market**

01. **Replika**
    Replika, widely regarded as the best AI buddy, converses with her users as if she were a person. It was initially created for Apple users, but it is now available for Android users as well. The software may learn user preferences and behaviours, starting with general replies and progressing to more detailed and personalized ones.

02. **DataBot Personal Assistant**
    It is an AI-based mini pocket robot that works as a personal assistant for you. You can engage with it by asking questions, talking, and having discussions, DataBot is a virtual assistant powered by AI that is accessible on Windows 10, Android, and iOS.

03. **Google Assistant**
    Google Assistant is a virtual assistant software application developed by Google that is primarily available on mobile and home automation devices. It is built on a set of technologies designed to handle languages such as English, Español, German, French, Italian, Japanese, Portuguese, Chinese, and many more. Users may interact with Google Assistant using natural speech and keyboard input.

04. **Alexa**
    Alexa is Amazon’s artificial intelligence-powered robotic assistant. Typically, Amazon Alexa improves voice commands, natural language processing, and other technologies to give a broad range of capabilities to its consumers, such as voice interaction, music streaming, query resolution, and so on. Alexa converts speech to text and utilizes Wolfram language to deliver the best responses to all of the clients’ questions.

05. **Microsoft SwiftKey**
    Microsoft SwiftKey is a virtual keyboard app originally developed by TouchType for Android and iOS devices. Apple implemented third-party keyboard support. Microsoft SwiftKey is an intelligent AI-based keyboard that comprehends your writing style, so you can type quicker, faster, and better.

06. **FaceApp**
    FaceApp is one of the best AI apps for Android phones. It helps users in editing their pictures. For example - you can turn your selfie.

07. **Fyle**
    Fyle is an AI-powered expense tracking programme that is available for PC, Android, and iOS. Fyle is a significant player in smart expenditure accounting, and it has announced direct connectivity with Google G Suite and Microsoft Office. Fyle is used by companies like Royal Enfield and Communicorp.

08. **ELSA**
    ELSA - Learn English Speaking
    ELSA Speak is popular AI-assisted English language learning software. This programme allows users to practice pronouncing English and conversing in the
language in short bursts. They can hope to make rapid progress since AI gives them timely evaluations.

**09. Youper**

Youper is an AI-powered mental health assistant app accessible on both Android and iOS. When individuals can connect with them quickly, this software can help them take care of their mental health. Users can be guided via customised meditations by Youper. With the help of Youper, users may better understand themselves and track their moods.

**10. Siftr**

Siftr allows educators and scientists to easily build their own field work activities. Siftr is used by teachers, field researchers, citizen scientists and other curious people. Siftr makes it easy to focus a class or group around a specific topic and take them outside a formal classroom or lab to learn in the real world. It allows users collect and sort data like location, photos, and observations.

**Conclusion**

The applicability of AI in areas, such as cataloguing, classification, documentation, and collection development, etc. Every year it seems to get better. All spheres will certainly spheres will accept AI in the near future with examples of those who are proficient with AI techniques being introduced. The application of artificial intelligence in academic libraries has been seen as a new driving force for the development of intelligent libraries. Librarians use artificial technology in some specific areas of their libraries to meet global trends. The new trends of applying AI in library operations in academic libraries are as follows: expert systems in the comparison of services, cataloging, classification, indexing, acquisition, and artificial intelligence of natural language processing in library operations, pattern recognition in library operations, and robotics in library operations. Therefore, the application of AI to library services takes away from the complex and dependent work that people can encounter errors and minor failures, help to access research work, lack of human contacts and human substitution.

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Application of Social Networking Tools in Libraries

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Abstract:

In the age of Information and Communication Technology, everyone is connected with each other by means of various social networking tools like face book, twitter, LinkedIn, Blogs etc. This became an effective medium to share the knowledge and skills of the users and library professionals. The present paper describes various social networking tools and its uses, purposes and benefits of using these tools to enhance the library services also discusses the application of chat bots to connect with library users.

Key words: Social networking tools, Library, Chat bots, Artificial intelligence

Introduction

The World Wide Web now enables people to gain access to information, create content as well as disseminate ideas more efficiently. Social networking sites initially emerged for Internet users to find long-lost Classmates, friends and relatives, link with each other and share their profiles. The wide application of social networking in different contexts appears having included universities and libraries (Boyd and Ellison, 2007). The academic libraries could take the opportunity of using these social networking tools to disseminate information, market services and promote new releases (Burkhardt, 2010).

What are social networking tools: Alexander (2006) offered a broad definition: Social networking can encompass almost all collaborative environments employing web 2.0 technologies. In particular, social networking websites allow users to share interests and communicate with others (Boroughs, 2010). According to Connell’s survey results, if a library wanted to use social network sites effectively, librarians should be cautious in establishing communications and relationships with their students, friends and avoid ‘mass friending’. It appears that the uptake of social networking as tools for libraries needs to be understood further to pave the way for harnessing its potential benefits.

Technology is changing the way; today’s users thrive on social networking tools like Face book, Twitter, Foursquare. Chat bots are usually not included in this grouping but they engage users with playful interface. Chat bots as another tool for reaching users who expect more than a flat website. Chat bots also known as conversational agents, artificial conversation entities, or chatterboxes are computer applications that imitate human personality. A chat bot is interactive, responding in sentences that track the conversation in a way that is meaningful to mankind. It is a program with a certain level of artificial intelligence which communicates with a person or another chat bots in order to give the observer of the conversation impression that it is a conversation with a real person.

2. Objectives
   ● To examine factors that might influence libraries decisions on using social networking tools
   ● To describe librarians’ perceptions of the usefulness of social networking tools for information sharing
   ● To examine the application of social networking tools in academic libraries

3. Different Social networking tools
   ● Face book
   ● Instant Messaging
   ● Twitter
   ● Blogs
   ● Flickr
4. Purposes of using social networking tools in libraries
   - Sharing of Information
   - Links sharing
   - Photo sharing
   - Sharing library videos (for instructions/ guides)
   - Video sharing
   - Marketing and publicity
   - Public relations
   - News dissemination
   - Library notices
   - List of current and new library collection
   - Enquiry services
   - Online reference services
   - Interaction with students
   - Monitoring publications and conferences
   - Staff communication
   - FAQ

5. Launch year of various social networking tools

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<th>Wiki</th>
<th>Weblogs</th>
<th>MSN Messenger</th>
<th>Linked In My space Delicious</th>
<th>Flickr</th>
<th>Face book (Harvard only)</th>
<th>You Tube, Windows Live, Messenger (re-launch of MSN messenger)</th>
<th>Twitter, Face book (everyone)</th>
<th>Issuu</th>
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Benefits/Advantages using social networking tools
   - Promotion of Library services and facilities
   - Disseminates news quickly
   - Enhances reference services
   - Enhances interactions with users
   - Reaches out and engages users
   - Helps to gather users’ feedback
   - Communication
   - Economical

Challenges
   - Demands mastery of new and evolving technology
   - Requires time and manpower
   - Needs to attract users to take part in different platforms
   - Reluctant staff
   - Relatively unengaged users

Chat bots in Libraries
   It is automatic conversation system. Chat bots or Virtual agents offer a self-service option for our online customers in the context of Information services. The Chat bot’s designer creates a structure that leads the user
through question-and-answer dialogue to discover the information needed and to provide it. The chat bots can be particularly convenient and helpful to those patrons who are least familiar with the library and its services. A library chat bots could answer a variety of questions like questions about hours, locations, upcoming events, registrations. A chat bots could tell a user when their books are due, or take fine/ payment information. Face book messenger chat bots to operate within face book messenger. Chat-based reference could answer basic library questions, freeing up library staff’s time to answer or focus on other tasks.

Christensen suggest that chat bots:
- Were selected more frequently than other forms of digital reference
- Provided instant responses
- Made asking questions easier
- Provided marketing tool for reference services.

8.1 Application and Usage

8.1.1 Virtual Greetings to the Users
Chat bots welcome users to the Library website, by providing a friendly greeting on their virtual visit, guiding and helping them finding relevant information.

8.1.2 Making users aware of the library resources through personalized, seamless experiences
Chat bots serve as a virtual library assistant, with intelligence, enabling library users to locate resources quickly and effectively. Users can put forth their queries, interact, navigate through website and access documents.

8.1.3 Engage library users across every language, culture and locate
Chat bots allows creating multilingual virtual assistants that can understand and interact with users in their native language, eliminating language barriers more effective and affordable.

8.1.4 Intelligent virtual assistants as universal bots
Coordinate tasks from multiple specialized virtual assistants provide library users with a consistent intelligent virtual assistant experience by linking individual virtual assistants together to create a universal virtual assistant. It allows users to access multiple virtual assistants from a single chat.

8.1.4 Auto Dialogue Generation
Intelligent virtual assistants/ Artificial Intelligence (IVA/AI) chat bots uses conversation transcripts to have complex and meaningful conversations with users at scale to create dialogues matching natural flow of human conversations.

Conclusion

In the present scenario, social networking services have become one of the largest online platforms in the world of sharing real time information. Social networking tools would help to establish a cordial relationship between librarian and users for marketing library services, announce library programs on the wall and so on. Library users required to aware about social networking services and sufficient training should be imparted to staff to accomplish the task of planning social software in library. Library professionals must take the responsibility of planning, organizing and implementing social networking tools in Library and Information centers.

References
Mobile Applications Used in Academic Libraries

Rekha Sandeep Kale (Librarian)
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Abstract
Library services undergone significant changes with the adoption of information and communication technology. It has got a further dimension with the application of mobile devices/mobile technology which augments library services to greater extent. This paper presents an outline of the application and use of developments in mobile telecommunication systems. This new technology will be great help to libraries towards strengthening their relationship and provide enhanced user experience to existing users.

KEYWORDS- Mobile devices in education, M-learning or mobile learning, Applications of Mobile phones, Mobile Collections, Mobile Optimized Academic library Website, Applications of Mobile Services In Academic Libraries.

Introduction
Human history has gone through different phases and witnessed different revolutions. Information. Now a day information and communication technology (ICT) is the most important part of the human life development. The focus of this paper is on hand-held mobile devices like PDA and smart mobile phone although the phrase ‘Mobile Devices’ is used to access information through internet on a daily basis.

Mobile devices in education
Mobile technologies are playing an increasingly important role in education and academic lives. Devices such as smartphone, tablets, Ipads and e-book readers connect users to the world instantly, increasing access to information and enabling interactivity with others. Mobile device are playing a great role in all these activities by providing many benefits to students, teachers, parents etc. Application that run on these device let users not only consume but also discover and produce content (2012) Dahlstrom. The changing education technology theory research and pedagogy are re-conceptualized to provide better opportunities and learning to the students and academic fraternity. Mobile device are now being used as research tools and e-book readers, for SMS chatsrooms, group chat rooms for classes, Photo sharing for academic documents and mobile diaries and to set reminders make notes and organize schedules, Connect with guest speakers in classrooms via skype and scan QR Codes for use as a reference point for assignments and projects (2014) Lepi.

M-Learning or Mobile learning
M-learning or mobile learning is defined as "learning across multiple contexts, through social and content interactions, using personal electronic devices". Using mobile tools for creating learning aids and materials becomes an important part of learning is convenient in that it is accessible from virtually anywhere.

Applications of Mobile Phones
The wireless technology and mobile phone are becoming an integral part of everyday life and are changing the way one connects and interacts with the world. Messaging, News Hunt, Play Books, Email, Gmail, Alerting Service, Online Catalogue, You tube, Face book, Whatsapp.

Mobile Collections-
Mobile Collections Substance contributor is collaborater through libraries to transport audio books, e-book, audio language courses, streaming music, films, images, and other multimedia that can be on mobile devices.
Mobile Optimized Academic Library Website-

With the help of mobile optimized library website library may offer the following Information Service

Mobile library catalogue plus loan related services, information about opening house, Directions to the library information on how to contact the library via multiple channels (Chat/SMS/Phone/Email/Whatsapp/Facebook) links to mobile enabled web 2.0 accounts, such as twitter, Flicker, YouTube, Facebook, floormaps, News about library events, content for download od podcasts, videos.

Applications of Mobile Services In Academic Libraries

1) SMS Alert Services
   
   The steps involved collection of mobile phone numbers setting up a centralized SMS service center and sending group SMS via a network According to him the information that can be applied in centralized SMS Mayer(2012)
   
   - Reading List the books which are in the library
   - Lectures, Meeting Schedule exam dates
   - To Send SMS to collect the requested books
   - New title announcement examan
   - Multimedia borrowing notification services
   - Concede the user about renewal of a book
   - Mobile Library instruction
   - Strike a card the user if book is due in his/her account informing user about the exact fine
   - News and event remide service this service sends reminders to patrons about important news, exhibitions instructions, further more as a result taking place
   - Mobile Phones application QR Code use read to e-book and e-journal

2) OPAC Service

OPAC use in mobile Application devices . OPACs mobiles online public access catalogue, New title preview mobile device container is wone to ward flow the information regarding recently acquired papers which are of irrespective of apperane.

3) Reference Service

Library users can ask librarians nomatter which during the exits talk plus texting through mobiles. The orientation services know how to exit provided through the lend a hand of transport and getting SMS.

4) E-Resource Services

Library users can be use e-resource service in mobile application any were any time open e-book and e-journal.

5) CAS Services

PDF Question paper services providing to user and syllabuses information giving to user Job, examination information providing to user

6) Wireless application in information and library services

Wireless technology has the potential to offer may new possibilities for accessing information from online catalogue, Online database, Internet and virtual library .Among the wireless technology include digital cellular technology, Pocket Radio and wireless local area network. Today the convergence of mobile phone and the internet technology WAP.

Advantages Mobile Technology

- Save time of the reader
- Low Coast
- Anytime any place access to the information
- One time more than people access information
- Every user helps learners to improve on yourself for checking record
- In receipt of alerts on outstanding fines
- Receiving reminders to return library items that will be due soon
- Renewing library items

**Conclusion**

Mobile Application has emerged as the important technology as it is used to access information through Internet as on a daily basis. At the same time libraries must exist promote. It is extremely necessary for libraries to be active and modify their viewpoint to accept new technology and to build up fresh variety of associations among users.

**Reference**

Abstract

Academic libraries have undergone significant changes in recent years, and these changes have had a significant impact on faculty and students. One major change that has occurred is the shift from physical books to digital resources. Many academic libraries now have vast collections of electronic books, journals, and databases that can be accessed remotely by faculty and students. This has greatly expanded the resources available to researchers and made it easier for them to access the information they need. However, it has also led to some challenges, such as the need for faculty and students to learn new search techniques and the need for libraries to ensure the reliability and accessibility of digital resources.

Overall, the changing nature of academic libraries has had a significant impact on faculty and students. While it has greatly expanded the resources available to researchers, it has also created new challenges that must be addressed, for that the present research has thrown light on the changing nature of academic libraries and their impact on faculty and students.

Introduction:

The iconographic power of a college or university library expresses a purpose not just to collect, but also to organize, preserve, and make knowledge accessible. Today on the campus of virtually every higher education institution the library occupies a central position. In its placement and prominence, the academic library conveys its integral role in supporting higher education’s core missions of research and education.

Academic libraries have undergone significant changes in recent years, as technology and the internet have transformed the way students and faculty access and use of information. The changing nature of academic libraries has a significant impact on the faculty and students conduct research, access resources, and interact with library staff.

Objective of the study:

To study the changing nature of academic libraries and its impact on faculty and student.

Research Methodology:

The present study is the purely descriptive type which exclusively relied on secondary information. The necessary information has been collected from my own observations and Books, Journals in libraries.

Changing nature of academic libraries and its impact on faculty and student

One of the most significant changes in academic libraries has been the shift from print to digital resources. With the increasing availability of digital books, journals, and databases, students and faculty are able to access a wealth of information at their fingertips, without the need to physically visit the library. This has made research more convenient and efficient, but it has also raised concerns about the preservation of print materials and the implications for students and faculty who lack access to reliable internet.

Another important change in academic libraries has been the emergence of new technologies, such as virtual reality, artificial intelligence, and data visualization tools. These technologies have the potential to enhance the research experience for students and faculty, but they also raise questions about the cost and accessibility of these tools for institutions and individuals. The changing nature of academic libraries has also an impact on the role of library staff. With the increasing emphasis on digital resources, librarians have had to adapt their skills to
provide support and guidance in the use of digital tools and resources. This has led to the development of new roles for librarians, such as digital scholarship librarians and data management librarians.

Academic libraries have undergone significant changes in recent years, with the advent of new technologies and the shift towards digital resources. These changes have had a significant impact on the way that faculty and students use and interact with academic libraries.

The shift towards digital resources has a major impact on academic libraries. As more and more scholarly literature and other research materials are made available online, academic libraries have had to adapt to this new reality by investing in digital collections and providing access to a wide range of online resources. This has led to a decrease in the need for physical space to store books and other materials, and has enabled academic libraries to provide access to a wider range of resources to their patrons. In addition to the shift towards digital resources, academic libraries have also had to adapt to the changing needs of faculty and students. With the increasing use of mobile devices and the growing popularity of online learning, academic libraries have had to provide access to resources and services that are easily accessible from anywhere, at any time. This has led to the development of new technologies and services, such as mobile apps, online chat reference services, and virtual research assistance.

Despite the many changes that have taken place in academic libraries in recent years, the role of academic libraries as a place for learning and research remains unchanged. As academic libraries continue to adapt to the changing needs of faculty and students, they will continue to play an important role in the academic community.

One of the major impacts of the shift towards digital resources has been the increased accessibility of academic libraries. With the rise of online databases, e-books, and other digital resources, students and faculty can access academic materials from anywhere, at any time, as long as they have an internet connection. This has made it much easier for students and faculty to conduct research, access scholarly literature, and collaborate on projects, regardless of their physical location.

Another important impact of the shift towards digital resources has been the ability of academic libraries to offer a more personalized experience to their patrons. With digital resources, academic libraries can provide customized recommendations and suggestions based on a patron’s browsing and search history. This helps to ensure that patrons are able to find the resources they need quickly and easily. Additionally, digital resources can be easily integrated into online course management systems, making it easy for faculty to include digital resources in their syllabus and assignments.

In addition, academic libraries are now providing more services that cater to the needs of the students and faculty. For example, many academic libraries now offer online chat reference services, virtual research assistance, and research consultations, making it easy for students and faculty to get the help they need, when they need it. Additionally, many academic libraries now provide workshops and training on the use of digital resources, which helps students and faculty to take full advantage of the resources available to them.

However, the shift towards digital resources has also brought some challenges to academic libraries. One of the major challenges has been the issue of information overload, where students and faculty are faced with an overwhelming amount of digital resources and information. This can make it difficult for students and faculty to find the information they need, and can lead to confusion and frustration. Additionally, the shift towards digital resources has also led to the issue of information inequality, where some students and faculty may not have access to the same resources as others. This can put them at a disadvantage and can lead to an uneven playing field when it comes to research and learning.

Another challenge that academic libraries are facing is the issue of preservation of digital resources. Digital resources are often subject to obsolescence and can become inaccessible if the technology used to create or access them becomes outdated. This can lead to the loss of important information and can make it difficult for future researchers to access the resources they need. Additionally, digital resources can be vulnerable to cyber threats, such as hacking and data breaches, which can lead to the loss of important information.
In order to address these challenges, academic libraries must continue to adapt and evolve to meet the changing needs of faculty and students. One way to do this is by investing in new technologies and services that can help to manage and organize digital resources, making it easier for students and faculty to find the information they need. Additionally, academic libraries must also invest in preservation and security measures to ensure that digital resources are safe and secure, and that they can be accessed by future researchers.

**Conclusion:-**

In conclusion, the changing nature of academic libraries has been a significant impact on the way that faculty and students use and interact with academic libraries. While the shift towards digital resources has made academic libraries more accessible, personalized, and responsive to the changing needs of faculty and students, it has also brought some challenges such as information overload and preservation. To address these challenges, academic libraries must continue to adapt and evolve to meet the changing needs of faculty and students, by investing in new technologies, services, and preservation and security measures. Academic libraries will continue to play an important role in the academic community and will be vital to the success of students and faculty.

**References**

Use of E-Wallets for Library Transaction

Vandana Govind Kelkar
Librarian
Yashwantrao Chavan Mahavidyalaya, Halkarni.

Abstract:-
The purpose of this paper is to describe the utility of e wallets I day to day financial transactions. Now days all type of transactions are online. Libraries are also included in it. E wallets interface, types are described here in detail in the paper. Government of India’s financial transactions are moving towards cashless. Advantages and challenges are also described in the paper.

Key wards:-e wallet, UPI, Digital Payment ecosystem

Modern economy develops with exchange of money payments. Payment represents money transfer from as assets to service of to seller. The origin of the payments cam be found in the antique barter system. Due to digital technological innovations computer networks used to make financial transactions as well as for the transfer of funds among different institutions as well as for the transfer of fund among different institutions. Now a days many companies have chosen to use the technology system in each of their business activities on of which is the existence at a digital wallet.

The development of information technology has brought changes to all aspects of human life. One of which is the creation of digital wallet. Digital wallet is a part of electronic money which is on of the innovations in payments instruments. Electronic wallet is a digital payment instrument that uses server based electronic media. With this technological innovation in payment instruments we are moving towards cashless economy.

Government of India Initiatives:-
The government demonetization initiative taken in 2016 encouraged a cashless economy in India. In the pandemic, the government launched Unified payment Interface (UPI) and rapidly established e payments startups. Cashless economy is the flow of money via digital means mobile wallets, debit cards, credit cards or net banking without using cash. Today smartphone in the economic range can provide quite a decent access to the digital world as well Government’s initiatives to regulate and limit the flow of cash are leading India’s path towards a cashless economy.

Mobile Wallet :A mobile wallet is a way to carry cash in digital format. You can link your credit Card information in mobile device to mobile wallet application or you can transfer money online to mobile wallet. Instead of using your physical plastic to make purchase, you can pay with your smart phone tablet or smart watch. An individual’s account is required to be linked to the digital wallet to load money in it. Most banks have their ewallets and some private companies. E. g. Paytem, Free charge, Mobikwik, Oxigen, mRupee, Airtel Money, jio Money, SBI Buddy, itz Cash, Vodafone M-pesa, Asis Bank Lime, ICICI pockets SpeedPay etc.....

Fig . Mobile Wallet

Most Prefered e wallets:-There are various types of e wallets options available in the market and people use them as per their comfort and user interface of that application:- PayTm, AmazonPay, Phone pay, Google pay, Bhim UPI
Fig 2  UPI (Unified Payment’s Interface) interface.

Fig. 3 Mobile Wallets

**Types of Wallets:** The RBI classifies everyone of cashless fund transfer using cards of mobile phones as “prepaid payment instrument” They can be used as smart cards, magnetic strip, Net accounts, Net wallets, mobile accounts, mobile wallets. They are classified in to four types.

**i) Open Wallets:** These allow you to buy goods and services, with draw cash at ATM or banks and transfer funds. These services can only be jointly launched in association with a bank. Apart from the usual merchant payments it also allows you to send money to any mobile number linked with a bank account M-Pesa by Vodafone is an example.

**ii) Semi Open Wallets:** You cannot withdraw cash of get it back from these wallets. In this case, a customer has to spend what he loads. For example Airtel money /Ola Money is a semi open wallet, which allows you to transact with merchants having a content with Airtel/ola.

**iii) Closed Wallets:** This is quite popular with e-commerce companies; wherein certain amount of money is locked with the merchant in case of cancellation or return of the product of gift cards. Flipkart and Book My Show wallet are an example.

**iv) Semi-closed wallets:** These wallets do not permit cash withdrawals, but it allows you to buy goods and services from listed vendors and perform financial services at listed location. Paytm is an example.

**Digital Payment ecosystem in India:** One of the major objectives of Digital India is to achieve “faceless, paperless, cashless” status. The promotions of digital payments has been accorded the highest priority by the government of India to bring each and every segment of our country under the formal fold of digital payment services. During the last three years, digital payment transactions have registered unprecedented growth in India. BHIM-UPI has encouraged as the preferred payment mode of users.
E wallets for library transactions: Our Government is encouraging for cashless transactions. Our affiliated university has also ordered all colleges to do cashless transactions. University Grants Commission is also insisting for cashless transactions. Library is not an exception for that. We all librarians are using G pay or Phone pay, Net banking, for our day to day transactions. We are purchasing the books online via Amazon or flipkart. Amazon and flipkart are also a part of e wallet. We all librarians are sending the subscriptions of periodicals through mobile app by using G pay or net banking of our college account or personal account. It is very easy and save out time. We can send the screen shots of our payment details with transaction I D. It is authentic. This online payment mode is very useful for our library transactions.

Advantages of using e wallets:
- **Convenience:** You will no longer need to carry wards to cash, que for ATM withdrawals. It is also a safer and easier spending option when you are travelling. You will have freedom to transact whenever and wherever you want.
- **Tracking spends:** All the time transactions are on record. It will be very easy for people to keep track of their spendings.
- **Lower Risk:** If stolen, it is easy to block mobile wallet remotely. It is impossible to get cash back. This is especially true while travelling, the loss of cash can cause great inconvenience.
- **Small Gains:** You can pay exact amount without worrying about not having change or getting it back from shopkeepers.
  - Digital Transactions by ewallet are convenient and improve market efficiency.
  - A lot of data transfer happens due to cashless transactions. This data will help the government to plan for future expenses.
  - Circulation of fake currency notes can be curbed.

Challenges in transitioning to online mode (e wallets):
- **Digital and financial literacy:** Ensuring financial and digital inclusion alone are not sufficient. The citizens should also be made aware of the financial and digital instruments available and how to transact using them.
- **Cyber Security:** Digital infrastructure is highly vulnerable to cyber attacks, cyber frauds. Establishing secure payment interfaces is a prerequisite for going cashless. This includes defence against attacks, data protection, institutionalised cyber security architecture.
- **Urban Rural Divide:** While urban centers mostly enjoy high speed internet, semi-urban and rural areas deprived of stable net connection. India has more than 20 million smartphones but still away to transact through mobile phone.
Technical Literacy:-For computer of mobile related financial transactions, man should be technically sound enough. People are using smart phones but they are not using the e wallets. Because they don’t have knowledge of using the e wallets because they don’t have knowledge of using transaction app of e wallets. Technical literacy increasing rate is little bit slow in India.

Conclusion :-

Online education, online money transfer are the buzz words since 2019. This is the influence of corona pandemic. Demonetisation has also done a lot of effect on increasing online financial transactions. All types of libraries are using internet facilities for their day-to-day transactions. Libraries are using their own app. All financial transactions are done through e wallet. It is very easy and save the time of time. According to National Education policy 202 we all have to become techno savvy persons and have to adopt new changes in the educational world.

References:-
The Contribution of Newspaper Libraries of Marathi Newspaper in Information Communications Published in Maharashtra State

Dr. Pandurang Balkrishna Patil
Librarian, Shri ShahajiChh.Mahavidyalaya,Kolhapur

Abstract

The contribution of newspaper libraries of Marathi newspaper in information communication published in Maharashtra state, the beginning of the present topic has been developed because of the interest of it and also because of the problems in it. The research student has worked in the field of newspaper and libraries for ten years, which helps him to fulfill the objectives of research. This research its conclusion, suggestions, and future hints for study will help the student who are interested in doing further study in this topic. A qualitative book will be published of this thesis. Not only library and information technology but special libraries are also going to get its benefits. The guide-book will be helpful through all over the world for all established libraries and also for those who are going to establish it.

Introduction

In the world of information and printing technology the importance of reporting in raising day by day Journalism which exposes the problems of common man is now flourishing in the developed developing and also ever in the backward nations.

George Bernord Show has referred newspaper as University of poor. It is the forth pillar of democracy according to Nani Palakhiwala. Indian Newspaper has kept a good control over the legislature, executive committee and the judiciary because of that our democracy becomes strong. According to the Indian readership survey which published in December 2011, it tells that the ratio of people who are using different informative sources are who are using different informative sources are 62 crore 91 lac 45 thousand. In which 34 crore 77 lac 62 thousand is the ratio 08 daily readers of newspaper. 12 crore 30 lac 87 thousand 588 in the daily selling rate of these newspaper. 53 crore 17 lac people watch different T.V. Channels. 16 crore 14 lac people listen radio, 7 crore 78 lac people see movie one in month, and the people who use internet are 2 crore 84 lac. In India we are having such families who uses all these sources.

Newspaper Library plays a very important role in the field of spreading of newspaper information and how much it serves to find it out, the present research has been done.

Research Topic

"The contribution of newspaper libraries of Marathi newspaper in information communications published in Maharashtra state". The work has been done on this topic. A critical study has been done considering the objectives of Marathi newspaper libraries in Maharashtra.

Objective of the Research

1) To review the works of newspapers libraries in marathi newspapers in Maharashtra and to search for the challenges before them.
2) To know about the various services rendered by newspapers libraries and to suggest remedies for making them more effective.
3) To find out the range of participation of newspaper libraries in newspapers information communication.
4) To search for changes taken place due to modern information technology in newspaper libraries.
5) To find out difficulties faced by information communication in newspaper libraries and suggest remedies.
6) To review the advantages availed by renders of newspapers group in the field of information preservation and dissemination.
7) To makeguidline module for new establishnews papers& present working new papers
Hypothesis
1) The functions of Marathi newspapers libraries published in Maharashtra are satisfactory.
2) There is a development because of the use of computer technology.
3) The role of newspaper library is considerable in the field of Marathi newspaper's information communication.

Scope and Limitations
This research is limited to the studies of daily Sakal, daily Agrovan, Kesari, Lokmat, Pudhari, Tarunbharat, Maharashtra Times, Loksatta, Deshdut, Deshnoti only. The newspaper libraries of daily Sandyanand (Pune) and daily Aaikya are very small one, but there is no registration of these newspaper added in this study. Overall 10 newspaper's study has been done out of 12 from Maharashtra.

Data Collection
Libraries of all these ten libraries, twenty people from editorial field, ten advertisement managers and twenty reporters have been given a questionnaire to get the information. Interviews of libraries are also taken regarding this subject. The research student has met the librarian and visited the libraries of daily Sakal, Kesari (Pune), Maharashtra Times (Pune), Pudhari (Kolhapur)

Research Methodology
Survey method has been followed for the research. The information has collected through questionnaire, interviews and observations. The data has been critically analyzed and then the conclusion has been given.

Chapter 1 - Introduction
The introduction has given in the beginning of this chapter. How the interest of this subject moved the student to study it has been explained. The problem objectives are also given. This objectives are comprehensive which of use on what is the role of newspaper libraries in information communication and it lead towards the conclusion hypothesis helped to reach to the conclusion. The scope and limitations have been decided. Methodology of research has also given in this chapter.

Chapter 2 - Review of Literature
To make the research strong and true 18 Ph.D., 5 M. Phil, 14 Minor Projects and 13 research papers have been studied. The citation of these material has given. More than 168 national, international and other reference books are read and referred for the citation of 237 references APA style has followed.

Chapter 3 - History and Development of Newspapers
In this chapter the concept of Newspaper, emergence, its development all over the world and the popular newspaper in present era have been mentioned. Indian newspaper, its history and development have been discussed. Various newspapers in different languages have also been discussed. List of Marathi newspapers in Maharashtra has given those newspaper which are registered in Audit Bureau of Circulation have been discussed in it, from 15 newspaper offices have been visited by the research student.

Chapter 4 - Newspaper Libraries and its work
In this chapter introduction, concept of library, types of libraries, special libraries, concept of newspaper library and work of Marathi newspaper libraries have been explained.

Chapter 5 - New trends in the field of Newspaper library
In this chapter the process of information in newspaper library, the services, literature, management in the newspaper library, new trends in the newspaper library communication, require skills of librarian and work of librarian have been discussed. The newspaper libraries such as daily Sakal, Agrovan, Pudhari, Kesari, Lokmat, Loksatta, Maharashtra Times, Deshdut, Deshnoti and Tarunbharat are consisted in this chapter. The research student has visited these libraries and taken the interviews of the librarian, questionnaire has been filled by them.

The research student has been observed the work goes in these libraries he were present in 5 libraries from the above list and the collected data is explained in this chapter.
Chapter 6 - Data Collection and analysis

The chapter presents the information collected through questionnaire, interviews and observations. Somewhere the numeric information is also given for that mean, mode and medium, and some other techniques have been used which has been analyzed practically. This analysis has also been explained below. Graphs have used where necessary which helped to do analysis and explanation.

Chapter 7 - Summary, Conclusion and Suggestions

The research student has come to the conclusion by the information collected and analyzed. These conclusions are practically explained. Some recommendation are also suggested so that it would be helpful for the development purpose of related libraries. The research has reached to the end but still there are some limitations for this study. The research student cannot interfere the other aspects or problems regarding the topic and cannot find out the solutions. To allowed the other students to study other various aspects the scope and limitations have been mentioned. So that unfold subjects will be studied by other students.

Bibliography

Wherever the reference form Ph.D., M.Phil thesis, dissertations, magazines, minor projects, research papers are cited, have been given in bibliography. Various websites are also cited. APA style has followed for bibliography. Style manual Vol.3 has been referred. According to Dr. Satyaprakash "The APA style manual is a scientific and explanatory." He has mentioned it in his book 'Granthalaya Aani Mahitishashtra Sanshodhan Paddhati'. According to above example and considering the information about APA style on internet the research student has prepared the bibliography.

Appendix

After completion of this research considering the experiences and opinions of experts the research student has prepared a handbook for the development of newspaper libraries. This guide book has enclosed in the appendix. The questionnaire for libraries, for editorial field, for advertisement managers and for reporters have been attached in appendix. Also, the photographs of first Marathi newspaper, process of making newspaper and photos of newspaper library are attached to it. Home pages of ten newspapers which have libraries are also given in it.

Conclusion of Research

Findings of the work of Marathi Newspapers libraries.

Among all the newspapers 'Daily Kesari' is the oldest one which is running since last 130 years. The next one is Daily Tarun Bharat which is of 92 years history. Daily Sakal has completed its 79 years. Daily Pudhari is of 72 years old, Daily lokasatta is of 63 years. Daily Maharashtra Time is of 49 years, Daily lokmat is of 29 years, and Daily Dehonnnati has completed 25 years. In all these newspapers Daily Agorvan is very new which has been working since last 6 years.

All the newspaper libraries which have been studied in that Daily Kesari's and Daily Sakal's newspaper library in of 79 years old. So it is the oldest one among all newspaper libraries. Their work in continuously going on since last half of the century. The second no is of Daily Pudhari library which is of 51 years old, Daily Deshdut library has completed 41 years, Daily Deshonati library is of 25 years old, Daily Lokmat is of 23 years and Daily Tarun Bharat has completed 16 years. Daily Maharashtra Times (Pune) Library is news among all other libraries.

A huge collection of literature has been found in the library of Daily Kesary among all Marathi newspaper libraries of Maharashtra. It is consist of 40,000 books. In daily Sakal's library, there are 20,000 books. Daily Pudhari library having 15,000, Daily Tarun Bharat Consist of 10,000, Daily Lokamat Library is having 9800, Daily Deshdut library having 3700, Daily Dehonnnati library having 3000 and Daily Maharashtra Times library is having 100 books. These libraries are giving various services such as issue the books to the readers, making them available the reference books list etc.

There are 10 lac photographs in the library of Daily Maharashtra Times. Next to it is Daily Sakal which consist 6 lac 86 Thousand photographs, Daily Pudhari have 2 lac. Daily Deshdut and Daily Deshonnnati library
have one lac. Daily lokmat library have 75 thousand and DaiyKesary library have 9 thousand photographs. The collection of photograph in Daily Tarun Bharat is of 5000 and along with this these libraries are serving the photograph services.

All these newspapers libraries haves kept their newspapers from the first edition of it. All libraries have kept the documents according to the month, year, most of them have did binding of their newspapers. Daily Kesary library has newspapers copies since 130 years, Daily Sakal have from 79 years and Daily Tarun Bharat have 92 years old copies of their newspaper.

**Conclusion regarding the challenges for Marathi Newspaper Libraries**

Marathi Newspapers libraries are facing too many problems in present era. In this 7 libraries have to do fast and developed exchange of information and to give this information as quick as possible and correct is a challenge. Still libraries need developed information technology systems. They are in need of new software's for news and for photographs libraries are in need of new books and manpower which become main hurdle in the process of library communication.

There are various libraries with libraries of main newspaper. There is a great need of manpower. There is a centralization of library because of the use of modern information technology. So that there comes a problem in saving the data of different version. The photograph of some important person in advertisement section is important for them but it becomes impossible due to centralization of library.

**Conclusion regarding to get information of different services given by newspaper library and to know for which part of newspaper it becomes useful.**

Every newspaper library gives the services of reference, photograph services, exchanging services and cuttings etc. 6 (75%) libraries provide Xerox service 4 (50%) provide awareness services, 3 (37.5%) libraries provide translation services, 2 (25%) Summary services, provides. To give translation service there is a need of good staff who knows Hindi, Marathi and English well which they are lacking. So that 6 (75%) libraries do not provide this facility.

Every newspaper library editorial department, advertisement and research and students are given all librarian facilities. 7 (87.5%) libraries provides photographer and they provide facilities to their worker. 6 (75%) libraries provide facilities to casual reporters, management department, newspaper readers, politicians and outsiders.

Newspapers editorial department are getting writing material from the reference in the libraries from which 60% library information is explained, 40% in numbers and 55% libraries provide other writing information. 80% libraries give immediate photographs. This section get help from all libraries. Along with this the information of great people and autobiographical latest information is also provided.

Newspaper reporters also take the advantages of these books for news writing and for different editions. 15% reporters visit libraries everyday. 20% reporters visit twice in a day, 30% once in a week, 5% once in a month and 30% rarely go to libraries.

Reporters are getting 95% reference from libraries, 80% libraries provide them photographs, 65% libraries provide exchanging facility, 60% cutting services, 50% summarization, 45% Xerox, 25% awareness services and other necessary facilities are provided.

65% information from collection of photographs and detailed data provided to the reporters to write special articles and detailed news and to write events.

Reporters are getting 55% statistical information from the library 80% libraries are providing autobiographical information.
Conclusion regarding the role of newspaper libraries in newspaper information communication.

The role of newspapers library in the field of Marathi Newspaper in Maharashtra state in 38.75% according to libraries, 36.05% according to edition department, advertisement department thinks it of 32.22%, 42.05% as per the reporters opinion. According to all of them the part of newspaper libraries in Marathi newspaper information communications is overall 37.26%

Newspapers are turning from printing to the electronic media. In this regard newspaper libraries help the e-edition of newspapers. So there is an important part of libraries in e-version of newspapers.

Conclusion regarding the findings of the changes due to the use of modern information technology

In all newspaper libraries are using 100% internet, e-mail, computer, mobile, telephone, Xerox for fast information exchange. 87.5% of libraries are using fax machine and 62.5% are using other devices.

It is found that there is a great impact of information technology on all sections of library such as library books, readers and workers. It is beneficial for the libraries. 62.5% libraries have increased their books collection. In 75% libraries there is a development in number of readers but the workers number is decreasing day by day.

Among all these libraries only 5 (62.5%) libraries have become computerized and 3 (37.5%) are on the way to become computerized. 5 (62.5%) libraries are on the way to change the present data in to digital form.

Conclusion regarding the problems come across the information communication of newspaper library.

- Problems due to the lack of modern technology.
- Problem because of number of data is separately stored.
- There is no work satisfaction among workers.
- There is no skill.

Conclusions about benefit to the readers because of storage of data and transmission services.

100% readers got the benefit of giving and taking data because of data storage an fast transmission services. Workers and readers can save their time. 75% of readers are getting editorial data and advertisement department is getting their data at their own places.

Worker who work in editorial section they use telephone, mobile, computer, internet, e-mail, Xerox in these devices telephone and LAN is mostly used. It exchange the information as fast as possible.


Objective no. 7 is to provide a guide-book which is useful for the libraries which are just starting newly and which are in progress and according to that the present guide-book is created. It is attached in appendix.

The research student has visited many libraries in Maharashtra and discussed with the librarians and after thinking on various aspects regarding it this guide-book has been made.

This guide-book consist of position of libraries, Marathi newspaper libraries and the need of it, which is not applicable only for Maharashtra but everywhere in India. After that four important element are discussed i.e. infrastructure, reader, worker and book collection. Newspaper library does have readers such as editors, advertisers, reporters, managers, researcher, politicians, socialist etc. The information of how to collect the data how to separate it, have also been mentioned. The information and qualification of worker have also discussed.

Suggestions

1) There is change in Marathi newspaper and newspaper libraries due to modern information technology. These changes must be accepted by the libraries. The use of computer should be increased.
2) The data should be updated by considering the needs of editorial section, advertisement section and for reporters.
3) The libraries should accept the changes according the changes in the outer world. They must create balance between traditional methods and modern methods.
4) Marathi newspaper libraries should buy Hindi and English newspapers and magazines e.g. The Hindu, The Times ofIndia, The Indian Express, Daily Bhaskar etc.
5) Librarians should update their knowledge by getting higher education in library science, technology and in communication. So that they may get higher post and handsome salary.
6) Newspaper libraries should help the inter librarian exchanges. Each other's editions should be exchanged.
7) There is a lack of magazines necessary for research and science, To develop our society we are in need of such magazines so libraries should give priorities to them.
8) To create reader libraries should arrange book stalls, book fares, photo presentations, and exhibitions of ancient articles and literature.
9) Workers should start writing in the newspapers to increase the number of readers. Libraries should be useful to all the members of society. So that the newspaper will get popularity.
10) Daily Maharashtra Times, Daily Deshonati, Daily Deshdut should increase the number of books in their libraries.
11) Daily Tarunbharat and Daily Kesari newspapers should increase the number of photographs.

**Topics for further research**

1) To study the Hindi, Marathi and English newspapers libraries in India.
2) To find out role of newspaper. Libraries in the field of selected Indian newspapers information communication.
3) To do comparative study of newspaper libraries. All India radio library and library of television.
4) To do critical study of selected Maharashtrian special libraries and their services.
5) To study the role of printed and electronic transmission in libraries.
6) Fulfillment of objectives and hypothesis have been verified.

**Summary**

The contribution of newspaper libraries of Marathi newspaper in information communication published in Maharashtra state, the beginning of the present topic has been developed because of the interest of it and also because of the problems in it. The research student has worked in the field of newspaper and libraries for ten years, which helps him to fulfill the objectives of research. This research its conclusion, suggestions, and future hints for study will help the student who are interested in doing further study in this topic. A qualitative book will be published of this thesis.

Not only library and information technology but special libraries are also going to get its benefits. The guide-book will be helpful through all over the world for all established libraries and also for those who are going to establish it.

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The Emerging Role of social media in Education

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Abstract:
Social network tools afford students and institutions with multiple opportunities to improve learning methods. Through these networks, you can incorporate social media plugins that enable sharing and interaction. Students can benefit from online tutorials through YouTube, online courses delivered by universities abroad through Skype and a wide array of resources that are shared through social networks.

In this article the researcher highlights the importance of social networking sites their use in education for teachers as well as for students. The world has become a global village now students can learn through any mode which is available to them according to their needs. The access to learning is no more difficult. Various social media sites such as facebook, Instagram, and whatsapp is helping students and teachers connected with each other. Apart from this various online learning LMS like swayam, Coursera, Edex, Udemy etc are proving boon to students.

Keywords: social media, students, education.

Introduction:
With the advent of technology, offline medium of communication and interaction has got replaced by online communication medium named as social media. The Merriam-Webster dictionary defines social media as “forms of electronic communication (as Web sites for social networking and blogging) through which users create online communities to share information, ideas, personal messages, and other content (as videos).” Social media encapsulates digital tools and activities that enable communication and sharing across the net.

Social media shapes and presents information in a way that makes sense to and excites students more than traditional tools do, whether it’s through a shared article with comment functionality, a livestream of an important event, a survey related to course materials, or a question posed to the broader community. Social media promotes self-directed learning, which prepares students to search for answers and make decisions independently. When reinforced in a class room setting, these social media skills can be guided and refined to produce better learning outcomes and critical awareness.

What Is social media:
According to the Dictionary definition, “Social Media is websites and applications that enable users to create and share content or to participate in social networking.” Social media is not just limited to posting pictures about holidays online. Social media has gained credibility over the years as a reliable source of information and platform where organizations can interact with audiences.

Social Media in Education:
Today, we can see education institutions adapting these developments into their systems and relying on group resources and mechanisms to improve student life. The use of social media in education helps students, teachers and parents to get more useful information, to connect with learning groups and other educational systems that make education convenient. Social network tools afford students and institutions with multiple opportunities to improve learning methods. Through these networks, you can incorporate social media plugins that enable sharing and interaction. Students can benefit from online tutorials through YouTube, online courses delivered by universities abroad through Skype and a wide array of resources that are shared through social networks. There is valuable knowledge to be gained through social media such as analytics and insights on various topics or issues for study purposes. As an educational institution, it is crucial to be active in many social platforms.
possible, this helps create better student training strategies and shapes student culture. The great thing about using social media in education is that one can soon learn who the experts are in different fields and subjects. When one start following these experts and can come to learn more and gain useful content from them, this empowers to produce great results. Social media has the ability to broaden the perspective on various subjects and gives illuminating, instant content that is new. The opportunity of engaging experts to get answers on topics that one may need help in. Learning colleges have the ability to connect with students through social media networks such as Facebook, Google Plus groups, and YouTube. These channels can be used to communicate campus news, make announcements and provide students with useful information. This builds engagement between the college and students which help tackle many student issues through the group interactions. Institutions can share supportive and positive posts that reach all students that are connected to the networks and pages. To initiate hashtags on social media to engage students and online discussions that are helpful. A video is a prominent tool in social media trends that is effective and can use it to share useful videos that inspire students and help them in their course subjects. Through social mediums such as YouTube, Facebook or Instagram live video the engagements between students and the institution can be sustained. The benefits of social media in the education process doesn’t have to stop at the teacher-student relationship. There are a lot of other benefits that can be extracted from the use of social networking at higher levels as well. For example, principals or administrators can find a new way to integrate social media. Like sharing school news via social networks, holding an online meeting with the parents or even starting fundraising for different projects. And social media can quickly become the only channel of communication since we’re living fast-paced lives, parents are usually busy with work and cannot attend school meetings. But this doesn’t mean they shouldn’t be in touch with events or be able to check on their kids occasionally. Social media offers the audience and subject monitoring tools that are useful and it is one of the best platforms to extract data. You can find out how the majority people feel about a particular topic by creating Instagram/Facebook Polls, or conduct a survey using Google Forms or Survey monkey, or how experts perceive and advice on specific issues by using forums like Quora. This can help students compile and produce useful content for research. Whether students are working on an assignment, working on a project or trying to gain more insight on a subject, some of the best information and results can be extracted from social media. SlideShare could help in making presentations of such data. Learning management systems is a networking software that delivers educational programs and gives institutions other administrative activities. Social media learning in LMS can include instant chat functions, video, forums to share info and other lesson resources to help students. The LMS system strengthens student participation and makes team projects easy to collaborate. This system exists to tackle student and learning related issues to improve education schemes. Other social learning benefits are live conferencing systems, webinar capability, share group reviews, blogs and much more.

Advantages of using social media in education:

With the growing benefits of social media, students and teachers leverage the platforms for sharing, learning and exploring different topics. Social media enables:

- Easy sharing of information among the students’ and the teachers’ fraternity and it helps the students providing a wider exposure.
- Social media is cost efficient and enables easy transfer of large information at your fingertip. It also provides data encryption and secured sharing of personalised information. In the school or college, the data sharing is bound to time. However, any news or information can be shared and checked for credibility as it is accessible from anywhere.
- Industry experts have created content fragments that help the students to access and have an in depth knowledge of the desired topics by reaching out to the particular expert.

A dynamic platform that enables the students to do social learning and contact their peers across the globe. Social media has been instrumental in assisting people from across the globe to come closer and share relevant
knowledge and information. It gives access to different and forms of content that help broaden the field of study. Social Media, Moreover, provides credible online degrees classes in India and abroad. A student from India can receive a desired degree from prestigious colleges like Harvard and Stanford in the comfort of their home and at their pace. The future of education has taken a major shift with the advent of social media and credible colleges joining the bandwagon of providing online degree courses and certified courses that help upskilling of employees.

**Social media in classroom:**

There are many social media tools for education that can be taken advantage of for students of any age, from elementary all the way through college.

**Use a Facebook page to broadcast updates and alerts:** Facebook can be the perfect social media platform to incorporate into the classroom. Instead of putting instructors and students alike through a new learning curve when dealing with a traditional online classroom dashboard, stick to something everyone already knows.

**Use a Facebook group to stream live lectures and host discussions:** Instructors can also create Facebook groups for each of their classes—both public or private—and stream Facebook Live lectures, post discussion questions, assign homework and make class announcements. Keep students engaged during school breaks or snow days by posting reminders and assignment to avoid having to review once class resumes from the break. When using social media for education, it’s important to ensure a professional boundary, so when setting up a Facebook Group, teachers do not need to send friend requests. Email both parents and students a direct link to the Facebook Group for access.

**Use Twitter as a class message board:** Twitter can be great as a discussion board or message board for a class. Teachers can create a single Twitter handle per class and reuse it every year, or they can create a new handle each school year. The 280 character limit makes students think critically on communicating concisely and effectively, a beneficial skill to develop. Teacher can use Twitter to post reminders for assignment due dates or share inspirational quotes and helpful links to practice quizzes or resources. Teachers can also create discussions and Twitter chats surrounding a specific hashtag that they create.

**Use Instagram for photo essays:** In a visual heavy class, students can use Instagram to present a series of photos or graphics in a visually appealing manner. Instagram allows students to practice digital storytelling in ways that other social media platforms may fall short. Students can create class-specific Instagram accounts and may delete them after the course is over if they so choose.

**Create a class blog for discussions:** Writing blog posts gives students another outlet for digital content that they can then easily link back to class social channels. There are many different platforms available, such as WordPress, SquareSpace, Wix, Blogger, Tumblr or Medium, where teachers can create a class blog. Students can create their own user accounts to make discussion posts or add comments on class prompts.

**Assign blog posts as essays:** Having students create in their own blog for essays or short-form writing is another strategy for combining social media and learning. Blogs as a semester- or year-long assignment can improve students’ short-form writing and critical thinking. Have students respond to weekly prompts, making it as informal and loosely structured as possible. Don’t feel limited to just an English or writing class; this use of social media in education can be transferred across all subjects.

**Create a class-specific Pinterest board:** Instructors can create Pinterest boards for each of their classes and save pins that are relevant to lessons. Pinterest is a great social media platform for teachers to use to prepare and organize resources, lesson plans and worksheets for their classes in one place. Create boards according to class or subject, and create sub-topic boards for weekly units or all worksheets. Pinterest can also be useful for students to curate a digital bibliography for research projects, papers or group assignments. Students can pin websites, books or videos to a board on a single topic and refer back to it when it’s time to write.

**LinkedIn for Building Networks:** When it comes to networking, LinkedIn is an indispensable resource. Schools typically maintain a presence on LinkedIn, and there are numerous official LinkedIn groups geared toward
smaller inches within the larger community. LinkedIn groups devoted to alumni, veterans, colleges, departments, degree programs, and extracurricular interests. One can find a group that align with their personal interests. Students don’t need to wait until after graduation to start networking. One can start participating in pertinent LinkedIn groups to build a solid network by the time one graduate.

Types Of Social Media Tools For Teachers:
Teachers also use social media as a medium to get new resources to support their lessons, activities to teach particular concepts, bulletin board ideas, information on new apps to do a follow up of certain topics as well as to network and know what is happening in schools all over the world. Teachers may use any of the following social media platforms as learning tools: • Blogs with comment functionality to share and discuss information.
  • Twitter and course hashtags to encourage open forum and debate.
  • Skype to engage more deeply with the material and each other.
  • Pinterest for sharing clever ideas, inspiration, and valuable resources amongst students.
    •Google Docs, Wikis and other collaborative document tools to store and refine data.
  • Project Management Apps to foster and streamline collaboration.
  • LinkedIn and other social networks to build connection.
  • YouTube to create both course and student presentations.

Conclusion:
Social media can positively influence the way each individual learns and absorbs information in the classroom. Incorporating social media into a more traditional learning environment can expand students’ creative freedom and encourage them to work harder and engage more. Of course, as the social media landscape changes, classrooms will also need to adapt – but with social media already impacting the way we learn and interact outside of the classroom, applications within the classroom will likely only increase. The bottom line is that social media is a big part of our day to day life and there’s no point of keeping it away from the education process. School, college and university staff should be encouraged to make use of technology for student and parent communication. The benefits are obvious, starting with healthier parent-teacher relationships and all the way to permanently changing the way our children will learn.

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Janvikas Mahavidyalay, Bansarola, Bansarola, Block Kaij, Dist. Beed (M.S.)

Abstract:

Today’s generation is techno savvy, everybody is using smartphones, tablets, i-phones, kindle apps, audio books apps. So library have to develop its dimension to modern app based. This research is focusing on Apps and E-Library for the modern users. Apps or native applications are small programs for your smart devices. They allow users to check e-mail, Twitter and Facebook, surf the web, and listen to music or check train timings. Apart from platform specific apps, many mobile websites are also known as web apps which are accessible through your smart device’s browser (Safari, Internet Explorer, Firefox etc.) work. These websites are optimized for smart device display. Because they work through the browser, they are often a bit slow to use with native apps. A properly computerized library will help its user with quick services. Library automation refers to mechanization of library housekeeping operations predominantly by computerization with the help of Apps based on Mobile and tablet devices.

Keywords: Digital Library, Apps, Open Source Software, E-Library, App Based Library, E-Books, Smart Library

Introduction:

Recent advances in our ability to process and exchange information electronically are reshaping the economies and social structures of many countries around the world. Libraries are at the forefront of digital citizenship. The first places should be those where the most advanced technologies are implemented. In a technodigital smart society, the Smart Library Apps (SLA) initiative will accelerate the transformation of library services into literacy services in an innovative way as their learning hubs. Libraries are storehouses of recorded knowledge. It is a physical media that records knowledge that changes from time to time with technological advances and innovations. The discovery of Information and Communication Technology (ICT), the Internet and especially the World Wide Web, has revolutionized everything under the sun. The onset of information and communication revolution has changed the complexion of many institutions. Now we are living in digital world. Everywhere we have evidence in the form of e-cameras, e-diaries, digital television, e-signatures etc. Also, information is recorded, stored, retrieved and expanded on a large scale.

Features of Smart Library App (SLA):

Structured information that is made available through SLAs are called digital e-objects, including e-text, e-audio, e-video, e-photograph, e-picture, e-drawing, e-computer programs, e-Art works, e-interpretation, e-numerical data, e-cosmological data, digitized e-sound, e-graphics and digital e-forms include multimedia components. SLAs undoubtedly require digital smart devices such as tablets, smart phones etc. and web technologies. Apart from this, the following features have to be kept for computerization of traditional and general work:

- Providing links to various digital objects
- Support to the national movement ‘Digital India’
- Integration of publicity support and e-information
- A smart app provides opportunities to access information in formats available anywhere in the library, at home or at work.
- Supports the traditional library mission of collection development, access and preservation
- Provides access to a comprehensive collection of information, both primary and secondary.
- Support and availability of search and retrieval interfaces
- SLA aims to overcome this barrier through remote access to large quantities of rare and expensive materials
● Hope.
● SLA should provide powerful user friendly interface effective search and retrieval to facilitate user access.
● Ease of handling, searching and managing
● Reproduction of clean hard copy from digitized e-devices thereby saving time.
● Plays an important role in informal education system.

**The Best Few Free Open Source Library Management Software Solutions**

These are the best web based library management system open source. These open source library management software solutions are available online:

1. **Koha:**
   Koha library software is free library management software which is web based. Hence there is no need to manage a separate server to run Koha library management software effortlessly. From backups to upgrades, backups and system maintenance, everything is managed online. It has easy-to-use circulation policies and a robust patron management. This free library management software has intuitive navigation. It maintains a parent-child relationship for maintain records, and a ‘copy’ feature to add more families. You can manage book clubs and reading groups as well.

2. **Evergreen:**
   Evergreen Library software is a scalable software for all libraries which helps library managers manage inventory effortlessly. Librarians can manage library catalogs and circulate information. It is an open source library management software licensed under the GNU GPL version 2. It has an open and scalable framework. This free library management software has circulation module and cataloguing module with indexing, clarifying and collection facilities. It provides a facility to customize cataloguing. The public access catalog is available online and multiple payment options are also given in this free database management software. You can also retain the history of circulation of library resources. Library members get an option of self-checkout and self-registration.

3. **OPLAS:**
   OPALS is an automated open source library management system that can be used for various types of libraries. There are over 2000 libraries from all around the world that are using OPALS to manage their resources. Unlimited number of library members can access OPALS online, at the same time. Get multiple options and fields for cataloging library materials. With this free open source digital library software, get features like acquisition management and circular management. This software has an advanced indexing feature which helps you search the required library resources easily. Since this free library management is cloud-based, you can get real-time reports.

4. **OpenBiblio:**
   OpenBiblio is also one of the most used open source library management systems. This free LMS is majorly used in small-scale libraries. Features: This open source library management system provides an extensive support for various types of languages. It provides excellent circulation for its staff which lets them check different items and enables them to add new patrons as well. Their cataloging feature for staff lets them create, and delete records, which includes uploading of MARCXML and MARC.OPAC or online public access catalog is used in this free library management system. It is a public catalog for patrons to find the relevant books. Its administration option includes management and configuration of the software. This involves managing the staff, library, fines, materials and other website settings. Retrieve all the required information from your database in the form of reports. This includes getting information like overdue letters and other statistical factors regarding library materials. You don't need to learn any special language to retrieve this data.

5. **Invenio:**
   Invenio is an open source library software developed by a multidisciplinary community of institutions. It is an all-in-one platform for research data management, institutional repository management as well as asset
management. It is a free library management system which falls under the license of MIT. This open source library management system is a form of integrated library management system which supports circulation, cataloguing, and acquisitions. It provides a back-office module that is powerful and has a modern user interface and APIs. You can also find a toolbox to create applications like enterprise search, digital repositories, discovery mechanisms and data management systems. Get a strong support for your APIs, authentication as well as storage systems. There are too many apps are paid versions like Amazon Kindle App, Google Play Books, Apple Books, Barnes & Noble Nook, Kobo Books users can use those as per their requirement.

Social Media Apps and Library:

It was inquired from the respondents that what should be the purpose of social media apps such as Facebook, Instagram, Tweeter, LinkedIn etc. usage in libraries and information centers. Participants of the study strongly agreed that social media should be used for marketing of library products and services and to build discussion groups and collaborative work. They were agreed that it should be used for fund raising, to spread news and service alerts, to provide quick updates to online users and to push library news and press release among online users.

- Marketing of library product and services.
- Marketing specific adult programs and services.
- Marketing specific children's and youth services programs.
- To modernize the library image and e-reputation.
- To reach a new audience of potential users.
- To push library news and press release.
- To provide quick updates to users.
- To build discussion groups and collaborative work.
- To spread news and service alerts.
- For fund raising.

Conclusion:

Choosing the best library management system is fairly easy. You need to check whether the open source or paid version of library management software you have chosen is reliable and secure. You have to make sure that the people using the free library management software find it easy to operate. And the free LMS you are choosing should have all the required features that you might need to manage the library. If you can't find the features that you need in a free library management software, you can always go for their premium plans. You can get more security as well as advanced features with the library management software subscription. Reliable and secure, the library management solution should be reliable and secure from any third-party interventions. User-friendly interface; the software should be user friendly so that even beginners can use it without hassles. Multi-device compatibility; It should have a multi-device compatibility, as in, it should be accessible from a desktop as well as from a mobile device.

Reference:

2. https://www.pcmag.com/how-to/free-ebook-reader-apps-for-smartphone-or-tablet
3. Computer Applications to Library by Kole Lambert (58-61)
4. Introduction to Library & Information Science: In Accordance with C.B.S.E. Syllabus for Class XI by Siva Sukula (66-69)
5. Digital Transformative Library Collections and Services: A Smart Library Approach Perfect Paperback – by Dr. Nitin S Joshi and Dr. Baban K More (79-82)
Innovative Best Practices and Services of B.B. Khardekar Knowledge Resource Center, Shivaji University, Kolhapur

Ashvini N. Sutar, Research Student, D.LIS. Shivaji University
Dr. Sudhir Nagarkar, Librarian, A.S.Shinde Mahavidyalay, Satara

Abstract:

In the current digital age and competition, libraries have to make various efforts to connect the readers with the library. For that library have to adopt various Innovative Best Practices and Services for users to attract them towards library.

Barr. Balasaheb Khardekar Knowledge Resource Center, Shivaji University, Kolhapur is a well-known and reputed academic library in the region of southern Maharashtra; because of its different features. Its main aim is to support the academic goal of Shivaji University. In this paper, the author given a detailed information about these various innovative Best Practices and efforts adopted by the BBKKRC. Which are guide to other libraries.

Introduction:

Library is an important center for collecting information, Knowledge resources where it is stored, organized, analysis, retrieved and disseminated it to the society.

Academic libraries are an essential and integral part of higher educational institution like colleges and Universities. They serve two complementary purpose: to support the curriculum so that students get their required educational library material and support faculty and student research endeavors.

Innovative Best Practices

Innovation means new idea, concept and value creation for your organization and customers.
Best Practices: A best practices are a standards or set of guidelines that is known to product good outcomes if followed. Best practices are related to how to carry out a task or configure something. (Wright, 2022)

Definition of Best Practices:

ODLIS (Online Dictionary of Library and Information Science) describes best practices as follows: “In the application of theory to real-life situations, procedures that, when properly, applied consistently yield superior results and are therefore used as reference points in evaluation of the effectiveness of alternative methods of accomplishing the same task. Best practices are identified by examining empirical evidence of success.” (ODLIS, 2023)

Document prepared by NAAC for best practice in academic libraries says, “Best practices is also innovative and be a philosophy, policy, strategy, program, process or practices that solves an issue, or create new opportunities and positively impact on organizations.

NAAC developed a group of best practices followed in academic libraries and dotted the purpose within the following 4 broad area:
a) Resources Management and administration of library,
b) Collection & Services

c)Extent the user services
d) Use of technology (NAAC, n.d.)

Introduction:

Shivaji University, Kolhapur was established in the year 1962. The university library started functioning in June 1964 with a collection of 7000 books. The University library was named as a tribute to the memory of Late Barrister Balasaheb Khardekar as “Barr. Balasaheb Khardekar Library” on 24th October, 1981.
As per the Maharashtra Public University Act.2016 the nomenclature of ‘Library’ changed to ‘Barr. Balasaheb Khardekar knowledge Resource Centre’ (BBKKRC) since 2018.

BBKKRC aims to be a leading knowledge Resource Centre with rich collection of information resource, qualitative information services and products suitable for all the academic disciplines.

Apart from the regular users from the university, it is open to other stock holders like senior citizens and Government servant, persons with disabilities, researchers from other universities and institutes. (BBKKRC, 2023)

**Infrastructure in BBKKRC:**

Old Knowledge Resources centre building has three floors and its various Sections are as follows:

<table>
<thead>
<tr>
<th>Floors</th>
<th>Sections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terrace</td>
<td>Terrace reading Hall with a seating capacity of 100 students</td>
</tr>
<tr>
<td>Second floor</td>
<td>Periodicals section, Academic Resource Centre (ARC), Internet Hall</td>
</tr>
<tr>
<td>First Floor</td>
<td>Assistant Librarian’s cabin, Stack Section, Archival Section, Scanner Room, Manuscript Resource centre (MRC) and Departmental Laboratory</td>
</tr>
<tr>
<td>Ground Floor</td>
<td>Director’s and Deputy Librarian’s Cabin, Administrative Office, Book Ordering section, Computer/ICT Unit, OPAC/ Web- OPAC, Property Counter, Library Membership Registration Room, Circulation Section, text Book Section, Reference Section (These, dissertations and Reports)</td>
</tr>
</tbody>
</table>

New Knowledge resource centre Building has following sections:

<table>
<thead>
<tr>
<th>Floors</th>
<th>Sections</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Floor</td>
<td>Reading Hall along with a separate hall for female students (seating capacity 400)</td>
</tr>
<tr>
<td>Ground Floor</td>
<td>Reading Hall (seating capacity 400), Virtual Classroom (seating capacity 150) and Resource Centre for Inclusive Education (RCIE)</td>
</tr>
</tbody>
</table>

(On both the floors, modular design of well-equipped modern furniture, Wi-Fi facility, purified drinking water and sanitary services etc. are provided to readers’ community)

**Collection of BBKKRC (Print / Non-Print) (As on 30/08/2022):**

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Collection Type</th>
<th>No. of Items</th>
<th>Sr.No.</th>
<th>Collection Type</th>
<th>No. of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Books</td>
<td>281340</td>
<td>1</td>
<td>CD/DVD</td>
<td>1865</td>
</tr>
<tr>
<td>2</td>
<td>Books Titles(Unique)</td>
<td>231418</td>
<td>2</td>
<td>E-Books</td>
<td>1088</td>
</tr>
<tr>
<td>3</td>
<td>Back Volumes of Journals</td>
<td>37113</td>
<td>3</td>
<td>E- Journals</td>
<td>45311</td>
</tr>
<tr>
<td>4</td>
<td>Manuscripts</td>
<td>9163</td>
<td>4</td>
<td>Foreign e- Journals</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(Subscribed)</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Indian Print Journals</td>
<td>64</td>
<td>5</td>
<td>E- Databases (Subscribed)</td>
<td>15</td>
</tr>
<tr>
<td>6</td>
<td>Theses and Dissertations</td>
<td>11784</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Reports</td>
<td>7050</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Special Collections</td>
<td>31404</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Braille Books</td>
<td>590</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTA L</td>
<td></td>
<td>378472</td>
<td></td>
<td></td>
<td>48288</td>
</tr>
</tbody>
</table>
In BBKKRC all electronic resource available through the consortium are governed by license agreements. BBKKRC Digital Library provides online access for e-resources through Knimbusmlibrary. It has been setup on library platform. Knimbusmlibrary is a one-stop solution with rich feature to build a powerful and user-friendly digital library through which user can seamlessly access the digital resources anytime, anywhere and on any device.

BBKKRC has used SOUL 3.0 Software for their library operations and services. It has following kind of modules:-
Acquisition, Catalogue, Circulation, Serial control, OPAC, Administration, Change Password, Logout, Exit.

In the present digital age and due to the covid pandemic, library users have moved away from the library. Their reading habits have deteriorated. Libraries have to adopt various Innovative Best Practices to reconnect these users with the library. So that the users can make full use of the library information materials and resources. In this paper let us know the various Innovative Best Practices adopted by the BBKKRC.

- **BBKKRC Digital Library:**

Through this BBKKRC Digital Library, online access for e-resources through Knimbusmlibrary has been setup on library platform. Knimbus give off campus access of e resources provided by BBKKRC. Knimbusmlibrary is a one stop solution with rich feature to build a powerful and user-friendly digital library through which user can seamlessly access the digital resources anytime, anywhere and on any device.

Link of Knimbus: https://unishivaji.knimbus.com/user#/home

All electronic resources available through the consortium are governed by license agreement.

- **Subscribed E books**
  1) Science Direct (Elsevier) e book
  2) Springer e books
  3) CAMBRIGE e books ONLINE
  4) Sage Publication
  5) Oxford University Press
  6) IOP Publication
  7) Emerald publication
  8) Department of Technology E books

- **Subscribed E databases:**
  - ProQuest Dissertation and Theses Global Academic Video Online
  - BBKKRC provide all subjects databases like:-
  - J-Gate Science & Technology Collection
  - J-Gate Social Science and Humanities
  - JSTOR: Full text database (2585 journals)
  - Scifinder database
  - Scopus database

**BBKKRC compiled Index of Print and E Journals.**

**Subscribed E-journals:**

BBKKRC provide journals available under INFLIBNET E-ShodhSindhu consortium for the year 2020 for Technology Department forum AICTE

**ASCE Library**

E-ShodhSindhu Negotiated e-journal Packages subscribed by Shivaji University for the year 2020. All Subjects e journals are available as follows:

- Blackwell Publishing [908 Journals]
Special Issue Theme: Future Academic Libraries:
Designing Technological Innovation and Best Practices in Academic Libraries (Special Issue No.117)

- Cambridge Journals Online [224 Journals]
- Oxford University Press [262 Journals]
- Springer Link [1763 Journals]
- Taylor and Francis [1079 Journals]
- Natural Sciences:
  - American Institute of Physics [18 Journals]
  - American Mathematical Society [9 Journals]
  - American Physical Society [19 Journals]
  - Institute of Physics [45 Journals]
  - Royal Society of Chemistry Journals [29 Journals + 6 Database]
- Science Direct (Elsevier) Under process for 2020

Social Sciences and Humanities:
Emerald [29 Journals]
Electronic Journals subscribed by Shivaji University: 2020

Environmental Science:
- Journal of Environment and Development Statistics:
- Annals of statistics
- Statistical Science Education:
- Theory and Research in Education Journalism and Mass communication:
- International Communication Gazette
- Library and Information Science:
- Journal of Librarianship and Information Science Sociology:
- American Journal of Sociology
- American Sociological Review
- Women’s Studies:
  - Gender Technology and Development
- English:
  - Sewanee Review
  - PMLA
  - Journal of Commonwealth Literature

Free Open Educational Resources:
- Free- Databases
- Natural/medical Science/ Technology
- AICTE free Learning Resources
- Social Sciences and Humanity
- Other E – Resources
- Free Open Thesis
- Free Institutional Repositories
- Open Access Preprints Repositories
- Free Digital Library
- Free Open Library
- Free E-Books
- E Reports and Publications
- E Learning Platforms
- Research Profile Creation Platforms
- Online Meeting Video Conferencing Applications
- Scientometric Bibliometric Analysis Softwares and Tools
- COVID 19 Related E Resources
E contents For Under Graduates Students:
Shivaji University has signed Memorandum Of Understanding (MOU) with Consortium for Educational Communication (CEC) on 1st April 2021 for five years.
CEC is the nodal agency at National Level, to address the educational needs of the country through the use of various media of communication and one of the objective of the CEC is of production of educational programs specially video, audio and related support material and also dissemination of educational programs through both broadcast and non-broadcast mode
In accordance with the policy of the Government of India and the UGC, the CEC has been addressing the needs of higher education through the use of powerful medium of television along with appropriate use of emerging Information Communication Technology (ICT) and CEC intends to increase the reach and access of its educational content in various disciplines / subjects/ courses related to UG/PG education for the benefit of students and teachers in higher education;
CEC is National Coordinator for UG and PG MOOCs on SWAYAM.CEC is also National Coordinator for 11 SWAYAMPrabha DTH Channels. Therefore:
According to this MOU, CEC has provided some E-contents for under graduate curriculum through hard disk. Also these E-contents are available in the following URL link:

URL link :- e-contents for Under Graduate Students
Trial Access E Resource: Links
https://unishivaji.new.knimbus.com/

Try Access for E-Books:
Trail access of e-books : http://www.asapglobe.com/
Trail access for Pearson eLibrary : http://lib.myilibrary.com/
1) Academic Video Online: Premium - http://search.alexanderstreet.com/avon
Academic Video Online is the most comprehensive video subscription available to libraries. It delivers more than 62,000 multidisciplinary video titles including 17,000 exclusive to Alexander Street.

Art & Design –
http://search.alexanderstreet.com/art-design
Diversity - http://search.alexanderstreet.com/diversity
Health Sciences –
http://search.alexanderstreet.com/health-sciences
History - http://search.alexanderstreet.com/history
Literature & Language –
http://search.alexanderstreet.com/literature-language
Music & Performing Arts –
http://search.alexanderstreet.com/music-performing-arts
Psychology & Counseling –
http://search.alexanderstreet.com/psychology-counseling
Science & Engineering –
http://search.alexanderstreet.com/science-engineering
Social Sciences - http://search.alexanderstreet.com/social-sciences

2) Historical NEWSPAPER Archive Times of India
https://trials.proquest.com/access?token=MJ7RYOR1KSG2DM92UK36
Remote (Off Campus) Access to E Resources through INFED

BBKKRC subscribe plenty of e-resources for the benefit of its user’s community. It fulfills the information needs of the user’s as well as provides e-information to the teachers and learners. BBKKRC has joined INFLIBNET Access Management Federation (INFED). It is part of INFLIBNET. It provides Remote Access to subscribed e-resources for the user community. INFLIBNET is an Inter-University Centre of University Grants Commission, New Delhi. INFLIBNET has its head office at Gandhinagar, Gujrat.

INFED Remote Access Facility launched in the year 2019. Library professionals in BBKKRC are taking efforts to run this service smoothly for the users. https://idp.unishivaji.ac.in/

BBKKRC Provide Index of Reference Collection:
- Reference Collection List:
  - Major- Minor Research Projects List from 1966:
    - http://www.unishivaji.ac.in/uploads/library/Major-
    - Minor%20Research%20Project%20List%20from%201966.pdf
  - List of Report available in Reference Section:

BBKKRC Compiled online literature on Chhatrapati Shivaji Maharaj:

Shivaji University is named after the great Maratha warrior Chhatrapati Shivaji Maharaj. So it the grate pleasure for the BBKKRC to compile the literature on Chhatrapati Shivaji Maharaj, on the auspicious occasion of 56th foundation day of the university and made available on the BBKKRC Portal. Several reference tools such as multimedia reference, thesis/dissertation, bibliography of print material and online e-resource are consulted while compiling this took. The portal is developed with searchable metadata for easy access to all stack holders globally.

It is an appeal to one and all to browse this documentary and submit the literature of Chhatrapati Shivaji Maharaj if available with them in any format that will be additional input to us. For this you may contact to Director, Barr. Balasaheb Khardekar Knowledge Resource Centre at the e-mail address:

- nbk.ul@unishivaji.ac.in, M-09890070404, office number-0231-2609204.
- http://www.unishivaji.ac.in/library/Free-E-Books
- http://www.unishivaji.ac.in/library/Audio-Book
- http://www.unishivaji.ac.in/library/Movies-On-Chhatrapati-Shivaji-Maharaj
- http://www.unishivaji.ac.in/library/Ph-D-Theses-on-Chhatrapati-Shivaji-Maharaj
- https://drive.google.com/drive/folders/1-8PYwGN2D8rTHWNjBjkVlV9vFCrC8Unr

Archival Cell:

Archival cell’ is the unique and special cell of the University that contains material of rare values. Archival Cell of the Shivaji University, Kolhapur was established of the U.G.C.UnderVIIIth Five plan. The purpose of UGC was to provide facilities for Collection, processing and preserving archival material such as rare books, historical documents, manuscripts and the University records.

Collections:

Rare Books: Archival cell consist of about 50,000 rare books, which are donated by various eminent scholars and personalities. The rare books dates from 1716 to 1950 A.D.

Donors are named after the collection they have given.
Manuscripts:

About 9163 Manuscripts are available in the Archival Cell on various subjects such as Vedanta, Dharmashtra, NNyayashastra, Jotishya, Vaidak, History, Puran, Literature, Kavya, Natak(Drama), Yoga etc. which dates back to 1353. The Manuscripts were acquired mainly from individuals and Institutions.

Besides the rare books and manuscripts different archival material is also available in the cell. Old Newspapers Din Bandhu, Bombay (1893-1912), Rashtraveer, Belgaum (1920-1947), Hunter, Akhand Bharat (Kolhapur), Vijayi Maratha, Kolhapur (1919-1932), Din Mitra, Taravadi etc. The old Periodicals and journals like Bharat ItihasSanvodhakmandals quarterly, Purusharth, VividhDnyanVistar, Kirloskar, Kalyan,Sahyadri, Wangmayshobha, etc. and some of the distinct materials like Tamrapat(516 AD), Old historical coins, stone objects from Bramhapuri (Kolhapur) excavation, facsimile copy of ‘Constitution of India’ etc. are available in the Archival cell. The work of digitization of Manuscripts is planned.

PROJECTS:

Archival Cell has completed a project to the NMM (National Mission for Manuscripts, Ministry of Culture, G.O.I) for documentation of Manuscripts.

For information & details regarding Archival cell contact at the e-mail address: archival.krc@unishivaji.ac.in.

RCIE Centre:

RCIE Centre has been established in BBKKRC providing library and Educational Services to visually impaired, physically disabled students/ Teachers of P.G. departments of University, the colleges affiliated to Shivaji University, the colleges affiliated in general.

The main aim of the centre is to help the visually impaired and physically disabled students to gain easy access to w books, Braille books and interest based information resources, to empower the disabled students of the university/ colleges by enabling them to use ICT for education and learning.

The Digital launch of the RCIE centre, Shivaji University took place on 17 April 2017

Services provided by RCIE:

Braille Books, E-Resources like E- books, E-Journals, E- Databases, Audio books, Study material for students in accessible format, computer with screen reading software’s, Internet and Wi-Fi, Braille printing, Training and career Guidance, Low vision devices( magnifiers, CCTV, Spectacles etc.) for low vision students, Library supports services including Braille books, Provision for Unique Disability Card, Text Book Recording in Audio Format Service through(PLEXTALK) Portable Recorder, Distance Education Study Material Converted in Accessible format.

ICT infrastructure is available in RCIE: The centre is well equipped with equipment and assistive devices for disable students. BBKKRC has organised various ICT training programs for visually impaired students and a faculty.

Barr. BalasahebKhardekarKnowledge resource Centre Broucher is also available on Web portal. It gives detailed information regarding BBKKRC.

Plagiarism Check: It is mandatory to every Ph. D./M.Phil. Research student before printing of final thesis/dissertation he/she should check Plagiarism.

No dues certificate of the BBKKRC will be issued to research students only after showing original plagiarism report.

New Arrival: BBKKRC give their web portal details information regarding New Arrivals of library.

News Paper Clipping Service: BBKKRC offers a newspaper clipping service. It contain a collection of Shivaji University related news published in all newspapers.

News and Event: Information, photos of various event, programmes held in the library can be seen on the BBKKRC web portal.
Shivaji University College librarian’s directory:

The directory contains brief information of college librarians working in the colleges affiliated to the Shivaji University, Kolhapur. The main purpose of creating a directory of colleges librarians is to connects the all colleges librarians together and to support for building their professional network for performing different activities related to the LIS Profession.

Forms: BBKKRC has uploaded various sample forms on its library web portal. Library users can download and print those sample form for their office transactions whenever they required. BBKKRC web portal also give information about library professional staff’s contact, phone no., and email addresses.

Barr, Balasaheb Khardekar knowledge resource Centre provide various Innovative services and facilities to their users.

1) Virtual Classroom at extended building of library.
2) Wi-Fi Facility to Library users
3) Remote access of library information resources & services to all college libraries and affiliated college teachers/ faculty and students.
4) Circulation on smart I.D. Cards. Barcode service for issuing and returning of books. Library send e mail to every users of their every issuing –returning transaction with library.
5) Reference Service , CAS, SDI Services
6) 100% Digitization of These/Dissertations
7) Inter Library Loan Service
8) Internet Hall with all required facilities
9) OPAC and WEB OPAC facility.
10) New Arrival display
11) Provision of ‘Earn and Learn Scheme’ and ‘Work on Demand’ Facility for needy students
12) E Resources with Federated Search Facility
13) Book facility for Children of Class IV employees of the Shivaji University.
14) Teachers Personal Library Scheme (TPLS) for college and University Teachers
15) Xerox, Internet, Scanning, downloading/ Printing and DDS facility.
16) ShodhGanga and Shodgangotri-ETD portal Management
17) Open Access facility to users
18) Academic resource centre for (ARC) for researchers.
19) CCTV Surveillance System
20) Audio- Visual Facility
21) Earn and Learn Scheme/ Work on Demand Scheme
22) Anti-Plagiarism Software- Urkund
23) IRINS Facility for Faculty Research
24) Computerised library visitor’s attendance at the entrance of library. (BBKKRC, www.unishivaji.ac.in, 2023)

Note: All data given in this research paper is taken from website of Barr.. Khardekar Knowledge Resource Centre, Shivaji University, Kolhapur. Dated 2023

Conclusions:

Barr. Balasaheb Khardekar Knowledge Resource Centre’s main aim is to supports to achieve academic objectives of Shivaji University, Kolhapur. Innovative Best Practices and Services adopted by BBKKRC helps to extend theses services to the users community of Shivaji University. This Innovative Best Practices and
Services help fulfill Ranganathan's five laws of library science. This innovative best practices and services are a guide to other libraries.

Reference:

Free Internet Based E-Resources: A Best Practice in Academic Libraries

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Abstract
After the 2020 coronavirus pandemic, many changes are being seen everywhere. The educational field also gets affected and replace existing offline learning and teaching process with online mode. Academic libraries support this online teaching learning through freely available online resources. Today almost everyone has using smart mobile phones with internet connectivity, we can access information from every corner of the world. The Internet has revolutionized the way we access information resources today. This study attempts to analyze how librarians can provide access to freely available online information resources which is available on the Internet to the users. To make the user aware of freely available online resources and how to use them for educational purposes.

Key Words: E-Resources, Internet, Free sources, Academic libraries

Introduction
A library is a place in an educational institution that houses various print as well as electronic information sources. Their use is limited to that educational institution. There are many free resources available on the Internet that you can view or enjoy anywhere, not limited to an academic institution. Libraries in the 21st century are becoming increasingly resourceful. Electronic publishing is preferred today. With the help of the Internet, the way of learning and living today is changing with the use of web resources. Ranganathan wrote in the fourth law of library science that 'reading should be the reader's time', while the Internet is a tool that provides instant information, which fulfills the fourth law. Therefore, making e-resources available through various mediums like library websites, e-browsers, social media platforms, sharing URLs, etc. is the need of the hour.

Today, the development of Web 3.0 and the promotion and spread of open source is driven by the concept of shared use. As the popularity of electronic resources has increased a lot today, its development seems to be increasing rapidly. Focusing on the significant and powerful impact of the e-environment in education, the user community should promote the use of e-resources through the Internet in college libraries and their use in daily life. The objective of this study is to introduce readers to free e-resources, identify various open-access sources on the Internet, identify educational open electronic resources, and create awareness about e-resources.

Importance of Internet Sources
Academic libraries play an important role in disseminating knowledge in the academic environment through electronic resources. Making young academic users aware of Internet resources is the need of the hour. Academic library users will increase their knowledge by using various free internet resources like e-books, e-journals, e-newspapers, etc., and will contribute greatly to the reading movement, this shows the importance of internet resources as it will save the time of the readers.

Review of Literature
Khode and Kumar (2004) analyzed online information sources and services in their study "Free Information Sources and Services on the Internet for Libraries: A Selected Compilation." Many information sources are available online for free and this article also tries to raise awareness of how to use them and also provides URLs with sources and services.
Chi (2017) A study conducted on "Open Access to Library and Information Science Journals in SSCI (Social Science Citation Index)." 36 library and information science OA journals included in SSCI are analyzed along with their URLs. The study found that Scientometrics has the highest number of papers 254 papers are published annually and 5 journals that publish more than 100 papers.

Kumar (2020) analyzed awareness of the educational use of e-resources in a survey conducted in arts and science colleges in Kerala. The study revealed that respondents are very aware of available e-resources and the use of electronic resources for specific subjects is less when comparing male and female awareness, males are more aware than females and faculty members are more aware of e-resources than students.

Ali and Bhatti (2020) studied information source channels used by librarians for public health awareness during the pandemic (Covid-19). The study included mobile apps, artificial intelligence-based chatbots, social media trolling, video-based lectures, electronic resources, and reported librarians working to disseminate health precaution information through these channels.

**Methodology**

Online information resources have been identified using various search engines on the internet. The search is limited to free online educational resources only. An attempt has been made in this study to analyze the sources freely available on the Internet. Examples of information sources in this paper are not limited to one topic but include many subjects. Many more open sources are available online, but this paper attempts to provide a few examples.

**Free Access Resources**

An electronic information source is a document that is available in electronic form. Today, due to the progress of science, changes are seen in all fields. The electronic format appears to be a technological invention. The Internet is a global network of information devices that contain large amounts of information. Databases, e-journals, e-books, etc. are a part of electronic resources. Traditionally, library work has changed and today all kinds of work like classification, cataloging, and sharing are done electronically. These electronic devices are saving the time of the readers as well as the library staff.

Today is the biggest opportunity for readers. Electronic information tools now have many advantages in that information sources are in electronic form and can be easily accessed and enjoyed in less time, multiple copies are available at the same time, easy to transfer quickly, do not occupy space, are easy to retrieve, etc. There are many tools available for free on the internet that can be used effectively. (Devarajan & Pulkuthiel, 2011)

Following are the various sources of information freely available on the internet

**E-Books**

A book is referred to as a secondary source. Today books are published in two formats print and electronic. Today, many publishers provide a CD with the book. Many books are also published in multivolume sets. There are many programs designed to read e-books, available in PDF, plain text, HTML, and rich text formats. E-books can be downloaded online and read offline.

Many academic institutions offer e-books for free, and some research and academic institutions also provide links to e-books on the Internet through libraries.

E-book’s website https://www.funbrain.com/books
E-book’s website https://www.meity.gov.in/e-books

**E-Journals**

Journal is a periodical publication. Journals are published at regular intervals on almost all subjects. It is a platform where many latest articles on various topics are published. Available worldwide in traditional as well as electronic formats and now published online. E-journals are also called online journals, electronic publications, digital journals, and electronic publications. Journals in electronic format require no printing time and can be
quickly sent. Many journal publishers and institutions also maintain accessible collections of past articles on their websites.

NISCAIR E-journals website http://www.niscair.res.in/periodicals/researchjournals
DESIDOC E-journals website https://publications.drdo.gov.in/ojs/index.php/dilit
ITAL E-journals website https://ejournals.bc.edu/index.php/ital/index

ETD
ETD stands for Electronic Thesis and Dissertation. Currently, M.Phil. / Ph.D. Degree theses and dissertations are known to be rich sources of information. Earlier theses were published only in printed form but now these theses are published in electronic as well as printed form. Indian dissertations published in electronic form are now published online on Inflibnet's Shodhganga portal, benefiting a large number of students in India as well as across the world for free access to the Internet.

Shodhganga website https://shodhganga.inflibnet.ac.in/
Ebsco Open Dissertations website https://biblioboard.com/opendissertations/
Ethos E-Thesis website https://ethos.bl.uk/Home.do

E-Newspapers
A newspaper is a daily publication that provides information on current affairs through news, advertisements, entertainment, job information, and articles. Now on the internet, various newspapers offer free electronic newspapers to the readers so that the readers can enjoy viewing them from anywhere on the internet. Following are the URLs of some major newspapers.

Lokmat Times Newspaper website http://epaper.lokmat.com/lokmattimes/
Loksatta Newspaper website https://epaper.loksatta.com/
Pudhari Newspaper website http://newspaper.pudhari.co.in/index.php

E-Discussion forums
Get the latest updates on your subject through online forums. There are many different forums on different topics. These forums have different forums for discussing job-related, related topic events and new developments as well as for students and professionals, and they are also available for free. Librarianship has well-structured discussion forums available free of charge as follows
LIS Forum website http://www.lislinks.com/

E-Encyclopedia
An encyclopedia is a treasury of knowledge that contains information on all topics and subjects. Marathi encyclopedias, library, and information science encyclopedias also appear to be subject-wise encyclopedias. Comprehensive Wikipedia is now the most popular encyclopedia on the Internet. There are many encyclopedias like Encyclopedia America, Encyclopedia Britannica, etc. which are not available for free, but there are free encyclopedias links below.
Free Encyclopedia website https://www.encyclopedia.com/
Wikipedia website https://www.wikipedia.org/

E-Newsletter
A medium known as a form of communication is the newspaper. The newsletter publishes news clippings, organized events, upcoming events, the current status of the publishing organization, staff news, new appointments, awards, professional news, etc. Some organizations publish free newsletters like ILA, INFLIBNET, MUCLA, etc.
ILA Newsletter website https://ilaindia.co.in/newsletter/newsletters
Inflibnet Newsletter website https://www.inflibnet.ac.in/publication/newsletter.php
MUCLA Newsletter https://www.mucla.in/newsletter.php
E-Databases

An Internet-based collection or catalog of information on multiple subjects or a specific topic is called an electronic database. Some database includes journal articles and research-related works. The database provides fields for searching articles such as subject, title, author, year, etc. There are various ways to search. Some databases have options for referencing, downloading articles, and searching for related articles. Following are some of the databases freely available on the internet.

Google Scholar database website https://scholar.google.com/
DOAJ database website https://doaj.org/
Research Gate website https://www.researchgate.net/

E-Learning platforms

Today, the addition of the internet along with electronic media for quality education has brought about a significant change in the field of education. Many educational institutions in India have created and are doing many online interactive e-materials as part of their Internet-based curriculum. Various subject experts working in higher education institutes across the country have created e-PG Pathshala through UGC, Government of India has appointed through SAWYAM 9 national coordinators namely, AICTE, NPTL, UGC, CEC, NCERT, NIOS, IGNOU, IIMB, NITTTR to create the online platform.

epgpathshala E-learning Platform website https://epgp.inflibnet.ac.in/
Swayam E-learning Platform website https://swayam.gov.in/
IGNOU E-learning Platform https://egyankosh.ac.in/
MOOCs E-learning Platform https://www.mooc.org/

Digital Library

Libraries used to keep only reading materials in printed form, but today electronic media is changing a lot. Printed material is also now being published in both formats, and its benefits everyone sees everywhere. Gradually, libraries are undergoing a major change in both electronic and print formats i.e. libraries are changing into hybrid mode. Now, these formats are becoming digital means only electronic, digital resources are internet-based, and digital libraries are now spreading. Links to some free digital libraries are given below.

National Digital Library Website https://ndl.iitkgp.ac.in/
Digital Library website https://digitallibrary.io/

Audiobooks

Books in electronic format have been available for a short time, but audiobooks are an invention for those who do not like to read or are blind or disabled. Recorded reading material can be accessed in seconds over the Internet and can be downloaded for listening or enjoyed at a later date. Librivox makes public domain recorded reading materials freely available on the Internet in the format of audio files. Through this, the aim of reaching every reader can be fulfilled by the library. Librivox free service link is below.

Librivox audiobooks website https://librivox.org/

Conclusion

Today, the number of sources of information is increasing everywhere, one of the contributions of which is the Internet, through which a lot of information is available in a short time. As printed reading materials are getting costly day by day and it is very difficult to academic libraries purchase every reading material. Library can take initiative and aware students about online free resources and make them available through some platform and putting links on library website. In that case, librarians should continue to search for information using various search engines to bring open resources to the attention of readers. Information directories should be made available using search engines like Yahoo, Google Scholar, SCIRUS, etc. Librarians should prepare index of freely available resources search easily and save the time of readers.
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5. DESIDOC E-journals website Retrieved from 05/01/2023 https://publications.drdo.gov.in/ojs/index.php/dilit
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Abstract:

Conventional knowledge hubs are facing different challenges in the process of dissemination of information. Providing facilities through using ICT infrastructure is a most useful as well as a challenging task for the librarian. Modern digital era readers need and satisfaction are totally different from which sources provided by the libraries. Today’s readers have the lowest interest to gain knowledge in such a systematic manner. They aren’t equal to current technological advancement. Day by day increasingly advanced technology is the horrible challenge to adopt and maintain the quality of resource sharing. The traditional resource centers are unable to acquire, current technology as well as they are mostly unsuccessful to accept and develop these systematic changes. Today’s readers have low interest to read books sitting in library and spent their time in such reading habits. In the modern digital era the patron is most user-friendly with the technology based social media. This research article tries to examine and put some suggestions or solution to tackle the actual challenge in present issue.

Keywords: Knowledge hub, Technology, Digital Era, Distracting changes, ICT Advancement, Conventional library, Dissemination of information,

Introduction:

The most significant change is the fastest innovation and development of technology and the highlighted appearance of the digital generation to us. Information and Communication technology is basic needs of everyone in this modern generation. All type of age groups is addicted of the technologies, so the library users are unaware of traditional knowledge as well as unknown about the printed media also. They have much more engaged their time in the technology-based social world. The present article has taken a look on changing role to deal with library ICT facilities. As we know more than users are interested to get knowledge or be like to busy with technology for their educational or informational need. They are never showing their interest to engage their time in using traditional reading material. There is librarian duty to maintain their quality and try to develop facilities of dissemination of information.

Highlighted impact of ICT on Knowledge hubs:

The transformation is rapidly broadening the wide range of technologies in working place. There are basic needs for everyone to connect with smart new technology, new platforms, and new types of digitally enabled services in knowledge hubs. If knowledge management is have difficult task to develop a conventional library system into digital. It should be more complicated to arrange in the proper manner. Reading culture is the springboard of any institution. It is the part and art of interpreting printed and written material and the most effective and essential process of conscious learning. But now a day’s digital invention and vastly upgrading technology is the bigger challenge to maintaining traditional reading culture. ICT-based information sharing may be most useful and famous among readers but it is not more effective to improve and develop to actual reading ability of users.

Distracting Highlights of ICT in reading culture:

In the modern digital era ICT based reading materials like internet or web based e-resources are highly distracting. If the reader or users are really unknown how to use it properly then so many barriers create in this ICT based resource sharing system. The systematic ways of dissemination of information are always both sided
by users and sources. There is some limitations and restrictions while using or accepting electronic information sources.

Let’s examine some reasons:-

1) Readers become habitual about gadgets and technology. They aren’t interested to acquiring knowledge from traditional sources.
2) Use of digital devices on screens may be not like tactile experiences of the actual reading process.
3) Accessing information on the computer can be easier but not comfortable. Because there technical issues like font size, hypertext, page design, and sliding of different advertisement should be distracting.
4) High define machine based technologies are frequently not more useful to users many times they create some critical issues.
5) Computer illiteracy and lack of knowledge about the technology shall be bigger barrier to the technology based dissemination of information.

Solution for attracting readers and make them familiar with reading culture:-

There is some instruction and some tricks to using it to attract users at knowledge hubs. And improve their reading ability to using with technology-based infrastructure. This is neither a bigger challenge nor impossible to establish it. If knowledge resources centers will focus on their quality-based facilities then it will most useful and change their image into a Digital environment.

1) Arrange ICT-based training workshop for the readers as well as employees.
2) Broadening the availability of quality in digital media.
3) Enhancing library services through digital information sources and changing the setup of conventional library into digital library.
4) Provide contents on the readers demand on the ICT platform.
5) Professional development avoids recurrent training of librarians.
6) Create virtual environment and set up the web-based teaching and learning system to the users.

Conclusion:-

A wonderful gift provided by ICT advancement and innovations is the most appreciable thing in global learning. Enhance the teaching and learning facilities while the support of ICT infrastructure is the most useful and user friendly to the reading culture. It is changing rapidly the nature of getting the information very quickly at a low cost in less time. If we are ignore their simple drawbacks and improvisation of qualities of dissemination of information through ICT advancement. Then it will most useful and highly appreciable by the users. Conventional or traditional knowledge resource centers have lots of ways to develop and enhance their facilities through ICT advancement. There is every knowledge resource center has to improve its quality in order to effectively integrate the use of information communication technology in the field of higher education especially related to the globalization of information.

References:-

The view of the professional library - a flux

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Abstract

India's ancient cultural and educational tradition throughout civilization has considered education the key to the development of mankind and society. The implementation of planned and systematic programs can lead to essential infrastructure development. After independence, planning and management of professional libraries is taking place in India. National libraries have been established and developed in the country. In the last seven decades, the country has progressed in economic, social, political, industrial, technological, agricultural, social, and commercial fields. A special financial provision was made in the Seventh Five Year Plan for library and information systems development. The new financial policy has seen an increase in the quality and professionalism of library and information technology. As information and technology flow rapidly in the 21st century, professional library institutions are also increasing.

Keywords: Professional Education, Library, College Library.

Introduction

It is the need of the hour for libraries to be able to cope with the revolution in the field of professional information and communication. Technological approaches, practices, and policies need to change with time if libraries in India are to benefit the user community with modern technology. The role of the library in modern society is known as the "gateway of knowledge" for society. In the professional information age, both printed and non-printed materials are housed in libraries. Also, traditional documents like books, journals, and newspapers, as well as non-traditional documents like maps, charts, etc., are kept together in the library.

A library is a place where there is a collection of books and reference materials in one room. The word library comes from the Latin word "Libreria" which means "place of books". It is derived from the word "liber" which means "book". Library definition there that is - A library is a Collection of information resources in print or in other forms that are organized and made accessible for reading or study. (Encyclopedia Britannica).

Librarianship: A profession concerned with acquiring and organizing collections of books and related materials in libraries and servicing readers and others with these resources.

A library is a collection of sources of information and similar resources, made accessible to a defined community for reference or borrowing. It provides physical or digital access to material and may be a physical building or room, a virtual space, or both. A library's collection can include books, periodicals, newspapers, manuscripts, films, maps, prints, documents, microform, CDs, cassettes, videotapes, DVDs, Blue-ray Discs, e-books, audiobooks, databases, and other formats. (Wikipedia)

Historical records of early library associations in India include the Baroda Library Association (1910), the Andhra Desa Library Association (1914), the Bengal Library Association (1927), and the Madras Library Association (1927). The Indian Library Association was established on 13th September 1933 on the occasion of the first All India Library Conference. It is the largest organization in the field of library and professional information science in the country. ILA completed fifty years in 1983. ILA has conducted more than 22 All India Library Conferences to date. After independence, many library institutions grew up. For example, the Government of India Library Association, (GILA), the Indian Association of Teachers of Library and Information Science (IATLIS), the Micrographic Congress of India (MIC); Society for Information Science (SIS).

Skill-based occupations are recognized to meet the basic needs of society. A professional business is defined as a person or organization having legal and moral rights to receive fair remuneration. All businesses are professionals but not all professionals are businesses. A professional occupation is characterized by the purpose of applying and serving humanity through intensive education and training in a specific field of knowledge.
Purpose of Education

Education essentially brings about intellectual development in individuals. What is best in man is his culture, and to do his best to contribute economically, socially, and politically to society. The basic function of education is to advance knowledge. Libraries are needed to foster the basic intellectual capacity of the human mind. Libraries provide universal access to all human knowledge. Education without a library is a body without a soul, a vehicle without an engine, and a building is a lump of bricks without cement. Education and the library are two sides of the same coin, which cannot be separated. Prosperity in real life requires deep reading and that can only be found in the library.

Professional Education

Professional education is the formal specialized educational training that provides students with the central concepts, principles, and techniques of a profession in real-life practice. Professional education creates a need for research for the development of science, technology, engineering, medicine, pharmacy, and teachers. Professional education has three important implications for professions in knowledge:

1) Professional specialization based on knowledge promotes knowledge in that field.

2) As the use of traditional professional knowledge becomes obsolete, the characteristic of professional knowledge in an occupation becomes not unsustainable. Because, knowledge and discoveries in professional education change more rapidly, although the use of traditional obsolete knowledge tends to become more specialized in narrower fields.

3) As specialization in professional education changes, the principle of specialization is easily shared across studies due to differences in its concepts and research.

Mahatma Phule, Rajarshi Shahu Maharaj, and Dr. B.R. Ambedkar's social reform movements realized the positive development of the state. Among the many achievements in agriculture, industry, knowledge, and technology, the most spectacular achievement is the development of higher professional education. The education policy of Maharashtra places the state in a unique position in its contribution to education in the country. According to the 2011 census, the literacy rate in Maharashtra showed a high trend, it was 82.34%. The male literacy rate was 88.38% while the female literacy rate was 69.87%. As a result of social and economic struggles, Maharashtra has made impressive achievements in education over the past few decades.

Contemplating the new system which was introduced by Mahatma Phule, expressed his anguish in the following words, 'Lack of education leads to lack of wisdom, which in turn leads to lack of justice. This leads to a lack of progress, which leads to lack of money and results in the oppression of the lower people. Equal access to education should be given to all human beings irrespective of religion, race, caste, or gender, and education should be universalized and compulsory education should be done by destroying the monopoly on education. Social justice should be given top priority while education inculcates humanitarian values. Professional education should include agriculture, health, and basic knowledge in the curriculum to meet the needs of society. The values of freedom, equality, fraternity, kindness, self-respect, devotion to country, and internationalism should be developed through education. It is necessary to make an effort to develop society by creating an education system that develops professional abilities and efficiency.

Library

The library is the gateway to knowledge. Where the ladder of knowledge is available for you to realize your dreams. You need a library to become the best in society and excel at work. A few decades ago, the library was underdeveloped. The reason for this is the Manusmriti-based social human caste system in which the established upper caste representatives enjoy the right to education. Caste polarization is still seen in the Indian social system. Education enables society to become talented. The development of libraries is becoming necessary for the progress of society.
Economic, social, political as well as traditional education, technology, science, medical, and professional educational institutions have undergone changes in India. Similarly, the traditional form of the library is changing towards modernity. In reality, the work of a librarian is not limited to keeping books on the counter or looking after their safety in the library, but the librarian has to do the duty of imparting knowledge-based inspiration to the reader by using skilled knowledge. Public and private education is spreading rapidly in the democratic system of our country. The role of the library in higher professional education has become important. Specialized libraries are also emerging to meet the needs of professional industries, government departments, universities, colleges, national laboratories, and higher professional research institutes.

Professional Library

Library and Information Science (LIS) is an innovative profession. Also, it is important for everyone entering the business to know its business approach and features. Awareness of professional duties, and tasks will help them effectively perform their role as professionals. Professional Educational Resources (PER) has been freely redistributed to education and educational content users for the past decade. Research manuscripts in open access (OA) literature are published online for free. Libraries bridge the gap between formal and informal knowledge dissemination through governmental and non-governmental organizations. India is a leader in information and technology. India is the third largest provider of educational facilities in the world. India is also facing steady development of professional educational resources (PER), various institutional national bodies like the National Digital Library (NDL), National Knowledge Commission of India (NKC), University Grants Commission (UGC) All India Council for Technical Education. Also, the National Association of Software and Services Companies (NASSCOM), the Government of India (GOI) National Mission on Education through Information and Communication Technology (NMEICT), Technology Enhanced Education (NPTEL), Open-Source Courseware Animation Repository (OSCAR), Consortium for Educational Content (CEC) is involved.

Professional librarians should serve customers in a professional and ethical manner. Professionals such as medicine, education, law, religion, and others are required to review the code of ethics by setting minimum standards of performance and enforcing the code of ethics in professional practice. The approach of professional librarianship should be one of professional ethical policy. In today's era, information technology has become a weapon. The use of information technology and the information requirements of users are increasing rapidly. Contact with professional libraries is a personal relationship for everyone.

"The aim of librarianship is to mediate in the humanities and humanities’ repositories of recorded knowledge and information and to mediate intellectual freedom and the creation of quality images of information by encouraging informed, enlightened, and empowered citizens". Librarianship in professional higher education exhibits its identity as a profession of professional techniques alongside more established professions such as medicine, law, management, etc. Professional librarians have to fulfill characteristics such as intellectual component, expertise, service orientation, altruistic motivation self-motivation autonomy etc. Considering Ranganathan's guiding principles of library science, service orientation should be encouraged in developing intellectual tools and techniques and recognition of librarianship as a profession as part of professional knowledge.

College Library

Since the beginning of the 21st century, college libraries have been given the opportunity to select and evaluate textbook materials as the core of the teaching process. There is increasing importance for students to use college libraries for democratic life and world affairs education, specialization, science, mathematics, foreign language learning, and new learning curricular methods. In professional librarianship, the library strives to support long-term services, collections, on-demand flexible circulation policies, acquisition of a variety of print and non-print materials in-library use, and new curricular programs. UGC provides comprehensive knowledge for procurement of reference books and textbooks as well as the latest teaching methods and techniques and books
to improve higher professional college education by freeing many colleges from the rigid regulation of traditional curriculum.

A college library should become a source of knowledge for students and faculty. The researcher should remain an integral part of the library resource curriculum. Book resources in the college are the mirror of academic work. A description of the academic work of college libraries in India by Prof. D.S. Kothari in the Education Commission Report (1964-66) said "The library should provide the library facilities and services necessary for the success of all formal education programs, open the door to the wider world of books beyond the boundaries of its own area of competence, and bring books, students and scholars together in such situations. The professional librarian should strive to develop the intellectual curiosity of students and faculty as well as staff to inculcate a culture of reading. College administrators should play a role in enabling college libraries to fulfill the academic functions of librarians and teachers to promote reading culture.

Administrators and Principals should be properly directed to develop a highly professional library system in the college. Faculty and students should have a free policy of book selection for research work. Seminars should be organized at the college level to inculcate interest in the library among the students. It is necessary to provide the guidance of the great writers of the literary world or expert researchers in the subject area to the students. For a college library, to be an intellectual, workshop for teaching, research, and academics, it must fulfill certain basic need requirements:
1) Involvement of students and faculty in the work and composition of library committees
2) The college should provide minimum expenditure on books based on library standards.
3) Faculty members in libraries and their obligation to use the library for teaching students.
4) The educational policy of the college should be student and library-oriented.
5) The college should train intellectual promoters (students).
6) The college should produce students who can use their knowledge to promote the values of democracy.
7) Colleges should abhor peace, freedom, love oppression, caste discrimination, religious hatred, and injustice to preserve the culture and civilization of the country.

College libraries should be called academic libraries because these libraries help students, research scholars, and professors to meet their academic knowledge needs. The higher professional academic library is a national valuable asset, which cannot be compared in physical and monetary terms.

Conclusion
The learning environment in a college library is a place where future knowledge is captured. In the knowledge age of the 21st century, libraries should not lag behind in the field of knowledge management from a professional perspective.

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Role of Technology in Outreach Activity

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Abstract

Digital technologies are electronic tools, systems, devices and resources that generate, store or process data. Well known examples include social media, online games, multimedia and mobile phones. The importance of technology into the classroom has become a priority at most levels of the curriculum in many countries around the world. This paper draws on the evaluation of Outreach Activity. This current study is also one such effort to explore the unprecedented diverse benefits of digitalization and use of digital technology. The study has found a significant role of digital technology in outreach activities adhering them according to the emerging demands of incorporation of new technologies. Technology can be a powerful tool for transforming learning. The current study has a certain implication in real life due to the emergence of new technologies; individuals are indulging in online activities. This paper present that the role of technology in outreach activity and various types of technology used in outreach activity.

Keywords: Digital Technology, Outreach Activity

Introduction

Technology can be a powerful tool for transforming learning. It can help affirm and advance relationships between educators and students, reinvent our approaches to learning and collaboration, shrink long-standing equity and accessibility gaps, and adapt learning experiences to meet the needs of all learners. Our schools, community colleges, adult learning centers and universities should be incubators of exploration and invention. Educators should be collaborators in learning, seeking new knowledge and constantly acquiring new skills alongside their students. Education leaders should set a vision for creating learning experiences that provide the right tools and supports for all learners to thrive. However, to realize fully the benefits of technology in our education system and provide authentic learning experiences, educators need to use technology effectively in their practice.

Digital technologies are electronic tools and resources that generate, store or process data. Social media, search engines, big data, smartphones, smart watches etc are all examples of the digital revolution we are living in. Indeed, this very article is another example of the digital age. Modern computers came into fashion in the 1960s, as computers were starting to be used for advanced calculations. This led to a growing need to connect networks and as a result, the Internet was born. The 1980s brought about the commercialization of the Internet and it was sure to become the marketplace of the future.

The first push that made a difference for Digital technologies came in the form of Smartphones. You can text, fax, email and maintain your calendar from your phone. This for me was the precursor of digital outreach.

This for me was the advent of Digital Outreach in the modern world, where marketing and information plans from big and small companies alike involved multiple digital channels through one person.

Objectives:

- To know the role of technology in outreach activity.
- To know various types of technology used in outreach activity.

Methodology:

Data was collected by using secondary sources related subjects of technology and outreach activity.
Result and Discussion

Digital Outreach

Outreach is the activity of reaching out to a population that had no previous access to a certain service, wherever they may be. An outreach strategy simply means the way and format you deliver your message and services.

Digital outreach further created a huge need for advanced digital products. This has since become a feedback loop. Digital products such as smart phones, applications, advertisements and social media have made outreach easier and changed the way of reaching the masses. In turn, this outreach has created a bigger demand for newer, more advanced digital products.

Exporter Outreach Tools

Many states have evolved markedly in their approach to private sector outreach since their initial implementation of programs. Aided by their own experience and learning from other states, competent authorities have learned what works and what does not, how to effectively target, and innovative ways to not only reach, but impact compliance behavior. These practices can be drawn upon for outreach to emerging technology sectors, even where existing export controls do not exist. This section will summarize many of the tools available to competent authorities and how they may or may not be applied in emerging technology sectors.

Tools of Technology for Digital Outreach and it’s role-

- **Website**: Effective outreach though websites implies more than having a page with a copy and paste of national and/or international regulations. Having a clear, informative, interactive, user-friendly website that can be easily found on web searches is now the minimum accepted best practice. The website should also contain contact information for the private sector to be able to reach out to relevant government personnel in case of an issue or question.

- **Newsletter**: While countries may choose the frequency of newsletters, regular mailings to target audiences with information about threat trends, red flags, changes/updates to regulations, helpful information, and case studies helps the private sector stay aware and informed of their obligations.

- **Twitter and LinkedIn**: Sharing the latest news with the community in a fashionable manner is Twitter's strong point, whereas LinkedIn is more often used to share the ethos of a company, employer branding, details of Twitter news, job vacancies etc. LinkedIn is fastly gaining notoriety as a complete professional digital outreach media platform, as it continues to add new tools such as LinkedIn Elevate to increase the visibility and boost the impact of content.

- **Facebook**: FB is considered more of a personal social network platform. This is exactly the network a lot of companies can benefit from. For example, a start-up based on the needs of working mothers - babysitting etc can benefit immensely from a social network like Facebook. For activities such as a cooking workshop, registrations can easily be managed on a platform such as Facebook. But it is important to note that Facebook is not limited to such activities, as it is also a major resource for crowdfunding activities, gaining the attention and trust of the crowds.

- **Blogs and LinkedIn articles**: Articles can be one of the most subtle forms of outreach and can also be the most direct form. For eg. a Linkedin article can be written for advertising new job positions and explaining the role of each position in it. This article can now be shared as many times as needed. In the more subtle versions, an enterprise does not directly communicate about what they do, but about the broader subject (which is of course related to them). This brings traffic and awareness.

- **Events and Hackathons**: One of the best ways to reach a massive audience effectively are events. Events can be tailored to suit specific audiences. For instance, a start-up challenge can be best formulated as a Hackathon. It is fun and at the end, a real solution might come out of it. Future collaborations coming out of the connections are bonus.
Webinars are one of the most common outreach activities to make your technology, science and future ideas reach the masses. Webinars make a talk or a presentation easily accessible and it can be listened to at a later time, thereby removing the scheduling conflicts. This has made the information flow very easy and accessible. Webinars are amazing, but they are not the easiest places to network. To make real connections, smaller intimate events with only 5 to 8 people can be executed. These ones help foster real connections as there is enough time to talk and converse.

SEM: Search Engine Marketing. By optimizing search engines for keywords searched on them, SEM brings a particular option as the top search result. This results in the page getting more views and in turn, raises awareness and knowledge of the product in question.

Pamphlet: Pamphlets can be mailed electronically, physically, or handed out at meetings and conferences. They provide a tangible, easy, low-cost way to interact with the private sector and while brief and easy to read, should include references to websites and other materials that provide more information.

Manual: While denser in substance, guides and manuals can provide specialized private sector personnel handy reference to relevant standards, regulations, and enforcement procedures, as well as details on specific procedures such as license applications, registrations, and more. Importantly, published guides and manuals must be regularly updated in order to ensure timeliness. Examples include internal compliance manuals and best practice guidelines.

Outreach event: In addition to written information disseminated in a variety of ways as listed above, investment in proactive, face-to-face engagement by government authorities with the private sector can enhance awareness and build relationships and trust that can often be long-lasting and effective. The lasting impact of outreach events depends on accurate targeting of organizations, including those identified to be the greatest risk of security threat based on risk analysis. These events should be structured to provide participants important information on regulations but also on trends, good practices, and incentives. An open line of communication should always be presented whereby the private sector can remain in contact post-event.

Conference: Conferences provide opportunities for equal engagement from the private and public sector. In addition, conferences organized by the public sector can provide advertisement or publicity opportunities for the private sector, an additional incentive to participate and learn. Telephone: Making calls to target sector organizations as well as leaving a telephone line of communication open can help establish regular, information communication and build trust between the government authorities and the private sector.

Conclusion

Digital outreach is not just the modern form of communication, but it pushes the market to develop more digital products and thus feeding the cycle of innovation. The resources for outreach are never ending. Websites, emails, applications and advertisements can all serve as outreach resources. It is the strategy that is chosen for outreach that decides the resources to be used. Digital technology has been the center of attention for a while for researchers. It has led to different findings and created new horizons relating to digital entrepreneurship, digital economies, etc. The initiation of digitalization leads to infinite opportunities to reap different benefits not only at the individual level but also at the mass level of organization and environment. The main focus of this study has been on the understanding he use of digital technology, the results have shown that there are certain organizational benefits in the use of digital technology.
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Electronic Resource Management in Library

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Abstract:
As libraries dramatically increased their numbers of licensed electronic resources in the 1990s, such as online journals and databases, they realized the need for a record-keeping system that would help manage the details of acquiring and maintaining them. Since no off-the-shelf product existed, some libraries developed their own tools to manage electronic resources. The development of locally designed electronic resource management systems; the process of developing the tools at several academic institutions is traced, with a focus on the aspects of the systems unique to each university. Locally developed electronic resource management systems have lead academic institutions to engage with other institutions and vendors building similar tools. As a result, community-wide efforts in identifying key elements for managing electronic resources have begun to emerge. These efforts lay the foundation for the future successful development of tools and standards to assist in electronic resource Management.

Keywords: E-Resources, Management, Copyright, Library Functions

Introduction:
This brief history of library electronic resources demonstrates that librarians provide access to electronic resources as a way to realize core library values. While certain problems have persisted throughout the development of these resources, such as the inability to adequately search across a variety of resources, there is hope that these problems will be resolved with time and effort from librarians and vendors. It is certain that whatever new electronic resources or ways of accessing them become available in the future, libraries will enter the fray with both enthusiasm and trepidation, along with the will to provide the best possible resources and services to their patrons.

Electronic resource management (ERM) is the practices and techniques used by librarians and library staff to track the selection, acquisition, licensing, access, maintenance, usage, evaluation, retention, and de-selection of a library’s electronic information resources.

ERM systems are designed to assist librarians with the acquisition and management of electronic resources. They provide tools to help manage the licensing and acquisition process and to provide access to materials. ERM is basically a tool for libraries and its impact relates to end-users. It is a one-stop solution for managing and accessing e-resources which develop with specific standards and compatibility.

● **Evaluation & selection:** User needs analysis is the process of learning more about a target population / patrons with a view to identifying their information needs. Hence, this concept is also referred to; Community analysis, user studies, information needs analysis, needs assessment and information audit. When performing the user analysis, the following elements should be taken into account. The amount of funding available, the quantity and expertise of the staff members, and the scope and depth of the study. However, there are options for choosing who conduct the can study. An institution can select or hire individuals who can conduct the information needs analysis using qualified experienced consultants or by creating a committee made up of own staff members and either the two afore mentioned combinations.

● **Acquisition, renewal / cancellation:** The ERM system helps to track the workflow from selection to acquisitions, license management to renewal and cancellation of the resource. This results in more systematic follow-up and finally makes the overall management straightforward from resource selection to user support. Moreover, many institutions have hired electronic resources coordinator/librarians to oversee the electronic resources process and communicate with content providers about products and
The revolution of e-resources has drastically changed the entire process of selection and acquisition of materials for collections and has added various challenges for librarians. E-resources have virtually transformed librarians into “cybrarians.” In addition to possessing subject-matter knowledge, librarians are involved in the organization of resources so that users can have quick and easy access. Now, they also are required to possess technology expertise for selecting and evaluating resources. Similarly, acquisitions/ER librarians require legal and technological knowledge and business negotiations skills.

Both selectors and acquisitions/ER librarians must work collaboratively with the technology, cataloging and public services departments. It is very important for librarians to keep up-to-date on various changes and developments taking place in the areas of collection development and acquisitions. They should keep themselves current by reading relevant journals, searching the Internet, and attending meetings and conferences as well as subscribing to related discussion lists. Some important journals, conferences, and lists relevant to collection development and acquisitions are listed under the Appendix.

- **License agreement and access rights**: The need for licenses for electronic resources that are acceptable to publishers, vendors, and librarians is substantial. As the number of licensed electronic products increased in the 1990’s, librarians began to gain expertise in understanding license terms, legal requirements, and appropriate procedures for entering into a legal contract between a publisher and the library or its parent organization. Library associations began to create lists of licensing principles in order to educate their members and take a formal position on many of the common issues encountered in the licensing negotiations. The three most recent sets of licensing principles from the library community have a great deal in common.

- **Usage statistics**: Usage statistics have come a long way in reliability, standardization, and ease of collection, thanks to efforts by librarians, publishers, and library system vendors working in collaboration. The standards codified by both COUNTER and SUSHI will help insure the quality of statistics and lead to improvements in both the statistics themselves and the method of gathering them. Despite these advances, there are still issues of stability, consistency, and the influence of the different publisher platforms on usage rates. The time required to gather and process these statistics will continue to be significant for the near term but are well worth the effort. Statistical information improves evaluation and decision making throughout the life cycle of electronic products, including new purchases, renewals, and cancellation projects. More than just a product evaluation tool, they help improve access to and use of electronic materials. Statistics enhance our ability to understand how and who uses our libraries, and how they use the products the libraries offer. Monitoring and collecting usage statistics is an especially important part of the process in determining renewal decisions for electronic resources.

- **Copyright**: The complexity of copyright and its implementation continues to grow, as does the intensity of attention the subject receives. Core to concept of copyright are these important ideas: the original intent of copyright as expressed in the Constitution, something that is unique to this country and which has fostered invention, knowledge, and dynamism; the all-important need to continue the balance between the rights of the author or owner with the rights of the user; and the translation of these concepts to electronic resources. Then, and only then, will copyright be able to work as it is supposed to work, whether in a traditional or an electronic environment. There is constant concern that the struggle to maintain balance will continue to be difficult. To achieve the full transformation of copyright to the electronic environment, therefore, requires continued effort by library staff and others in the legislative and educational arenas.

- **Implementation and administration of e-resources**: While academic librarians have often been bridge builders within their academic communities, electronic resources librarians are expected to be bridge builders within their library organizations. They often bring together administrators, technical services librarians, public services librarians, and systems librarians to focus on the current challenges of “any...
time, any place” delivery of library resources and services. The emphasis on communication and collaborative skills for these positions is an indication of the strong role electronic resources librarians play in fostering a team environment within their organizations. Electronic resources librarians are expected to be skilled communicators with an in-depth expertise of technology and the issues surrounding the acquisition, management, and organization of electronic resources. Just as a reference librarian or bibliographer develops expertise in a particular discipline or subject area, the electronic resources librarian develops expertise in managing people, relationships, and technology in a fast-paced, ever-changing library and information environment.

Examples of ERM:

- AMSL: Electronic Resource Management for Heterogeneous Data in Libraries, within the focus of the project is the development of methods and tools for the integration of library data and information from the Internet in the Linked Open Data Cloud. The goal is a scalable and usable, intelligent data management platform, normalize the diverse data from different provinces, networking and high demantified in RDF format and any other representation formats can gather. The focus kept on aligning a system complementary and data interoperability architecture concept, which is operated by system librarians. As part of the project a use case is to be realized, that provides resource management functions to ensure the efficient licensing, budgeting and management of electronic resources to the level of the smallest unit of publication.

- CORAL: It is an Electronic Resources Management System consisting of interoperable modules designed around the core components of managing electronic resources. It is made available as a free, open source program.

- ERAMS: (e-resource access and management services) are a way of thinking about library management to help libraries optimize the access, usage, data, and workflows of electronic library collections in the physical and digital library.

Conclusion:

The primary goals of e-resource management are to organize and share information. Many libraries have purchased commercial ERM systems to assist them in meeting these goals, while many others have not taken this step yet, because they found these systems either costly or wanting. ERM has an interesting history, passing through phases of informal tools, to standalone systems, to unified platforms. It will be interesting to observe how these tools evolve and if they are able to deliver new levels of efficiency in management or more effective means of discovery and access for library users. As libraries of all types see involvement of increasing proportions with electronic and digital formats, technologies and services initially developed for academic libraries may inform products and services created to serve other types of libraries.

References:

Abstract:

The present case study is usability study of KVM Library App. Mobile applications for information seeker has grown up tremendously with the growth of technology. From Children to adults all are finding their piece of information with this wireless technology. So the Kisan Veer Mahavidyalaya, Wai Library has been taking initiates to prepare its own Library App to strengthen the library services for its users. The study indicates that majority of uses are satisfied with the services of KVM Library app.

Keywords: ICT, Mobile App, Mobile Communication, E-Learning etc.

Introduction:

The act of transferring information while following a set procedure is referred to as communication. The daily lives of average people have been changed by mobile phones. Mobile phones, often known as cellular phones or cell phones, operate wirelessly and may be used anywhere without the need for wires or cords. Technology and libraries both evolve over time. Every area of modern life is significantly impacted by technology's dynamic nature. Information and Communication Technologies (ICT) in particular have facilitated quicker access to information while also posing a challenge for libraries to reevaluate and redesign their services in order to accommodate technological advancements.

Libraries have embraced ICT over the past few decades and have progressed through developmental stages such as automated housekeeping tasks, allowing for quicker access to its collection, and digitization, allowing for numerous accesses at users' desktops. In the present world, libraries are not the only sources of information; the Internet offers a vast variety of information, albeit the content is not always free and/or adds value. Libraries must not be afraid to adopt all available new technologies, including ICT, Wi-Fi, mobile communications, and Library 2.0 and 3.0, in order to redesign and transform their services in order to meet the needs of more discerning users who demand access to information whenever, wherever, and however they like.

With the advent of mobile technology, the "Libraries in Hand" trend has emerged. Our librarians are investigating how these gadgets are affecting access to information and making sure they are interacting with users and delivering web content in the most suitable and efficient manner possible. The challenge of increasing the market and need for mobile access to individualized facts and information anytime, anywhere on one's own handheld device must be accepted by our librarians, who must be ready to take it on.

Objectives:

1. To understand the KVM Library App.
2. Purposes of Mobile Library services.
3. To be familiar with KVM Library Mobile App.

Use of Smart Phones for Library Services:

ICT has collapsed barriers and promoted fast communication and interactions across boundaries. The need to meet life's basic challenges and responsibilities has informed the invention and the use of information technologies (Ademodi and Adepoju, 2009). Libraries are deeply interested in channels for the transmission of information, such as telephones and telephone lines, cellular networks, cable television, and the Internet.
Academic libraries are challenged in satisfying their customer's needs since their target market (researchers, lecturers, undergraduate, and postgraduate students) is demanding and dynamic. The Internet and World Wide Web (www) have made it possible for university teachers, researchers, and students to locate what they need without going to the library. If librarians in this sector are to continue to make substantial contributions as information disseminators, they will have to understand and exploit ICT infrastructure and emerging technologies in delivering services to their clientele (Ikhemuemhe, 2005). The following are the mobile phone services:

I. SMS/Texting (Alert Services)
II. Formal Education, Distance Learning and E-learning
III. Instant Messaging for Reference Services
IV. E-resources with Mobile Interfaces
V. Online Library Catalogs on Mobile Phones
VI. QR Codes on Mobiles
VII. Mobile-based Library Lending Service

Institutional Profile of KVM Wai Library:

Kisan Veer Mahavidyalaya, Wai was started as the "Arts and Commerce College, Wai" by the PrajnaPathshala Mandal, Wai in 1962. Founding Fathers of the college: Kisan Alias Abasaheb Veer, the veteran freedom fighter TarkateerthaLaxmanshastri Joshi, the renowned Sanskrit scholar. Initially, the college was affiliated to the University of Pune, Pune and after the establishment of Shivaji University, Kolhapur, it, along with the other colleges of the four districts of Satara, Sangli, Solapur and Kolhapur, was affiliated to the new university. Voluntary workers under the dynamic leadership of Kisan Veer came together and formed an educational society called Janata Shikshan Sanstha, Wai in 1967. The Sanstha was established for the purpose of imparting generally to the rising generation of India and in particular to the residents of Maharashtra, “a liberal and efficient Pre-primary, Primary, Secondary and Higher Education embodying a Social, Cultural, Scientific, Technical, Agricultural, Commercial, Industrial and Physical training”. Janata Shikshan Sanstha, Wai took over the management from the PrajnaPathshala Mandal on 1st April 1968. The New Main Building, constructed under the leadership of Shri Veer, was inaugurated at the hands of Hon. Shri. Yashwantrao Chavan, the then Foreign Minister of India, on 15th February 1976.

Hon. Shri Yashwantrao Chavan performed the Naming Ceremony of the ‘Arts and Commerce College’ as “Kisan Veer Mahavidyalaya, Wai” on 1st September 1980. Hon. Shri. Prataprao Bhosale, President and Trustee, and Hon. Shri. Laxmanrao Jadhav-Patil, Vice President and Trustee, of Janata ShikshanSanatha, Wai, both Ex-MPs, have provided dynamic leadership by making available quality education to the student population.

The total strength of students is 5800. The college Library has 78974 books and 64 magazines have been subscribed. The college library is computerized by using “Vriddhi” software developed by Hindustan Computers, Malegaon. The library provides traditional library services as well as modern library services. The Library has its own library website i.e. www.kvmwailibrary.weebly.com.

KVMWAI LIBRARY Mobile APP:

Kisan Veer Mahavidyalaya, Wai Library has started its own College Library App named “KVM Library”. The App has been developed by Vortix Software, Pune. It is uploaded on Google Playstore so that all users as well as students can download and install the app on their mobile phones. It is free of cost so that anyone can download and install. The App is user-friendly and acquires less than 5MB storage space. The second version of the App has been launched on April 2021. The Basic menus are New Arrival Books, Our Library Services, Our E-Resources, Our staff and Basic Information of Library.
Research Methodology:
The Kisan Veer Mahavidyalaya, Wai, students, faculties and staff members were invited for the survey. The random sampling was applied and total 300 sample population was chosen for the present study which includes 50 teachers, 25 non-teaching staff and 225 students from Arts, Commerce and science faculty including undergraduate and post graduate. The survey will provide information about how the students and faculties are using the KVM Library App. It will also helpful for to understand the satisfaction level of users.

Data Analysis and Interpretation:
Survey Method is used for to collect the data. The data has been analyzed by using charts and diagrams. The charts and diagram makes the picture clear of analysis and becomes easy to interpret.

a. Users of KVM Library App:

![Users Graphical Presentation](image)

The total strength of students is 5500 of senior college. 225 students, 50 teaching staff and 25 Non-teaching staff were selected for the present study.

b. PURPOSES OF USING MOBILE DEVICE:
The patrons are using their mobile device for various purposes like General Information need (82%), Academic Information (60%), Entertainment (88%), Research (49%), Playing Games (82%) and Searching E-Book or Articles (48%).

![Purposes of Using Mobile Device](image)
The analysis indicates that the majority of respondent are using their mobile for entrainment purpose and less used for research.

c. Use of E-Resource Services:

The above graph indicates that most of users are using the e-resource services very often.

d. Satisfaction level of Library App:

Fig. 4: Satisfaction level of Library App

Series1, 80% to 100%, 21.33, 21%
Series1, 60% to 80%, 59.00, 59%
Series1, 40% to 60%, 12.67, 13%
Series1, 20% to 40%, 4.67, 5%
Series1, Upto 20%, 2.33, 2%
Series1, Satisfaction Level, 0.00, 0%
80% of Users were expressed their opinion that the present KVM Library App works very satisfactory and the uses are very much satisfied with the e-resources services.

Findings and Suggestions:

1. The KVM Library App is more beneficial to all users and easy to use and also save the time.
2. The Library app is free on Google Play store and acquires very less space i.e. 5 MB only.
3. More than 80% of respondents are satisfied about the KVM Library App.
4. E-Resources are used very often by the users.
5. The Library App should be design according to the users demand.
6. The app should update regularly and always think about users’ requirement.

Conclusion:

In order to accommodate changing information demands of users in pursuit of organizational goals, library policies and services should be adaptable and open. In order to promote and incorporate new technology into the design of future library services in a cost-effective way, libraries must use it more effectively. The present study is focusing on how the college library should make use of Smartphone to strengthen the library services effectively through Mobile Library App. The Library App should provide the instant and easy access to information at any place and any time. It was mostly used by users in lockdown period.

References:

Disaster Management in the Library: A Review

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Abstract

This paper presents a review of disaster management and its implication in library. It covers various aspects related to disaster management. This paper also covers meaning of disaster, meaning of disaster management, types of disaster, library disasters and disaster planning etc.

Keywords: disaster, disaster management, types of disaster, library disasters and disaster planning etc.

1. Introduction

Libraries form the integral part of any institution. Libraries are supporting system of any organization. Aim of library is to fulfill the goals of parent organization. Accordingly, libraries procure various resources which are useful for stakeholders. These resources include print as well as non-print materials. Print resources include resources available in print form. Print resources include books, journals, reports, newspapers, textbooks, reference books, encyclopedia, directories, yearbooks, almanacs, maps etc. Non-print resources include resources available in non-print form. Non print materials include CDs, VCDs, e-books, e-journals, online databases etc. Libraries does not contain only these resources but other resources also. These are building, equipment, furniture, fixtures, infrastructure, human resources etc. All these resources are the integral part of libraries. As well as all these resources are valuable for the library. Libraries should take care of each and every resource. For securing these valuable resources libraries should be ready with disaster management plan. Disaster management is important part for the libraries and its stakeholders. Disasters include man made and natural. Manmade disasters may include mishandling, improper care etc. While natural disasters include rain, water, fire, earthquake etc. Libraries should be prepared for any kind of disasters and management of that disaster.

2. What is Disaster?

A disaster is the tragedy of a natural or human-made hazard (a hazard is a situation which poses a level of threat to life, health, property, or environment) that negatively affects society or environment. The Center for Research on the Epidemiology of Disasters (CRED) in Brussels, Belgium, uses the following definition. “A disaster is a situation or event which overwhelms local capacity, necessitating a request to a national or international level for external assistance.”

Generally, disaster includes following effects:
1. It completely affects the normal day to day life
2. It negatively influences the emergency systems
3. Normal needs and processes like food, shelter, health, etc. are affected and deteriorate depending on the intensity and severity of the disaster.

Thus, a disaster may have the following characteristics:-
Unpredictability, Unfamiliarity, Speed, Urgency, Uncertainty, Threat etc.

Thus, in simple terms we can define disaster as a hazard causing heavy loss to life, property and livelihood. In contemporary academia, disasters are seen as the consequence of inappropriately managed risk. These risks are the product of hazards and vulnerability. Hazards that strike in areas with low vulnerability are not considered a disaster, as is the case in uninhabited regions (Biswas and Choudhuri)
3. **Meaning of Disaster Management**

Disaster management in India refers to conservation of lives and property during a natural or man-made disaster. Disaster management plans are multi-layered and are planned to address issues such as floods, hurricanes, fires, mass failure of utilities and the rapid spread of disease. India is especially vulnerable to natural disasters because of its unique geo-climatic conditions, having recurrent floods, droughts, cyclones, earthquakes and landslides. Due to the vastness of the country different regions are vulnerable to different natural disasters. For example, during rainy season the peninsular regions of South India is mostly affected by cyclones and states of West India experience severe drought during summer. (Wikipedia)

4. **Types of Disaster**

- Natural: Geological, Hydrological, Climatic & atmospheric, Wildfire.
- Human-made: Sociological and Technological
- Technical Disaster.

**Kinds of Risk/Disaster:**

- There are three main kinds/types of risk/disaster:
- Natural Disasters
- Human/man-made Disasters
- Technical Disaster

**Natural Disasters:**

A natural disaster is an effect of natural hazard (for example volcanic eruption or earthquake) which affects humans. Human negligence, caused by the lack of appropriate emergency measurements, results in monetary, environmental, or human life impact.

Rain, flood, cyclone, earthquakes, drought, biological damages, micro-organisms, insects or vermin infestation, volcanic eruptions, cold wave, thunder storms, heat waves, mud slides, air quantity: temperature and humidity, sinkholes, etc. are the examples of natural disaster.

**Man Made Disasters:**

Disasters occurred due to human actions, negligence, error, or involving the failure of a system are called man-made disasters. Man-made disasters are categorized as technological or sociological. Technological disasters are occurred due to the failure of technology, such as engineering failures, transport disasters, or environmental disasters. Sociological disasters have a strong human motive, such as criminal acts, stampedes, riots and war etc.

Acts of war, terrorism, fires, water (broken pipes, leaking roofs, blocked drains), explosions, liquid chemical pollution, building deficiencies (Structure, design, environment, and maintenance), Power failures etc. are the examples of man-made disasters. (Biswas and Choudhury)

**Technical Disaster:** Disasters occurred due to technical errors are termed as technical disaster.

Collapse of shelving, other indoor structural accidents, computer system failure, elevator failure, power failure, heating and cooling system failure, telecommunication failure etc. are the examples of technical disaster. (Ata Ur Rehman, 2014)

5. **Disaster management:**

Disaster Management is defined by the Disaster Management Act 57 of 2002 as a continuous and integrated multi-sectoral, multidisciplinary process of planning, and implementation of measures, aimed at

- Preventing or reducing the risk of disasters;
- Mitigating the severity or consequences of disasters;
- Emergency preparedness;
- Rapid and effective response to disasters; and
- Post-disaster recovery and rehabilitation. (Dr. Dewald van Niekerk, 2007)
6. Library disasters and disaster planning:

   We know there are three kinds of disasters namely natural disasters, human/man-made disasters and technical disaster.

   Natural disaster is caused due to natural hazard. This includes the rain, flood, earthquake, volcano etc. These disaster may harm the libraries and library materials. For preventing natural disaster we can do the preventive measures like planning library building resistance to these natural disasters. We can’t avoid these disasters to full extent because these are natural but we can make sure to reduce effect of these disasters.

   Disasters occurred due to human actions, negligence, error, or involving the failure of a system are called man-made disasters. These are further categorized as technological or sociological disasters. As these disasters are caused due to human actions we can avoid these disasters in libraries. For that expertise should be used, proper training should be given to human resources.

   Disasters which are occurred due to technical errors are called as technical disaster. This includes technical failures. We can avoid these disasters in libraries. For this standard procedures and materials should be used in libraries. We can avoid this type of disasters to full extent because these are in the hands of human being.

7. Conclusion:

   Disaster is a serious phenomenon which affects human, nature, society and environment. It also has serious effect on libraries also. For that library professionals should be aware about various disasters and accordingly proper preventive measures should be taken to avoid damage to library and library materials.

8. References:
Importance of Disaster Management in College Libraries

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Abstract
The present paper highlights the importance of library and information centres in managing a disaster or any emergency. The main thrust of the paper is to explore the possible roles that the library professionals may assume in case of disasters besides their regular or routine jobs. The concept of disaster management, types of man-made and natural disasters have also been discussed in detail. The paper discusses library professionals' role in managing the emergencies for the local community in particular and for the library and information centres in general. Libraries are important institutions that provide information to users. Disasters in Libraries are not new. Different kinds of disaster affect the libraries. Disaster threatens human safety or endangers a library building, its resources human, documents, equipment’s and services. It is vital for the management of a library to make sure that the building and library premises are safe for public to come, for the staff to work and provide services.

Keywords - Disaster, Disaster Management, College libraries, Earthquake, And new technology

Introduction
The library and information centres world over have experienced a sea change in the methods of acquiring, processing, storing and making that information available to the end-users especially after a revolution in the information and communication technologies. Libraries have very successfully geared themselves to adopt any new technology that is emerging with new innovations every day. Libraries are now functional 24x7 day and night in a networked world. Disasters not only damage the library collections, the library building, and harm the library staff and the readers but also disrupt the services. If libraries are prepared, it will help the library to minimize the impact of a disaster and restore collections and resume services at the earliest. So, Disaster management and planning should be one of the most important aspects of library management. Such disasters in any library can damage the print material, documents, records, computer systems and the invaluable information stored in different storage media.

Objective
The objective of the present study is to ascertain and suggest the roles, a librarian and the supporting staff, library and information centre may assume or perform during any disaster or emergency. How the institutional level or college level can be helpful during any emergency for the community and how a disaster can be best managed by pre planning, preparation and response are the other angles of this study. So, in this paper its aims to spread awareness among people and sensitise the library professionals in particular for their prospective roles in case of any emergency.

Concept of Disaster Management
Eden and Mathew (1996) define disaster as an incident which threatens human life/ or/ and damages or threaten to damage a library building, collections, equipment and systems. The Dictionary for Library and Information Services (2005) defines a disaster plan as a set of written procedures prepared by the library staff in advance to deal with an unexpected occurrence that has the potential to cause injury to personnel or damage to equipment or to collections and/ or to facilities sufficient to warrant temporary suspension of services. (Pardeep Rattan12)

Various Types of Disasters
Disasters or emergencies can be caused or produced by a variety of natural and man-made agents. The natural agents or reasons of disasters can be climate and weather with their different phenomena such as clouds,
precipitation, avalanches, blizzards, dust storms, drought, earthquakes, floods, tsunamis, hurricanes, landslides, wildfires, tornadoes, volcanic eruptions and many more. The man made reasons may vary from the poor design, war and quality of the buildings and properties to no or very poor maintenance, leakages, electric short circuits, burglary, etc.

Some of the other Disasters

Natural Disasters

* Rain and wind storms
* Floods
* Biological agents (micro-organisms, insect or vermin infestation)
* Earthquakes
* Volcanic eruptions

Man-Made Disasters

* Acts of war and terrorism
* Fires
* Water (broken pipes, leaking roofs, blocked drains, fire extinguishing)
* Explosions
* Liquid chemical spills
* Building deficiencies (structure, design, environment, maintenance)
* Power failures
* Natural disasters cannot be prevented, but measures can be taken to

Disaster Management for College Library

Disaster management plan is a must be incorporated in initial planning of establishing a library and information centre. Several smaller pointers for a comprehensive disaster management plan, which are independent of each other but are interlinked, as parts of whole plan are set forth. The disaster and its control mechanism normally go through three stages – before, during and after. All these three stages are kept to be kept in mind while planning to minimise the impact and recover out of potential emergencies. Each disaster plan must cover whole of the library and information centre including staff, readers, sources of information, equipment and infrastructure and it must be a team effort. The disaster control plan involves four stages as following

1. Prevention ,
2. Preparedness,
3. Reaction , and
4. Recovery.

Information Technology for Disaster Prevention

The technological advancements especially in the information and communication sector have provided a real yardstick to warn, prepare, share, respond, quickly to a disaster for minimising its impact and in some cases it is even possible to avoid the damages by a natural disaster. Following technologies can be helpful in the reduction of damage by a disaster:

1. Remote Sensing Technology,
2. Geographic Information System,
3. Global Positioning System,
4. Forecasting and Warning System,
5. Communication Technology,
6. Internet.
**Prevention**

Identify and minimize the risks posed by the building, its equipment and fittings, and the natural hazards of the area.

1. Carry out a building inspection and alter factors which constitute a potential hazard.
2. Establish routine housekeeping and maintenance measures to withstand disaster in buildings and surrounding areas.
3. Install automatic fire detection and extinguishing systems, and water-sensing alarms.
4. Take special precautions during unusual periods of increased risk, such as building renovation.
5. Make special arrangements to ensure the safety of library or archival material when exhibited.
6. Provide security copies of vital records such as collection inventories, and store these off-site. Protect computers and data through provision of uninterrupted power supply.
7. Have comprehensive insurance for the library or archives, its contents, the cost of salvage operations, and potential replacement, re-binding and restoration of damaged materials.

**Preparedness**

Getting ready to cope.

- Develop a written preparedness, response and recovery plan.
- Keep the plan up-to-date, and test it.
- Keep together supplies and equipment required in a disaster and maintain them.
- Establish and train an in-house disaster response team. Training in:
  - disaster response techniques,
  - identification and marking on floor-plans and enclosures of irreplaceable and important material for priority salvage.
- Prepare and keep an up-to-date set of documentation including:
  - Building floor-plans, with locations of cut-off switches and valves.
  - Inventory of holdings, with priorities for salvage marked on floor-plans.
  - List of names, addresses, and home telephone numbers of personnel with emergency responsibilities.
  - List of names, addresses, and home telephone numbers of the in-house disaster response team.
  - List of names, addresses and home telephone numbers of trained conservators with experience in salvaging water-damaged materials, resource organisations, and other facilities able to offer support in the event of a disaster.
  - List of disaster control services, in-house supplies and equipment, and in any central store, including locations and names of contacts with home telephone numbers.
  - List of suppliers of services and sources of additional equipment and supplies, including names of contacts and home telephone numbers.
  - Arrangements made to access freezing facilities.
  - Arrangements for funding emergency needs.
  - Copies of insurance policies.
  - Salvage procedures.
  - Distribute the plan and documentation to appropriate locations on- and off-site.
  - Institute procedures to notify appropriate people of the disaster and assemble them rapidly Audiovisual Archives Associations FIAF, FIAT, and IASA.(http://www.Disaster planning6)

**Future Line of Action**

Lack of planning at all levels, lack of mitigation planning, lack of coordination and networking, delayed response and lack of trained man power, forces us to think that how serious are the authorities and library professionals for having a proper disaster management action plan. The importance of planning of disaster...
reduction needs serious and concerted efforts with a multi layered cooperation and coordination between all the stake holders, i.e., government agencies, NGOs, and library and information centres.

Conclusion

Creation of a disaster management knowledge base related to different disasters occurred anywhere in the world in a networked mode, including the counter and recovery plans is the need of the hour. Mobile libraries can help to a greater extent in educating the people to safeguard themselves against emergencies. The library and information science curricula also needs to be modified keeping in view the importance of disaster management for library and information centres and above all because libraries world over act as service agencies and librarians as service and information handling managers.

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Disaster Management in College Libraries

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Abstract:
Disaster preparation and management are essential for the smooth operation of libraries. Disasters can strike libraries and information centers in a variety of ways. This presentation discusses numerous natural catastrophes and tragedies that might occur in libraries. The calamities endanger library structures, collections, equipment, and systems. Libraries and information centers must play an important role in the preservation of their collections and paraphernalia. As a result, rigorous disaster preparation is required to mitigate the dangerous effects of catastrophes on libraries. The study also tackles disaster planning, preparation, response, and recovery.

Keywords: Disaster management, Natural Disasters, Man-made Disasters, Disaster plan, Insurance.

Introduction
Libraries are essential organizations that would provide people with information. Disasters in libraries are not uncommon. Libraries are subjected to a variety of catastrophes. A crisis endangers human safety or the people, documents, technology, and social investment of a library facility. Library management must ensure that the building and library premises are safe for the general public to visit as well as for personnel to work and deliver services. Mishaps in libraries not only damage the library's resources and facilities, as well as its personnel and visitors, but they also create service interruptions. Libraries that are prepared can minimize the consequences of a disaster and recover collections and services as quickly as possible. As a result, disaster management and preparation should be one of the most crucial aspects of library administration. A disaster plan is defined as follows by the Dictionary for Library and Information Services (2005): "A set of written procedures prepared by the library staff in advance to deal with an unexpected occurrence that has the potential to cause injury to personnel or damage to equipment or collections and/or to facilities sufficient to warrant temporary suspension of services. Such disasters in any library can harm print materials, papers, records, computer systems, and important information kept on various storage media."

Disaster:
According to the United Nations, a disaster is a major disturbance in the operation of a community or society that involves extensive human, material, economic, or environmental consequences that surpass the afflicted community's or society's capacity to manage using its own resources.

Disaster Management in India:
A disaster is described as a widespread disturbance that occurs over a short or long period of time, whether natural or man-made. Disaster management has been a prominent subject in India due to the frequency of natural catastrophes such as floods, and droughts.

The death and property damage resulting from natural disasters has been slowly increasing around the globe as a result of insufficient disaster response equipment, population increase, climate change, and continued environmental degradation. Global disaster management attempts have fallen short of meeting the magnitude and frequency of natural disasters.

Types of Disasters:
As with any other institution, libraries are susceptible to natural disasters which destroy, destroy, or drown books and other valuable documents in water. These consequences are often irreversible. Fire and/or water can
be the principal cause or result of a disaster like an earthquake, flooding, or lightning. Disasters' causes have been discovered. Natural disasters are often so unforeseen that they take the organization off guard. Natural catastrophes include floods, earthquake, volcanic eruptions, winds or rain showers, lightning, and Tsunamis. Man-made disasters occur as a consequence of human negligence or purposeful criminal action. Fire, theft, war, theft, building defects, and/or personnel irresponsibility in their given jobs are examples of these.

1. Natural Disaster

Floods:
As previously reported, the River Arno inundated Florence's Biblioteca Nazionale Centrale of Italy in 1966. During the August 2000 storm in Hyderabad, the SunderayyaVignana Kendra Library's unique collection was submerged in water. Floods destroyed Jammu University's primary source materials on acclaimed Urdu poet Iqbal's authentic writings.

Earthquake:
People who were displaced by an earthquake in Muzaffrabad, Pakistan-held Kashmir, in 2005 burned 1000 books to stay warm during the bitter winter months.

2. Man-made Disasters

This category includes emergencies that occur as a consequence of people's unintended or intentional acts (staff and users). Warfare and terrorist attacks are covered, and so are fires triggered by short connections and library floods due to pipe breaches or leakage. Building problems and poor building maintenance can also contribute to an emergency. Power outages have the potential to cause an emergency. Once the flood has retreated, flooding leaves dampness in leaves its wake, which would be created by biological creatures that destroy the books.

War and Arson:
As previously noted, the Alexandria Library was burnt during Caesar's reign in the second century BC, resulting in the rights and human dignity of library loss and destruction caused by fighting. During the first half of the twentieth century, most European countries' libraries suffered devastating devastation as a result of the two World Wars. Recent examples include Serbia's invasion of Bosnia and Herzegovina in 1992, the United States' war on Iraq in 2003, and the Soviet Union's attack on Afghanistan in 1979. There were 23 reported library fires in the United States in 1980-81, including 17 (or 85%) of them being arson fires.

Theft:
Thefts have caused harm to libraries in the sense of value rather than scale. The majority of the books stolen from libraries are expensive and extremely rare volumes containing paintings or other items. “Within a few days of forces entering Baghdad, the looters ransacked the National Museum and stole about 15000 priceless artifacts”

Building Deficiency and Negligence:
The US National Fire Protection Association stated that an automatic water sprinkler system may have prevented the fire at the Los Angeles Central Library in 1986. The cause of a catastrophe with in USSR Academy of Sciences Library in 1988 was discovered to be poor electrical wiring. 1.56 million Indian and 8 lakh international patent literatures are degrading at the Patent Registration Office library, Government of India, Kolkata, due to a lack of appropriate preservation techniques.

Security System:
The security of the library is focused on the protection of both staff and users. It also involves basic library building security and safeguarding against theft of library goods and assets.

- Avoiding unnecessary back doors and strengthening critical access points all through the design process.
- The interior arrangement should be designed to provide the best possible view of public places.
- Adding burglar-proof bars/grills to rear doors, in addition to a burglar alarm and emergency exits.
- Installation of CCTV and RFID systems.
• Adequate illumination both within and outside the building.
• Construct a barrier entrance at the exit location.
• An intruder alarm system is installed in special collection locations.

On a regular basis:
• Establishment of a restricted-access system for collections.
• The main entry and rare material room keys should be approved and logged in a payment platform.
• Standard-grade locks are used.

Insurance:-

The financial loss suffered by a library following a disaster is usually considerable, so it comprises loss of material, the cost of recovery, possible candidates, rehabilitation of destroyed resources, and the rebuilding of damaged structural parts.

As a consequence, there is considerable justification for acquiring disaster insurance. The protection should be comprehensive enough just to cover all potential losses. Nevertheless, since insurance cover negotiation involves the use of several technical terms, it must be carried out by someone who is well-versed in insurance language. If a disaster happens, the damages must be conveyed to the company as quickly as possible once the situation has stabilized. As just a consequence, the library is required to preserve records of any valuable resources protected by policy, and these documents must be held in a safe location far away from the building. The coverage schedule must be reviewed on a frequent basis as the value of the covered items changes. In this regard, a documented disaster management plan facilitates the submission of claims with insurance companies.

Conclusion:

A catastrophe control strategy is not only important but also vital for catastrophe management. Disaster management infrastructure should be constructed, as well as an emergency response system should indeed be established and updated as needed. It is crucial and incredibly necessary to educate people and increase their understanding of disaster management. Different kinds of libraries should collaborate, as well as the national Government should lead the way in building a disaster preparedness paradigm. To help in disaster relief, libraries might give or pool their institutional resources. Collaboration between libraries in crisis management can take many forms, including coordinated training programs, the buying and warehousing of emergency supplies, and so on. Through crisis management counseling, government bodies and professional groups might also assist libraries and library workers.

Natural disasters, including floods or earthquakes, as well as human negligence or purposeful action, such as war, fire, and robbery, are examples of disasters. Numerous libraries have already been damaged in the past as a result of natural disasters. National and worldwide awareness and preventative actions are now in place to safeguard libraries from disasters. Disaster management is becoming an increasingly important aspect of library administration.

References:
Abstract:
Disaster management in libraries is an essential component to keep libraries safe and secure. Implementing tools and strategies to mitigate risk, handle emergencies efficiently, and plan for the future are all important aspects of the library profession with respect to disaster management. It is important to be properly prepared with adequate knowledge to handle any crisis situation properly. By incorporating disaster management in libraries, it is possible to create a safe environment.

This paper examines the challenges faced by libraries in Maharashtra in disaster management and makes some suggestions for possible solutions. Survey method was used in this study questionnaire and interview techniques were used for data collection.

KEYWORDS: Disaster management, Disaster plan, public libraries, Maharashtra State Library Authority, Challenges faced by libraries, Libraries affected by the disasters

INTRODUCTION:
Disasters can happen anywhere in the world at any time. The type of disaster that is likely to occur is largely determined by the current environmental, political, economic or social conditions of the region or country. In recent years, the devastating effects of disasters on communities and libraries have been felt across the country. In response to these challenges, it is necessary to develop necessary strategies for libraries to prevent damage from any disaster.

Information resources are kept safe by libraries because they have very old collections that preserve our cultural heritage. The libraries are represents the goals of the parent organization so the value of these resources is very high. Many people in Maharashtra depends on libraries for information services as they can hardly afford to purchase the necessary resources themselves. A catastrophic events can easily result in the loss of the entire investment. Disaster management in this context tries to reduce loss and damage as much as possible.

This article discusses the challenges faced by public libraries in Maharashtra in disaster management and makes some suggestions for possible solutions.

Definitions:
1. Disaster
The World Health Organisation (WHO) defines Disaster as "any occurrence that causes damage, ecological disruption, loss of human life, deterioration of health and health services, on a scale sufficient to warrant an extraordinary response from outside the affected community or area."

2. Disaster management
According to Kelly (1996),"Disaster management" can be defined as the range of activities designed to maintain control over disaster and emergency situations and to provide a framework for helping those who are at risk to avoid or recover from the impact of the disaster.

3. Disaster plan
A set of written procedures prepared in advance by the staff of a library to deal with an unexpected occurrence that has the potential to cause injury to personnel or damage to equipment, collections and/or facilities sufficient to warrant temporary suspension of services (Reitz, 2004).
4. Public Libraries

The public library, the local gateway to knowledge, provides a basic condition for lifelong learning, independent decision-making and cultural development of the individual and social groups.’ (IFLA/UNESCO Public Library Manifesto, 1994)

DISASTER IN PUBLIC LIBRARIES OF MAHARASHTRA:

The public libraries of Maharashtra have been facing a number of disasters in recent years. These disasters have had a devastating impact on the library system, resulting in the closure of many libraries and the loss of valuable resources.

The most significant disaster to affect the public libraries of Maharashtra was the floods of 2019. This natural disaster caused extensive damage to the library infrastructure, with many libraries being completely destroyed. The floods also caused the loss of many books and other resources, which had been collected over the years. This has had a significant impact on the availability of resources for the public, as many of the books and other resources were irreplaceable.

The floods of 2019 were not the only disaster to affect the public libraries of Maharashtra. In 2020, the state was hit by a severe drought, which caused a significant decrease in the availability of water. This had a direct impact on the library system, as many libraries were unable to operate due to the lack of water. This resulted in the closure of many libraries, and the loss of valuable resources.

The public libraries of Maharashtra have also been affected by the COVID-19 pandemic. The pandemic has caused a significant decrease in the number of visitors to the libraries, as people are encouraged to stay at home. This has had a significant impact on the library system, as many libraries have had to reduce their hours or close completely due to the lack of visitors.

The disasters that have affected the public libraries of Maharashtra have had a devastating impact on the library system. Many libraries have been forced to close, and valuable resources have been lost. This has had a significant impact on the availability of resources for the public, as many of the books and other resources were irreplaceable. It is essential that the government takes steps to ensure that the public libraries of Maharashtra are protected from future disasters, and that the resources that have been lost are replaced.

PUBLIC LIBRARIES AFFECTED BY DISASTERS:

Maharashtra is home to a number of public libraries, many of which have been affected by disasters over the years. The most recent disaster to affect the state was the 2005, 2019, 2021 floods, which caused extensive damage to many of the public libraries in the state. For this research, the researcher has collected information from public libraries in different regions of Maharashtra, such as Amravati, Nashik, Pune, Mumbai, Aurangabad and Nagpur.

The Maharashtra State Library Authority (MSLA) is responsible for the maintenance and upkeep of the public libraries in the state. The MSLA has reported that more than 200 public libraries in the state were affected by the floods, with some of them being completely destroyed. They have taken steps to rebuild and restore the affected libraries, and has also provided financial assistance to the affected libraries.

The MSLA has provided assistance to the affected libraries in the form of research materials, training, and other resources. Overall, the MSLA has taken steps to ensure that the affected libraries are able to continue to serve the public, and to provide access to books, digital resources, educational resources, cultural resources, recreational resources, and research resources.

DISASTER MANAGEMENT IN PUBLIC LIBRARIES

Disaster management is an important part of every library in Maharashtra. It involves planning, organizing, and managing resources to mitigate the effects of natural disasters or other emergencies on library collections and services. Disaster management includes strategies for preventing damage to library collections.
and services, training programs for librarians on disaster preparedness, and collaboration with other agencies and developing plans for recovery in the event of a disaster. Additionally, libraries can use technology such as mobile apps and digital tools to help them prepare for disasters and manage their recovery efforts. These tools can help librarians quickly assess damage and take appropriate action in order to reduce losses due to natural disasters.

In Maharashtra, public libraries are responsible for implementing disaster management strategies that focus on protecting both physical and digital library collections from floods, fires, earthquakes, and other natural disasters. These strategies include risk assessment and emergency planning to outline procedures for responding to disaster situations. In addition, public libraries should ensure that staff members are trained in the proper protocols for responding to disaster situations and that appropriate safety measures are in place to protect library patrons in the event of an emergency.

Disaster management is an important area of public libraries in Maharashtra. Public libraries are vulnerable to natural disasters such as floods, earthquakes, and fire. It is essential for public libraries to have a plan in place to prevent and mitigate the effects of these disasters. Public libraries must also be prepared to respond quickly and effectively when a disaster occurs.

DISASTER MANAGEMENT CHALLENGES FACING PUBLIC LIBRARIES IN MAHARASHTRA

Public libraries in Maharashtra face a number of challenges when it comes to disaster management. The state is prone to natural disasters such as floods, cyclones, and earthquakes, as well as biological and man-made disasters. In order to effectively manage these disasters, public libraries must be prepared to respond quickly and efficiently.

Some of the major challenges facing public libraries in Maharashtra are discussed below.

1. Lack of resources:
   One of the biggest challenges facing public libraries in Maharashtra is the lack of resources. Many libraries reported a lack of funding to purchase equipment and supplies needed to respond to a disaster. This can include items such as emergency generators, water pumps, water sprinklers, alarms, smoke detectors, Vacuum cleaner, Fire extinguisher, Sand buckets, and other emergency supplies.

2. Training:
   Many libraries complain that they lack the staff and training needed to respond to a disaster. Without the proper training and resources, libraries may not be able to respond quickly and effectively to a disaster.

3. Communication and Coordination
   Another challenge facing public libraries in Maharashtra is the lack of communication and coordination between libraries. In the event of a disaster, it is important for libraries to be able to communicate and coordinate with each other in order to provide the best possible response. However, many libraries lack the necessary communication infrastructure to do this. Without the ability to communicate and coordinate, libraries may not be able to provide the best possible response to a disaster.

4. Access to information:
   Many libraries reported they face the challenge of limited access of information. In the event of a disaster, it is important for libraries to be able to access and disseminate accurate and up-to-date information. However, many libraries lack the necessary resources to access and disseminate this information. Without access to accurate and up-to-date information, libraries may not be able to provide the best possible response to a disaster.

5. Financial constraints
   Many libraries are facing budget constraints. Many organizations deliberately exclude disaster management in their annual budgets. It is being neglected to meet other needs. Many libraries in Maharashtra reported that Books are stolen by some users especially where technical security measures are not in place. Manual security checks are used but those not useful. Electronic security systems are expensive and not all libraries can afford them.
6. Limited insurance covers
Libraries have special insurance needs but institutions do not insure their library assets. Some libraries insurance coverage includes personnel, building and possibly available facilities. But information resources are abandoned which cost more. Many libraries do not have a proper approach to insurance.

7. Rare occurrence of major disasters
It has been observed that earthquakes, volcanoes, cyclones and man-made disasters have affected fewer libraries. The number of libraries with high disaster intensity is small. Especially in the 2005, 2019, 2021 floods some public libraries in Maharashtra were hit by floods. Overall, public libraries in Maharashtra face a number of challenges when it comes to disaster management. Without the necessary resources, communication infrastructure, and access to information, libraries may not be able to provide the best possible response to a disaster. In order to effectively manage disasters, public libraries must be prepared to respond quickly and efficiently.

SUGGESTIONS:
Disasters include critical information loss, technology failures, and lack of effective backup and recovery operations. Solutions to these challenges include automation, conducting regular audits to identify system vulnerabilities, and using secure cloud computing. Libraries require strong strategies for disaster management, including disaster preparedness and response. Every library should educate library staff on how to save library materials and equipment during and after a disaster. Libraries must have insurance coverage policies for staff, building and available facilities and resources. Organizations must have provisions for disaster management in their annual budgets.

By doing so, librarians can better mitigate the risks associated with potential disasters and ensure that their libraries data remains secure.

CONCLUSION:
Predicting the future is difficult. Climate change caused by global warming also affects public libraries. Flooding, biological hazards, Earthquakes and man-made hazards have been identified as potential threats to public libraries in Maharashtra. Low frequency of occurrence of major disasters in Maharashtra should be seen as an opportunity for proper disaster management. It is therefore important that libraries should have preventive measures and emergency procedures in place to protect against the impact of disaster and gradually raise and set aside funds as well as establish facilities for disaster management. It will help to avoid disaster.

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Green Technology in Library

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Abstract

The world is facing the unknown consequences of climate change, where the terms pollution-waste, and reduction of natural coffers has come a part of our diurnal lives. Libraries of the 21st century have the eventuality to play the leadership part and address the issue of environmental sustainability by developing green libraries. The end of the paper is to give a holistic approach and understanding to the conception of green libraries. The composition has distributed four major measures and practices to help develop a green library(1) by having a green design and inners,(2) by incorporating green practices in day-to-day operations of libraries, (3) green collection development and knowledge programmers, and (4) espousing arising innovative and smart technologies that can be integrated into the functioning of libraries. Significant findings of former literature on the status of green libraries in India and the impact of green libraries in energy reduction are also banded. The paper analyses the LEED and GRIHA green-structure standing system, green library enterprise accepted in India, and the objects of the IFLA Green Library Award. The composition gives an sapience into the strategic green library practices espoused by Rangsit University, winner of the IFLA Green Library Award 2020, and the donation of a green library in achieving the UN Sustainable Development Goals 2030. The composition concludes with major perpectivity that the author has observed, after assessing green library literature, giving suggestions for promoting and enforcing green libraries.

Keywords: Green Libraries, Green Library in India, Technologies for Green Libraries, Green Library Challenges

Introduction

The expression “Green library” enters in library sphere and seems to suffuse the library and information wisdom literature. Green or sustainable libraries are the edifice that's designed, erected, repaired, operated or reused in an ecological and resource effective manner. It colloquially refers to a library structure that’s certified as an environmentally friendly structure. This trend implies that a green structure is a needful qualification for a library to be considered a “green library”. Green Library contributes towards maintaining the natural ecological balance in the terrain and conserving the earth and its natural systems and coffers. It also improves day to day operations and procedures of the library as well as clearing the community about responsible environmental practices. Libraries considering green design will frequently look at the Leadership in Energy and Environmental Design (LEED) standing system. Brown (2003) identifies the following green design rudiments which can be incorporated into libraries

➢ Community Collaborations Make sure that community means are efficiently used and help to maintain public support.
➢ Daylight Pair daylight with artificial lighting to reduce energy costs.
➢ Green accoutrements Use renewable accoutrements like wood, linoleum, bamboo and cork.
➢ Green roofs
➢ Raised bottom systems.
➢ Energy effectiveness.
➢ Natural ventilation.
➢ Green power and renewable energy.
➢ Inner environmental quality.

What’s a Green Library?

The consideration of the part of humanity in climate change and the notion of sustainable development are core enterprises of society, and accordingly of libraries.”

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Peer Reviewed Journal www.aiirjournal.com
According to the Online Dictionary for Library and Information Science (ODLIS), herbage Libraries are “designed to minimize negative impact on the natural terrain and maximize inner environmental quality by means of careful point selection, use of natural construction accoutrements and biodegradable products, conservation of coffers (water, energy, paper), and responsible waste disposal (recycling, etc.)”

They also concentrate on affiliated services, conditioning, events, literature and systems, demonstrating the social part and responsibility of libraries as leaders in environmental sustainability.

Under the US Green Building Council’s LEED performance system, a green structure is one that’s erected incorporating the following design rudiments.

- Sustainable point selection and development
- Water conservation
- Energy effectiveness
- Original coffers, material conservation and waste reduction
- Inner environmental quality
- Innovation in design

**Green Library enterprise in India**

India ranks third on the US Green Building Council’s (USGBC) periodic ranking of the top 10 countries for Leadership in Energy and Environmental Design (LEED) certified structures. According to the check by USGBC, the top 10 list highlights countries outside of the US that are using LEED and India, with further than 752 LEED-certified systems totaling over 20.28 million gross square measures of space, ranks third. Anna Centenary Library, Chennai is the Asia’s first LEED Gold rated library structure in India.

**Smart and Innovative Technologies for Green Libraries**

The new-age innovative and slice-edge technologies have the eventuality to reduce energy consumption and contribute to the charge of a green and sustainable world (Ferreira, 2016). These technologies can be abused by libraries to ameliorate the energy performance of the library.

Solar Panels Installation of solar panels on the roof of the library structure helps reduce the dependence on non-renewable sources of energy. It also promotes the use of renewable sources of energy and creates mindfulness among people.

Stir Sensor bias Cases of destruction of electricity are prominent in libraries where druggies leave the place without switching off the bias. With the help of a stir detector device, which can automatically descry your absence and switch off the electrical appliances, will help conserve energy. For illustration, at the National Library, Singapore, detectors are used to shroud or buck up the lights.

Automatic Lighting Controls It’s an effective strategy that contributes to energy-saving significantly by operating the lighting as per the demand. The quantum of available light adjusts according to the space enthralled.

Smart Automatic Energy Saving System Detects the entry of a person with PIR detector, covering the room temperature and brilliance, and conforming the speed of the addict consequently; also shuts down the complete system in the absence of any existent, which helps in reducing destruction of energy.

Inner Air Quality Monitoring With the operation of the Internet of effects and medium-supported living technologies, it’s possible to cover and assess the air quality of the structure (Marques, Saini, Dutta, Singh & Hong, 2020). The IAQ covering systems helps maintain energy effectiveness in structures and provides excellent ventilation to insure healthy air quality in the library and the well-being of the druggies.

**Green Library Challenges**

While green libraries are related to the overall green structure movement, libraries have specific requirements that raise some redundant challenges. for their preservation, books must be kept down from sun as well as humidity and temperature changes. Still, numerous individualities find sun to be the most pleasurable light for reading. Sun also plays a major part in green design, because it can be used to reduce the reliance on...
artificial lighting. For a long time, libraries demanded to cover the collection from the dangerous ultra-violet shafts of the sun. New developments in glass technology over the once ten times have given contrivers more inflexibility in their capability to place collections (McCabe, 2003).

Another, frequently overlooked, challenge the library presents is the weight of the books. A common strategy in green design is to raise the bottoms to increase rotation, but the weight of the heaps can be an manacle to this strategy. To deal with this challenge, numerous contrivers have resorted to zoning the library into designated areas, so these strategies can be legislated in certain areas and druthers can be used in others( Lamis, 2003).

Libraries need to be erected flexibly, in order to make room for expansions in size and in wiring capabilities. Library structures are long term investments made to profit the community, so when designing those engineers need to be looking 50 or 100 times into the future. These obstacles by no means present invincible challenges to green libraries. The special requirements of the library just need to be taken into consideration from the morning of the design.

Notwithstanding the green library movement and sustainable practices are realized across the world, still there are some challenges to be dealt with

➢ Though cost of constructing green structure has come affordable to other realities, libraries will face issues in meeting green pretensions as they're subject to strict budget cuts especially when reengineering or reconstructing library structures one can not forget the cost associated with it.

➢ Library structures are most neglected part especially in sodalities. At utmost places librarians are helpless as he has to work in an distributed space indeed when new structures are being proposed or are under constructions. Engineers too don't bother for well-constructed green library structures.

➢ Green practices in sustainable manner bear considerable degree of moxie or faculty from general operation to ordinary position of conservation throughout library functions. It's likely to anticipate lack of mindfulness in green technology and among the workers who have been signed with traditional knowledge and chops.

➢ Attitudinal walls play significant part in decelerating down the sustainable practices in libraries. There are possibilities to move the administration who would else expostulate the idea executing green library practices due to their incognizance. A well laid plan for green library structure will remove resistance to change.

Conclusion

To epitomize, a’ Green Library ’ or ’ Sustainable Library is a ultramodern library that uses environmentally kindly erecting accoutrements , maximizes the use of natural coffers, reduces waste, maximizes the use of renewable coffers, and conducts its operations in a further cost effective and effective manner. Greening the library terrain has come significantly more important in recent times. In this terrain, library professionals should make some real opinions and take necessary sweats to green their libraries, as well as share in the green library movement. Numerous public and transnational associations are offering backing in making libraries more environmentally friendly. Still, library druggies, librarians, and the government should all take action and laboriously share in the green library movement to insure its success. It’s worth noting that moment’s libraries, as knowledge gateways, are especially responsible for not just promoting the conception of sustainability, but also for leading by illustration. Always flash back that taking bitsy conduct toward turning green might yield enormous prices over time.

References


Disaster Planning and Management in Academic College Libraries: A Study

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Abstract

Disaster Planning and Management is indispensable for the efficient functioning of libraries. The academic college libraries are vulnerable to the wide range of disasters. This paper studied on Disaster planning and management in academic college libraries in Mangalwedha city. This paper highlighted various disasters and natural calamities that can be fall upon academic college libraries. The disasters pose threat in library buildings, collections, equipment and systems. Academic college libraries have to play a vital role in preserving their proper collections. Therefore meticulous disaster planning is inevitable for mitigating the hazardous effect on academic college libraries. The study employs the survey method with questionnaire as chief tools used for collecting relevant data from academic college libraries. This study found that majority of the academic college libraries lacked disaster preparedness such as emergency exits, written disaster plans, fire alarms, emergency power supply, prohibiting activities such as smoking, data backup and insuranceearthquake proof building etc. But some of the libraries under the study also indicated that they are less prepared to handle a situation coming out of the disasters. Disaster can disturb the regular services of academic college libraries. the study will help the library and information science professional to know about different disaster preparedness used in academic college libraries.

Keywords: Disaster Planning and Management, Academic College Libraries, Disaster Preparedness, Earthquake, Natural Calamity, Library Collection.

Introduction:

Libraries are important institutions that provide information to users. Disasters in Libraries are not new. Different kinds of disaster affect the libraries. Disaster threatens human safety or endangers a library building, its resources human, documents, equipment’s and services. It is vital for the management of a library to make sure that the building and library premises are safe for public to come, for the staff to work and provide services. Disasters not only damage the library collections, the library building, and harm the library staff and the readers but also disrupt the services. If libraries are prepared, it will help the library to minimize the impact of a disaster and restore collections and resume services at the earliest. So, Disaster management and planning should be one of the most important aspects of library management. Disaster causes a catastrophic loss of life and property in a society which may be caused by nature or man-made situations. It is a calamitous occurrence which is triggered either by fury of nature or by human folly which results into wide spread damage, destruction, ecological disruption, loss of human life, human suffering, deterioration of health and health services on a scale sufficient to warrant an extraordinary response from outside the affected community or area to mitigate and alleviate the intensity of sufferings of the victims.

Academic College Libraries are gateways of knowledge. In an institution, library plays the same role as the heart plays in a human body. Disaster has been defined as an unexpected event that may drastically threaten the lives of humans or buildings which destroy the information infrastructure etc. In case of libraries, disaster brings unexpected risk to the collection, the library buildings, staff and also disrupt the services. The management of a library have to give emphasis on the building and library premises so that it become safe for public to come and safe for the staff to work and provide services. A proper disaster planning is very much important in order to minimize the impact of the disaster.

The Dictionary for Library and Information Services (2005) defines a disaster plan as “a set of written procedures prepared by the library staff in advance to deal with an unexpected occurrence that has the potential to cause injury to personnel or damage to equipment or to collections and/ or to facilities sufficient to warrant
temporary suspension of services. Such disasters in any library can damage the print material, documents, records, computer systems and the invaluable information stored in different storage media.”

DISASTER PLANNING:

Disaster management encompasses activities directed towards meeting disastrous situations. It includes disaster control planning, risk assessment, training and finance necessary for its successful implementation. According to Lyall (1995) ‘Disaster Plan’ is, “a document which describes the procedures devised to prevent and prepare for disasters, and those proposed to respond to and recover from disasters when they occur. The responsibility for performing these tasks is allocated to various staff members who comprise ‘the disaster team’”. Good disaster plan aims to prevent potential disasters, to minimize the impact, to enhance its capability in preventing, preparing and responding to disasters effectively and efficiently and to generate confidence among stakeholders.

The disaster management should be treated as a key area of library management. Library staff should be treated as a key instrument for disaster management. Library staff should be trained at regular intervals to combat any disaster. Disaster plan normally includes four stages-

1) Prevention
2) Preparedness
3) Reaction
4) Recovery

Disaster Management:

Libraries should follow an effective disaster control plan. The plan should be periodically monitored and reviewed. Periodic full scale mock drill should be carried out. Library buildings, equipment, collections and computers should be completely insured. There should be good drainage and flood-proof system. Library building should be built in such a way that it may be seismically safe. Regular checks of library building regarding water leakages should be carried out. Library building and resources should be properly maintained and regular inspections of buildings and equipment should be conducted. Fire-extinguishers should be checked and staff members should be trained in handling the equipment in case of emergency. The lay-out of library building should be such that the ground floor does not have any valuable reading materials that could be lost in floods.

Statement of The Problem:

The present study is on “Disaster Planning and Management in Academic College Libraries in Mangalwedha city”. Further researcher is studying whether the users use Disaster Planning and Management are up-dating their knowledge and get the information of current awareness as per their requirement and as per the needed time.

Scope And Limitations:

This study is confined to the Disaster Planning and Management in Academic College Libraries in Art, commerce and Science Senior colleges in Mangalwedha city such as 1) Shri Sant Damaji Mahavidyalaya, Mangalwedha 2) Madansinh Mohite-Patil Science Mahavidyalaya, Mangalwedha, So this study is limited to only two colleges, in Mangalwedha city

Objectives of The Study:

The purpose of this study is to find out the Disaster Planning and Management in Academic College Libraries of Art, Commerce & Science students the specific objectives of the Present studies are as follows.

1. To know about the present disaster management planning of the College libraries.
2. To know about the contribution of librarian an library committee in planning of disaster management in Academic College libraries.
3. To know about the preventive measures used in the Academic College libraries.
4. To know about the problems faced by the libraries during implementation of disaster planning.
IMPORTANCE OF STUDY:

Any types of information play a very important role in student life. The Students are trying to get information so they can increase their knowledge. The Study on Disaster Planning and Management in Academic College Libraries in Mangalwedha city. This study only impact of a library for a Internet and Web technology services. An disaster Planning and Management for study on Arts, Commerce and Science Colleges in Mangalwedha city.

RESEARCH METHODOLOGY:

Researches make a good scientist who helps our society to solve their problems. The present study is undertaken to throw light on “Disaster Planning and Management in Academic College Libraries in Mangalwedha city: A Study”. Research methodology is a way to systematically present our knowledge where as to solve problem. The word self indicates its meaning re-search or searching of new things which is useful to create something new novel. It is must know the entire researcher, what is the accurate methods to do research because research does not allow without systemizes and techniques. There are many methods of data collection and survey & descriptive research.

Descriptive Method:

Descriptive method is the simplest and is applicable to a number of social problems especially in under developed countries. It is essentially a fact finding research related to present study and current situation.

Questionnaire Tool:

The data required for the survey is collected through questionnaire technique. In this method questionnaire is sent to respondent who are expected to read and write down the reply in the space meant for purpose in the questionnaire itself. On the basis of these guidelines a detailed questionnaire was prepared considering the present study. The questionnaires and as a response the questionnaires will be received with filled information. The researcher will be considering these questionnaires for the data analysis.

In this research study the researcher has used the self prepared questionnaire and distributed within the library users of Mangalwedha city colleges and collected the data. Further, the researcher will made the findings, suggestions and conclusions on the basis of the analysis of the all gathered questionnaire in the form of percentage, tables and diagrams. The study Disaster Planning and Management in Academic College Libraries in Mangalwedha city: A Study for the present study. The researcher has used the random sampling method for research.

Sample Design:-

There are only two colleges for present study.

<table>
<thead>
<tr>
<th>Name of colleges in Mangalwedha city:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 SDM: Shri Sant Damaji Mahavidyalaya, Mangalwedha</td>
</tr>
<tr>
<td>2 MMP: Madansinh Mohite-Patil Science Mahavidyalaya, Mangalwedha</td>
</tr>
</tbody>
</table>

Table No: - 1: Distribution of Response

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Type of Users</th>
<th>Questionnaire Distributed</th>
<th>Total of Numbers</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Respondent</td>
<td>Non-Respondent</td>
</tr>
<tr>
<td>1</td>
<td>Male</td>
<td>100</td>
<td>85</td>
<td>15</td>
</tr>
<tr>
<td>2</td>
<td>Female</td>
<td>100</td>
<td>90</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>200</td>
<td>175</td>
<td>25</td>
</tr>
</tbody>
</table>
From the above Table No: 1 show that, number of Male & Female respondent. There are 200 questionnaire distributed between 175 respondent. That 100 Male & 100 Female were included, but only 85 Male & 90 Female responded to this questionnaire and 15 Male & 10 Female ignored to this questionnaire. It means that 85% Male & 90% Female are good respondent so 15% Male & 10% Female are not good respondent.

Table No: 2: Availability of present effective disaster Planning and management of Libraries

<table>
<thead>
<tr>
<th>Type of Answer</th>
<th>Respondent</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>180</td>
<td>90</td>
</tr>
<tr>
<td>No</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>200</td>
<td>100</td>
</tr>
</tbody>
</table>

Graph No:1: Availability of present effective disaster Planning and management of Libraries

The Table No-2 and Graph No-1 indicates that the responded are Availability of present effective disaster planning and disaster Management in libraries. The 180 Students are responded yes Availability of present effective disaster planning and Management in libraries and their percentage is 90%. The 20 students do not Availability of present effective disaster planning and Management in libraries their percentage is 10%.

Table No: 3: Respondent satisfy disaster planning and management in libraries

<table>
<thead>
<tr>
<th>Type of Answer</th>
<th>Respondent</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>180</td>
<td>90</td>
</tr>
<tr>
<td>No</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>200</td>
<td>100</td>
</tr>
</tbody>
</table>

Graph No:2: Respondent satisfy disaster planning and management in libraries

The Table No-3 and Graph No-2 indicates that the responded are satisfy disaster planning and management in libraries. The 180 Students are responded yes satisfy disaster planning and management in
libraries and their percentage is 90%. The 20 students do not satisfy disaster planning and management in libraries their percentage is 10%.

### Table No:4 preventive measures used in the Academic College libraries

<table>
<thead>
<tr>
<th>Type of Answer</th>
<th>Respondent</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>160</td>
<td>80</td>
</tr>
<tr>
<td>No</td>
<td>40</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>200</td>
<td>100</td>
</tr>
</tbody>
</table>

The Table No-4 and Graph No-3 indicates that the preventive measures used disaster planning and management in libraries. The 160 Students are responded preventive measures used disaster planning and management in libraries and their percentage is 80%. The 40 students do not preventive measures used disaster planning and management in libraries is 20%.

### Findings:
1) The 180 Students are responded yes Availability of present effective disaster planning and Management in libraries and their percentage is 90%. The 20 students do not Availability of present effective disaster planning and Management in libraries their percentage is 10%.
2) The 160 Students are responded preventive measures used disaster planning and management in libraries and their percentage is 80%. The 40 students do not preventive measures used disaster planning and management in libraries is 20%.
3) The 180 Students are responded yes satisfy disaster planning and management in libraries and their percentage is 90%. The 20 students do not satisfy disaster planning and management in libraries their percentage is 10%.

### Suggestions:
1) To increase satisfy level on students and users in academic college libraries through Disaster Planning and Management.
2) To Increase Prevention of power cut problems in academic college libraries.
3) To Increase the fund of disaster planning and managements in academic college Libraries.
4) To need of trained staff in disaster planning and managements in academic college Libraries.

### Conclusions:
Disasters are not predictable; it can cause major losses of library resources and disruption in the library services. Since Assam is a disaster-prone area, Academic College Libraries in Mangalwedha city should be well
prepared for it. Due to different problems like financial constraints and non-supportive administration the area of disaster management in libraries is still a neglected. Disaster control plan for disaster management is not only indispensable but also of paramount importance. Necessary infrastructure for disaster management should be created and emergency response mechanism should be put in place and upgraded if required. Educating people and generating awareness among them regarding disaster management is of crucial nature and has immense significance. Different types of libraries should collaborate with each other and national library should take a lead role in preparing a model for disaster planning. Libraries can share or pool their institutional resources in order to rescue from disasters. Library cooperation in disaster management can be ensued in different ways like joint training programmes, procuring and storage of emergency equipment, etc. The government bodies and professional associations should also guide the libraries and library professionals about disaster management through reading materials and training programmes.

Reference:
Information Technology Based Employment Designations in Library and Information Science

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Abstract  
This review based research paper is a sincere attempt to find out emerging employment designations in the library and information science field. The paper mainly focuses on information technology based employment designations. It also highlights the work descriptions, desirable qualifications and experience required for the specific employment designations. The paper also discusses the competencies and skills required for the IT based designations in general. It is seen that the title of employment designation in LIS have changed according to organization type, nature of work as well as responsibilities assigned. Most of the employment designations emerged in the 21st century, especially in the second decade. This paper reviews more than 50 numbers of emerging employment designations in the LIS field with an IT based background.

Keywords  Employment, Job, Employment Designation, Job Designation, Information Technology, LIS

1. Introduction  
Library and information science is recognized as a dynamic field for building bright and promising careers in a different way. It offers a variety of employment opportunities in different types of organizations and in the different sectors. In today's IT era, the LIS field mainly deals with searching, processing, organizing, accessing and disseminating information and its resources to the users. All these processes can be handled effectively with the help of information technology. LIS professionals who have good knowledge of IT are in high demand in the employment market in LIS. IT has ruled the LIS job market day by day and hence, on the other hand, IT based employment designations have emerged. It is needed to explore such employment designations and the skills and abilities they require. In this regard, this review-based study is important.

2. Scope and Methodology  
This study covers the employment designations in the Library and Information Science (LIS) field which have an IT based background. The researcher has reviewed relevant studies done in context of IT based employment designations in LIS, their work descriptions, competencies and skills. The major concerning studies done at national and international level from 1980s to 2021 have been selected for review purposes. On other hand, the job advertisements related to IT based designations in LIS, appeared on the job portal indeed.com has been scanned in support to explore the qualifications and professional experience required for the individual IT based employment designation in LIS.

3. Review of Related Literature  
A number of studies have been conducted at national and international levels, especially in foreign countries concerning job designations in LIS and their required competencies, skills and professional experience. Following are some selected studies focused on exploring ‘IT based Job Designations’ in LIS.

Park and Park (2021) in his content analysis based study, identified the core duties and competencies of ‘Data Librarians’. He analyzed 75 U.S. based job advertisements of data librarians. The core job duties identified were data management, professional collaboration, conferences, workshops, providing data services, research consultation etc. and core competencies identified were communication skills, diversity, inclusion, and equality etc.

Zhang et al. (2021) did the content analysis of job advertisements for ‘Digital Humanities’ related positions in academic libraries. The study was aimed to investigate and assess the qualifications and knowledge mentioned in the job advertisements regarding ‘Digital Humanities’ related positions. The results of the study revealed that
there should be practical applications in ‘Digital Humanities’ related education and professional training to meet the requirements of this sector.

Silveria et al. (2020) investigated core skills, soft skills and technical competencies of ‘Data Scientists’ through analysis of related job postings. He followed a descriptive approach by using qualitative and quantitative typology. The researchers found the skills required for these professionals such as team coordination, communications as well as in technical grounds, the knowledge of Python, English, and SQL was mandatory.

Stuart (2020) predicted a future of ‘Data Science and Information Professionals’ in his book article. He expressed the need of involving library and information science professionals in the data science revolution to position themselves in the changing information system and rapid growth of data in future.

Volpe and Esposito (2020) in his study, threw light on the status of the ‘Data Scientist’ jobs in Italy. He examined the requirements of ‘Data Scientist’ in different companies in terms of working functions, required skills, sectors, nature of employment etc. The researchers collected 400 job advertisements from the professional networking website- LinkedIn to identify the requirements. The research was conducted for the period from 27 December 2018 to 15 January 2019 only.

Ohaji et al. (2019) explained the role of a ‘Data Librarian’ in academic and research libraries in context with research data management (RDM). The study focused on the ‘Data Librarians’ in research organizations in New Zealand applying qualitative case research approach. The results provided the conceptual understanding of the ‘Data Librarian’ role and may be used further to prepare professional education and training programmes for this designation.

Khan and Du (2018) identified the requirements for ‘Data Librarian’ designation through content analysis of job advertisements appearing on job portals- Indeed, International Association for Social Science Information Services & Technology (IASSIST), ALA JobLIST, and Glassdoor etc. The research results were helpful to LIS curriculum designers for implementing the suitable framework to match the requirements of emerging job positions like ‘Data Librarians’ in academic libraries.

Mbotela (2018) in his doctoral research, examined the role of ‘Emerging Technologies Librarian’ in the context of the digital library system at the University of Nairobi Library in Kenya. The researcher collected data from interviewing concerning librarians. The study showed that ‘Emerging Technologies Librarian’ plays crucial role in managing Integrated Library Systems, digital services, library web and e-Resources

Skene (2018) reviewed the evolution of IT based ‘Digital Initiatives Librarian’ and their desired skills as well as responsibilities in his research. He examined 49 job advertisements found on Code4Lib listserv related to digital initiatives. The research explored emerging IT based job titles such as ‘Metadata Librarian, Digital Projects Librarian, Coordinator of Digital Collections, Digital Collections Archivist, Digital Curation Librarian, Digital Infrastructure Librarian, Digital Production Coordinator, Digital Programmes and Initiatives Manager, Digital Resources Librarian and Web and Digital Initiatives Librarian’ etc. The study identified 24 skills and responsibilities of ‘Digital Initiatives Librarian’ such as digital preservation, digital collection, digitization, and metadata etc. and ‘Administration of digital collections’ are the top desired skills.


Shahbazi and Hedayati (2016) conducted a study to identify the necessary competencies for the ‘Digital Librarian’ job positions. The findings indicated that there were more than 100 new IT-based librarian job titles emerging and communication skills were a major requirement. The study was limited to the year 2013 and only ‘Digital Librarian’ job category advertisements were considered for the study.

Shahbazi et al. (2016) studied the necessary competencies of ‘IT Librarian’ categories and explored the market of IT-based jobs in the LIS field through analysis of 596 related advertisements posted on Indeed.com in the
The study explored 4 types of IT-based job designation categories- ‘IT Librarian, Metadata Librarian, Digital Librarian/- Digital Services Librarian and Digital Archivist’ and skills as well as competencies required for these designations.

Shongwe (2015) observed the impact of ICT on job designations in the LIS employment market in South Africa. The study investigated the job titles in the library sector under 10 major categories and emerging job titles explored were- Systems Librarian, Electronic Resources Librarian, Library Web Application Specialist, Archives and Records Manager, Knowledge Specialist, Knowledge Resource Officer, e-Repository Administrator, and Library Technology Application Specialist etc.

Peacock and Wurm (2014) in his book explained the changing roles and responsibilities of ‘Academic IT Librarian’ in terms of technology. They threw light on the IT based practices such as web development, managing digital resources and special collections and outreach activities using technological tools etc. The study realized the varied IT based positions of librarians in the academic libraries in the 21st century.

Xia and Wang (2014) identified qualifications, competencies and responsibilities of ‘Social Science Data Librarians’ through analysis of a total 167 job descriptions published on the website of International Association for Social Science Information Services and Technology. Job advertisements published from 2005 to 2012 were selected for the study. An increasing requirement of data management planning was also found for data librarians. It was found that there are increasing requirements of data management skills for ‘Social Science Data Librarians’.

Shahbazi et al. (2013) identified modern information technology based Librarian jobs for LIS graduates. The study was undertaken to measure the impact of IT on jobs in the LIS sector through content analysis of LIS job advertisements. The researcher found 95 new LIS job titles emerged related to information technology that were categorized in four major groups- ‘Systems Librarian, Metadata Librarian, Electronic Resources Librarian and Web Librarian’.

Dey (2012) described the changing role of librarian into ‘Cybrarian’ in today's digital era. The study identified the ‘Cybrarian’ designation in terms of their skills and responsibilities of managing digital resources, handling institutional databases and digital repositories as well as providing support to the users in seeking information in minimum time as possible.

Chapman (2011) explored the multitasking role of the ‘Metadata Librarian’ in a research library. The multitasking role refers to the activities such as metadata management, cataloguing, digital initiatives, and technical services etc. The researcher identified the role of Metadata Librarian in four segments: collaboration, research, education, and development.

Ohaji (2010) in his study explored the representative titles of ‘Digital Librarian’ positions in academic libraries in the USA. He identified the titles of ‘Digital Librarian’ related positions such as Digital Services Librarian, Head of Digital Library Initiatives, Digital Projects Librarian, Web and Digital Library Specialist, Digital Curation Librarian, Music Librarian and Digital Resources Manager etc.

Steven (2010) in his blog post, explained the importance of ‘Social Media Librarian’ in school libraries as they use social networks and allied tools effectively to connect with students and faculty members. The article expressed the need of creating an independent and devoted ‘Social Media Librarian’ designation for handling social media responsibilities. For that purpose LIS students should be educated with handling social media tools to create more library awareness among its users.

Choi and Rasmussen (2009) examined the skills and qualifications required for the ‘Digital Librarian’ positions in academic libraries. The researchers analyzed the job advertisements related to ‘Digital Librarian’ posted in College and Research Libraries News during the period from 1999 to 2007. The results of the study showed that a ‘Digital Librarian’ is an emerging designation in academic libraries.

Knight (2009) in his article discussed the mandatory IT based skills and knowledge of ‘Library and Information Services Manager’ considering the paradigm shift of LIS towards information technology and its applications in providing information services.
Simpson et al. (2005) in their survey based research discussed the functions and technical services of ‘Electronic Resources Librarian’ in Academic Health Sciences Libraries. The researcher prepared a model for managing e-resources. It was found that the job descriptions and features of the ‘Electronic Resources Librarian’ are similar to ‘Information Services Librarian’ and ‘Public Service Librarian’.

Albitz (2002) surveyed the job announcements for ‘Electronic Resource Librarian’ posted in College and Research Libraries News in the period of 6 years from January 1996 to December 2001. The researcher reviewed the responsibilities, reporting structures as well as professional experience required for this designation.

Cronies and Henderson (2002) did the content analysis based study of job announcements related to ‘Electronic and Digital Librarian’ appeared in the College and Research Libraries News from 1990 to 2000. The study focused on the functional areas of this designation in context with public services, technical services, integrated library systems and networks, digital projects and preservation etc.

Kwasik (2002) examined the professional qualifications and knowledge required for a ‘Serials Librarian’ in a digital environment through analysis of job advertisements in academic institutions posted between 1999-2001. The study revealed that ‘Serial Librarian’ needs IT based skills and competencies to manage the electronic journals and other related information.

Budd (1990) in his study focused on the salaries of ‘Automation Librarian’ or ‘System Librarian’. The researcher scrutinized job announcements published in College and Research Libraries News, American Libraries and Library Hotline during the year 1988 for that purpose. The study addressed the different facets of automation related activities in the libraries.

Chu (1990) evaluated the skills of ‘System Librarian’. The researcher explained the System Librarian’s responsibilities like installation of integrated systems in the library, testing hardware, software and interfaces, choosing relevant modules and supervision of training sessions etc.

Sherwood (1980) discussed the newly emerged designation- ‘Library Systems Analyst’ in terms of job description, education and technical experience. He identified the core tasks for this designation in automation activities like system analysis, design, implement and maintenance

Nayar et al. (1979) assessed the demand for ‘Information Scientists’ in India through analysis of LIS related vacancies advertised in the newspapers. The researcher studied over 400 advertised posts related to information processing. The advertised post designations were Librarians, Documentalists, Data Translators, Data Processing Personnel, Editors, Data Bank Officer, Programming Officer etc.

4. Impact of Information Technology on Employment in LIS
The advent of information technology has radically changed the functioning of the conventional work system of libraries and library science professionals. Moreover, IT has had a significant impact on the overall library and information science sector. With the help of information technology it is possible to provide advanced and efficient services to library users. This has increased the demand for the LIS professional who have good knowledge of applying IT tools in library services. Due to this, the conventional employment designations in the LIS have also changed over the time and IT based designations have emerged.

5. Emerging IT based Employment Designations in LIS
The previous studies showed that there is a huge job market available for the LIS professionals having IT and other technical skills. In the 21st century, especially in the last 10-15 years, new IT based employment designations have emerged in the LIS field. The most relevant and remarkable studies of them are as follows:

<table>
<thead>
<tr>
<th>Employment Designation</th>
<th>Work Description in brief</th>
<th>Desirable Qualifications &amp; Professional Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1 Audio-Visual Librarian</td>
<td>Supervising information delivery through Audio-Visual technology, planning and producing documentary for non-print</td>
<td>Master's Degree in Library Science or Mass Communications with an experience of handing A/V and other in non-print media.</td>
</tr>
<tr>
<td>5.2</td>
<td><strong>Automation/Technology Librarian</strong></td>
<td>Supervising, planning, analyzing and coordinating in the process of automation, communication and on-line systems in the library, managing the library automated systems and workstations, developing and recommending policy and procedures for use of computer systems and conducting related training sessions.</td>
</tr>
<tr>
<td>5.3</td>
<td><strong>Archive Manager</strong></td>
<td>Administering all activities related to historical archives, special manuscripts and organizational rare documents, managing archival collections, cataloguing and granting access to the archives, organizing, copying and protecting data for long-term preservation.</td>
</tr>
<tr>
<td>5.4</td>
<td><strong>Cybrarian</strong></td>
<td>Exploring digital resources on the web, migrating web content using web technology and the internet. Locating, evaluating, organizing, preserving and disseminating digital/online sources to patrons.</td>
</tr>
<tr>
<td>5.5</td>
<td><strong>Database Manager</strong></td>
<td>Performing electronic database management activities, developing, maintaining, and providing the secured access to the authentic users, securing the organizational data using advanced IT tools.</td>
</tr>
<tr>
<td>5.6</td>
<td><strong>Data Librarian</strong></td>
<td>Managing data in different formats as well as processing institutional research data and organizing sessions for researchers in collaboration with subject librarians, designing search and retrieval systems for retrieving data as and when needed.</td>
</tr>
<tr>
<td>5.7</td>
<td><strong>Database Librarian</strong></td>
<td>Organizing library databases and helping users in finding the reading materials and resources, planning database maintenance related activities like bibliographic quality control, and database management solutions to insure bibliographic records for meeting national and global standards.</td>
</tr>
<tr>
<td>5.8</td>
<td><strong>Data Scientist</strong></td>
<td>Searching and gathering required data from web resources, analyzing and processing data by using IT based tools for improving the productivity and efficiency of the business.</td>
</tr>
<tr>
<td>5.9</td>
<td><strong>Digital and Web Services Librarian</strong></td>
<td>Access and maintenance of the digital resources, managing content for web and mobile-enabled services, use of digital</td>
</tr>
<tr>
<td>No.</td>
<td>Position</td>
<td>Responsibilities</td>
</tr>
<tr>
<td>-----</td>
<td>-----------------------------------</td>
<td>----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>5.10</td>
<td>Digital Archivist</td>
<td>Creation, organization, storage, and retrieval to digital rare materials, creation of metadata records for retrieving digital content. Use of technology to preserve digital archives for a long period.</td>
</tr>
<tr>
<td>5.11</td>
<td>Digital Asset Librarian</td>
<td>Initiate the planning, implementation, management, and assessment of organizational digital assets and developing discovery and repository tools for managing digital collections, dealing with IPR Issues- copyright, fair use, license and other related matters.</td>
</tr>
<tr>
<td>5.12</td>
<td>Digital Cataloguer</td>
<td>Preparing catalogue for digital reading material. Managing bibliographic records through entering inputs about materials into the electronic catalogue.</td>
</tr>
<tr>
<td>5.13</td>
<td>Digital Collections Librarian</td>
<td>Performing technical work related to digital collection such as digital collection development, acquisition, evaluation, and weeding out digital collections, designing policies for digital material.</td>
</tr>
<tr>
<td>5.14</td>
<td>Digital Humanities Librarian</td>
<td>Digitizing reading resources for the patrons, planning for digitization related activities, i.e. digital curation, crowdsourcing, database archiving and coding texts, editing, visualization etc.</td>
</tr>
<tr>
<td>5.15</td>
<td>Digital Information Officer</td>
<td>Providing digital information support services, electronic document delivery and offering secured online access of library resources to patrons.</td>
</tr>
<tr>
<td>5.16</td>
<td>Digital Initiatives Librarian</td>
<td>Providing information, readers advisory and digital reference services, collecting, maintaining and reporting digital resources and services statistical data to higher authorities.</td>
</tr>
<tr>
<td>5.17</td>
<td>Digital Librarian</td>
<td>Management of digital resources, virtual spaces, application of web tools for enhancing the digital library services, acquisition and secured dissemination of digital resources to digital library users.</td>
</tr>
<tr>
<td>5.18</td>
<td>Digital Learning Librarian</td>
<td>Planning and conducting learning/ digital literacy programmes for the users to enhance the digital library experiences, creating and updating websites and digital learning resources.</td>
</tr>
</tbody>
</table>
### 5.19 Digital Media Librarian
Managing digital media collection in terms of collecting, preserving, sharing and preparing policies and strategies, digitizing physical records and providing online access to the users, placing library's digital presence on social media and institution websites.

Master’s degree in Library Science (MLS) or Library Science and Information Systems (MLIS) with experience in handling digital media in a multimedia news environment.

### 5.20 Digital Projects Librarian
Preparing documents, policies, planning and procedures for the proposed digital projects of the library, designing and developing instructional material, tutorial and other objects supportive to digital projects, evaluating feasibility of proposed projects and initiatives within the local situations.

Master’s Degree in Library Science, Computer Science, Education, or related field with knowledge of handling digital projects.

### 5.21 Digital Resources Librarian
Technical documentation, registration, distribution, and reproduction of digital resources and media files, taking initiatives for developing collection of digital resources, and applying security provisions for digital content.

Master’s Degree in Library/Information Science with experience of handling digital resources.

### 5.22 Digital Services Librarian
Assisting users in their search for digital information, offering virtual services using digital aids, equipment, collaborating with IT staff to develop service strategies that manage digital technology resources and satisfaction to the patrons.

Master’s degree in Library Science from an ALA accredited library school and experience of handling integrated library systems, digital resources and preservation of online resources.

### 5.23 Digital Systems Librarian
Designing and developing and coordinating all factors involved in library digital systems and automation related tasks, maintaining hardware and software in the library.

Master’s in Library Science from an ALA accredited institution with knowledge of library management systems, web services, metadata standards programming languages.

### 5.24 Director of Library and Information Technology
Administering to deliver key projects and initiatives across multiple technological applications in libraries, initiatives for IT based digital library services and programs including digitization, institutional repositories, information discovery, scholarly communication, and applications of web technologies.

Master’s in Library Science from an ALA accredited institution with professional experience of library administration, technology applications.

### 5.25 Distance Services Librarian
Offering remote access to the library resources and services, promoting use of open educational digital resources, organizing library marketing and outreach activities.

Master Degree in Library Science with experience in distance information, computing and instructional services, marketing initiatives.

### 5.26 Documentalist
Documentation management in libraries, technical processing of library reading material using advanced tools and technologies.

Bachelor’s Degree in Library Science and knowledge of institutional documentation, information resources.
<p>| 5.27 | <strong>Electronic and Digital Librarian</strong> | Responsible for maintaining library portals, ensuring content to be updated and accessible to the users, managing digital information services, access to e-Resources, including e-databases and streaming media. | An ALA accredited Master’s Degree in Library with knowledge of handling e-Resources in libraries |
| 5.28 | <strong>Electronic Information Librarian</strong> | Providing virtual reference, electronic information support services using web tools, preparing user databases for web based information delivery. | Master’s Degree in Library Science from an ALA accredited institution with professional experience in providing virtual reference, information services. |
| 5.29 | <strong>Electronic Resources Librarian</strong> | Implementing an electronic resources management (ERM) system in libraries, managing electronic resource acquisition and access, analysis and evaluation of electronic resources, maintaining policies and procedures related to e-Resources, assisting users in electronic access problems and queries. | ALA accredited Master of Library and Information Science, MLS degree, MS in Library and Information Science degree, Management Information Systems degree, or equivalent combination of education and experience required. |
| 5.30 | <strong>Electronic Services Librarian</strong> | Design and delivery of web based services to library patrons, communicating users regarding newly added resources, managing online information delivery and publicity platforms- website, social media etc. | A Master's degree in Library &amp; Information Science accredited by the ALA (or foreign equivalent) with prior relevant experience in handling electronic services, content management systems. |
| 5.31 | <strong>Emerging Technologies Librarian</strong> | Knowing the recent developments in library technology, applying emerging technologies in libraries to enhance the online experience of library users regarding digital technology based services. | A Master's degree in Library &amp; Information Science accredited by the ALA (or foreign equivalent) with prior relevant experience in handling electronic resources, knowledge of current web technologies. |
| 5.32 | <strong>e-Resources Librarian</strong> | Acquisition, storage and granting uninterrupted access to all of the library's electronic resources to the authentic library users, supporting e-Resource collection development, dealing with publishers for data license agreements, offering electronic document delivery to clients. | ALA accredited Master’s Degree in Library or Information Science or certified foreign graduate study and experience in managing e-Resources. |
| 5.33 | <strong>e-Resource Manager</strong> | Overall management of electronic resources subscribed by the organization, designing policies for the collection development of e-Resources, responding to user queries regarding access of e-Resources. | Master’s Degree in Library and Information Science from an ALA accredited institution and knowledge of handling issues, workflows, acquisition, license, acquisition, access and management of e-Resources. |
| 5.34 | <strong>Global Data Librarian</strong> | Developing tools for managing organizational and other data required for business, managing activities related to data such as mining of data from online resources, archiving, packaging and | Master’s degree in Library and Information Science or another similar discipline from an ALA-accredited institution (or international equivalent) with sound |
| 5.35 | <strong>Information Literacy Librarian</strong> | Organizing information literacy programmes, library liaison programmes, operational support in library promotions, assist library head in conducting teaching, learning, instructional design and assessment of library programmes | Master’s degree in Library Science from an ALA accredited institution and experience with evolving technologies, demonstrated ability in instruction in group and individuals. |
| 5.36 | <strong>Information Scientist</strong> | Managing organizational information flow, acquisition, supply, and distribution of information to the users within the organization, making information easily accessible to users, processing information as per user needs. | Ph.D/ Masters in Information Science, Computer Science, Computer Engineering, Data Science, Applied Mathematics, or related areas with documented research experience specific to Information Science. |
| 5.37 | <strong>Information Services Librarian</strong> | Designing and delivering web based information services to users, conducting orientation about library resources to research groups. | Bachelor’s degree in Library Science or an equivalent discipline with knowledge of providing research services support with the selection and use of appropriate research materials. |
| 5.38 | <strong>Instructional Technology Librarian</strong> | Applying instructional technology and tools for performing scholarly communication, open access, and other initiatives and communicating core information to library stakeholders. | MLS from an ALA accredited institution with professional experience in managing an integrated library system and website design and technology management |
| 5.39 | <strong>Integrated Technologies Librarian</strong> | Performing operations related to library systems and IT applications, maintaining IT equipment, reviewing library hardware and software systems, promoting the use of emerging IT technologies, implementing digitization and allied projects in the libraries. | MLS from an ALA accredited institution with experience in managing ILS and supporting users with technology applications and database management |
| 5.40 | <strong>Interface Specialist</strong> | Design and development of web interfaces for the library users to search and explore the library resources and services, enabling users to communicate with digital systems in the library. | Masters in Information Science with experience in technical planning, implementation, and maintenance of interface platforms in digital ecosystem. |
| 5.41 | <strong>IT Librarian</strong> | Resolving IT related issues in libraries, investigating, troubleshooting and finding solutions on technical problems in library IT systems such as linking issues, platform changes, technology upgrades etc. | ALA-accredited Master's degree in Library and Information Science with knowledge of exploring emerging technologies that promotes advancement of library infrastructure and services. |
| 5.42 | <strong>Library Media Specialist</strong> | Handling library's media resources, applying strategies for planning, implementing and monitoring the social media related activities to improve the organization's image. | Bachelor’s degree in Library Science with experience of handling media applications |
| 5.43 | <strong>Library Systems Analyst</strong> | Maintaining software systems in libraries, analyzing and solving system errors, | Graduate degree in Library, Information or Computer Science |</p>
<table>
<thead>
<tr>
<th>5.44 Metadata Librarian</th>
<th>Supervising lower level technical staff involved in system management, identifying technological needs of library systems and providing appropriate solutions.</th>
<th>From an ALA accredited school (or equivalent) with experience in design, develop and maintain library system applications and user interfaces in support of library services and collections.</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.45 Research Data Librarian</td>
<td>Coordinating associate team for developing metadata for digital collection and linking same for discovery and management of digital content.</td>
<td>Master of Library or Information Science with experience of cataloging of physical and electronic resources and using metadata standards.</td>
</tr>
<tr>
<td>5.46 Resource Sharing Specialist</td>
<td>Providing assistance to researchers for managing, archiving and disseminating research data by applying specialized software programmes and other technological solutions.</td>
<td>Master’s degree in Library and Information Studies from an ALA-accredited programme</td>
</tr>
<tr>
<td>5.47 Serials Librarian</td>
<td>Handling activities related to acquisition and overall management of periodicals literature, maintaining online database of serials, evaluating e-journals and their aggregators, resolving access problems related to electronic periodicals.</td>
<td>MLS/ MLIS or equivalent advanced degree with knowledge of the electronic resources and print serials life cycles</td>
</tr>
<tr>
<td>5.48 Social Media Librarian</td>
<td>Acquiring and managing electronic reading material for teaching, learning, research and other purposes, handling social media, conducting library publicity programmes and activities.</td>
<td>Bachelor’s degree in Library Science, Journalism with knowledge of handling institutional social media applications.</td>
</tr>
<tr>
<td>5.49 Software Librarian</td>
<td>Identifying software needs and related issues, analyzing and customizing software applications used in libraries, providing technical support and solutions in library automation, communication and on-line systems.</td>
<td>Graduate degree in Library, Information or Computer Science from an ALA-accredited institution or equivalent with sound knowledge of designing and developing custom software programmes for effective delivery of library services</td>
</tr>
<tr>
<td>5.50 System Analyst</td>
<td>Research, analyze, design and development of information systems for facilitating organizational projects and MIS related operations in libraries.</td>
<td>ALA accredited Master of Library and Information Science, Master of Library Science, Master of Science in Library and Information Science, Management Information Systems degree with knowledge of integrated library systems, database management, CMS etc.</td>
</tr>
</tbody>
</table>
### Competencies and Skills for IT based Employment Designations in LIS

The terms 'Competency' and 'Skill' are often used synonymously but there is a slight difference between these two terms. ‘Competence’ can be defined as a person's or professional’s mental ability in how he/she interacts with the world in a particular situation, while 'Skill' can be defined as a person's practical ability or act of accomplishing a particular task in a particular way. Studies conducted by various researchers that explored job designations in LIS, particularly in the context of information technology-based designations, have shown that certain types of competencies and skills are mandatory for those who wish to apply for these job positions. These abilities and skills can be stated as follows:

#### 6.1 Competencies
- Ability to maintain healthy and effective relations with the library team.
- Ability to work with library associates and willing to assist, train and support them.
- Ability to manage and adapt a change due to technological development in the library sector.
- Ability to learn about new hardware and software applications.
- Ability to plan, design and implement technology based projects and apply strategies to complete them.
- Ability to organize orientation, literacy programmes and perform library demonstrations for the patrons.

#### 6.2 Technical Knowledge and IT Skills
- Knowledge of library systems and tools, media, virtual cloud based platforms and web-based communications, collaborative technologies in libraries.
- Knowledge of emerging IT tools, products, technologies and information delivery platforms.
- Knowledge of digital library software for developing Digital Libraries and Institutional Repositories.
- Knowledge of commercial and open source software for automating libraries.
- Knowledge of searching specific information on the internet and retrieving the online resources from search engines, directories and databases.
- Knowledge of web 2.0 services- social and professional networks, Wikis and Weblogs.
- Knowledge of Intellectual Copyrights (IPR) in the digital environment.
- Knowledge of resource sharing through collaborative library networks.
- Database Management and Development Skills
- Web Design and Development Skills
- Digital Resources Management skills.
- Knowledge of Digital Archiving and Preservations.
- Social Media Handling Skills.
- Digital Marketing Skills.
- Computing Skills.
• Knowledge of computer operating systems and application software programmes.
• Knowledge of maintaining digital resources and instructional design principles.
• Experience with customizing open source software, digital library software, library automation packages and mobile apps.
• Familiar with digital resource technologies such as link resolvers, proxy systems, APIs, XHTML, XML, SQL etc.

6.3 Interpersonal and Communication Skills
• Commitment for working honestly and effectively as part of the library team to gain fruitful results for an individual and organization.
• Positive attitude towards learning new things, taking on new responsibilities and changes in the library environment.
• Sharing novel ideas while working on projects.
• Leadership skills and ability for interacting, guiding to working associates in a respectful and positive manner.
• Ability to make ethical decisions and critical thinking for finding solutions to problems.
• Good interpersonal skills to interact with library patrons and other public for establishing cooperative relationships.
• Communication in English, foreign and other regional languages, able to communicate effectively in both verbally and in writing.
• Writing, listening and presentation skills to express effectively before a professional community.
• Strong desire to observe LIS profession’s ethics and courtesy.

Conclusion
IT is a great boon for libraries and library and information science professionals to provide customized, value added and qualitative services to their users in minimum time. The advent of information technology has radically changed the role of library professionals in the 21st century. It has affected the current LIS education system and of course the employment sector. Similarly, the employment designations in this sector seem to have changed. IT has a major impact on emerging IT-based employment designations in LIS. The related studies in this context revealed that numerous information technology based job titles have emerged in the LIS sector, especially in the 21st century period. It may be concluded that there are multi-type IT based employment designations in the LIS field for which IT skills and other professional competencies are mandatory for catching the relevant job opportunities. The title of employment designation and their skills, competencies vary according to the nature of the work and the type of employing organization.

References (APA 7th edition):


A Comparative Study of Traditional Library and Digital Library.

Mrs. Puja Baban Khutale
(M.A, M.Lisc)
Department of Library and Information Science
Shivaji University, Kolhapur.

Abstract
Reading is an important part of human life to develop the personality. The readers fulfill their desire about reading through various reading materials like newspaper, magazines, books and a day article on digital media. Library is the place which provide the atmosphere for reading and enhance the knowledge. In this present study researcher tried to make comparison of traditional library and digital library. For this researcher study the awareness about digital library and satisfaction of readers through traditional library and digital library as well as researcher tried to study the sources which created awareness about digital library.

Keywords: Digital library, traditional library, awareness, readers

Introduction
Reading is important because it develops the mind. The mind is a muscle. It needs exercise. Understanding the written word is one way the mind grows in its ability. It is how we discover new things. Books, magazines and even the internet are great learning tools which required the ability to read and understand what we read. A person who knows how to read can educate themselves in any area of life they are interested in. The reading habits complete the role of important to library. As gateway to knowledge and culture, libraries play a fundamental role in society. The resources and services they offer create opportunities for learning, support literacy and education, and help shape the new ideas and perspectives that are central to a creative society. In a world without libraries it would be difficult to advance research and human knowledge.

Library is the place which provide the atmosphere for reading and enhance the knowledge. Libraries are havens for the readers because they provide them chance to improve their level of thinking, their lifestyle as well as their whole life. In traditional library readers get facility to choose the books as per their choice with the help of librarian who is specially appointed to guide the readers.

The world is changing so fast and readers choices for reading the books is also changing rapidly, they like to use technology in reading for this use multiple gadgets for this because internet is easily available on low cost. This digital devices force publishers, libraries and readers to use digital media for reading. It is not possible for each kind reading to use digital platform for reading but remarkable readers are using digital platform.

The pandemic covid-19 situation creates the positive environment for digital reading sources as well as for libraries, because traditional libraries was closed and the people were need to spend their time in home. They had many time to develop new habits which will benefited them in future and enhance their knowledge and experience through reading. Digital library fulfill that things through providing them the access to readers home. People use digital library in different ways utilized benefits of the digital library.

In the current study researcher study the awareness about library and satisfaction level of the reader about the services and facilities provided by traditional library and digital library.

Objectives
1. To study the awareness about digital library.
2. To study the readers preference and satisfaction level between traditional library and digital library.
3. To study the sources creating awareness about digital library.
Research Methodology

This is exploratory research. This study is based on primary data. To collect this primary data questionnaire was developed and distributed with the help of Google form. To share the link of Google form what’s app has used. 55 respondents have responded to questionnaire.

Data Analysis and Interpretation

Demographic Analysis:

<table>
<thead>
<tr>
<th>Address (Location):</th>
<th>Sr No.</th>
<th>Particulars</th>
<th>Respondent</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>Urban</td>
<td>25</td>
<td>45.5</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Semi urban</td>
<td>8</td>
<td>14.5</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Rural</td>
<td>22</td>
<td>40.0</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>55</td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gender:</th>
<th>Sr No.</th>
<th>Particulars</th>
<th>Respondent</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>Male</td>
<td>29</td>
<td>52.73</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Female</td>
<td>26</td>
<td>47.27</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>55</td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age:</th>
<th>Sr No.</th>
<th>Particulars</th>
<th>Respondent</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>Below 18</td>
<td>00</td>
<td>00</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>19 to 25</td>
<td>34</td>
<td>61.8</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>26 to 35</td>
<td>12</td>
<td>21.8</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>36 to 45</td>
<td>06</td>
<td>10.9</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>46 &amp; above</td>
<td>03</td>
<td>5.5</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>55</td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Education:</th>
<th>Sr No.</th>
<th>Particulars</th>
<th>Respondent</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>Primary</td>
<td>00</td>
<td>00</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Secondary</td>
<td>00</td>
<td>00</td>
</tr>
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<td></td>
<td>3</td>
<td>Graduation</td>
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<tr>
<td></td>
<td>4</td>
<td>Post graduation</td>
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<td>56.4</td>
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<tr>
<td></td>
<td>5</td>
<td>Other</td>
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<td>00</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>55</td>
<td></td>
<td>100</td>
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</table>

<table>
<thead>
<tr>
<th>Occupation:</th>
<th>Sr No.</th>
<th>Particulars</th>
<th>Respondent</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>Service</td>
<td>12</td>
<td>21.8</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Business</td>
<td>03</td>
<td>5.5</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Agriculture</td>
<td>00</td>
<td>00</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Student</td>
<td>32</td>
<td>58.2</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Any other</td>
<td>08</td>
<td>14.5</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>55</td>
<td></td>
<td>100</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Annual income (lacks):</th>
<th>Sr No.</th>
<th>Particulars</th>
<th>Respondent</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>Less than Rs. 1,00,000</td>
<td>43</td>
<td>78.2</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>1,00,001 to 3,00,000</td>
<td>04</td>
<td>7.3</td>
</tr>
</tbody>
</table>
This demographic study shows that urban respondents have taken the initiative in this study. Male respondents whose age is between 19 to 25 post graduate students responded to the questions asked them mostly. The 78% respondents annual income is less than Rs.1,00,000

**Respondent’s ability of reading:**

<table>
<thead>
<tr>
<th>Sr No.</th>
<th>Particulars</th>
<th>Respondent</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Yes</td>
<td>52</td>
<td>94.5</td>
</tr>
<tr>
<td>2</td>
<td>No</td>
<td>03</td>
<td>5.5</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>55</td>
<td>100</td>
</tr>
</tbody>
</table>

The above table shows that 94.5% respondents know how to read and only 5.5% respondents have problems in readings.

**Do you like to read regularly?**

<table>
<thead>
<tr>
<th>Sr No.</th>
<th>Particulars</th>
<th>Respondent</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Yes</td>
<td>46</td>
<td>83.6</td>
</tr>
<tr>
<td>2</td>
<td>No</td>
<td>09</td>
<td>16.4</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>55</td>
<td>100</td>
</tr>
</tbody>
</table>

The above table shows that 83.6% respondents like to read regularly. 16.4% respondents do not like to read regularly.

**Are you the member of any library?**

<table>
<thead>
<tr>
<th>Sr No.</th>
<th>Particulars</th>
<th>Respondent</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Yes</td>
<td>24</td>
<td>43.6</td>
</tr>
<tr>
<td>2</td>
<td>No</td>
<td>31</td>
<td>56.4</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>55</td>
<td>100</td>
</tr>
</tbody>
</table>

The above table shows that 43.6% respondents have taken membership of library but 56.4% are not the member of any library.

**Do you know about “Digital Library”?**

<table>
<thead>
<tr>
<th>Sr No.</th>
<th>Particulars</th>
<th>Respondent</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Yes</td>
<td>37</td>
<td>67.3</td>
</tr>
<tr>
<td>2</td>
<td>No</td>
<td>18</td>
<td>32.7</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>55</td>
<td>100</td>
</tr>
</tbody>
</table>

The above table shows that 67.3% respondents know about the digital library and 32.7% still don’t know about digital library.

**Have you used “Digital Library”?**

<table>
<thead>
<tr>
<th>Sr No.</th>
<th>Particulars</th>
<th>Respondent</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Yes</td>
<td>24</td>
<td>43.6</td>
</tr>
<tr>
<td>2</td>
<td>No</td>
<td>31</td>
<td>56.4</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>55</td>
<td>100</td>
</tr>
</tbody>
</table>
The above shows that 43.6% respondents has already used digital library. 56.4% respondents still has not used digital library.

**Where do you get awareness about “Digital Library”?**

<table>
<thead>
<tr>
<th>Sr No.</th>
<th>Particulars</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>College</td>
<td>38</td>
<td>30.65</td>
</tr>
<tr>
<td>2</td>
<td>Office</td>
<td>09</td>
<td>07.26</td>
</tr>
<tr>
<td>3</td>
<td>Friends</td>
<td>22</td>
<td>17.74</td>
</tr>
<tr>
<td>4</td>
<td>Advertising</td>
<td>14</td>
<td>11.29</td>
</tr>
<tr>
<td>5</td>
<td>Family</td>
<td>10</td>
<td>08.06</td>
</tr>
<tr>
<td>6</td>
<td>Relatives</td>
<td>08</td>
<td>06.45</td>
</tr>
<tr>
<td>7</td>
<td>Other sources</td>
<td>23</td>
<td>18.55</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>124</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

The above table shows that college creates the awareness among the respondents mostly, but the relatives has not creating the environment to discuss about digital library.

**Which library you have used?**

<table>
<thead>
<tr>
<th>Sr No.</th>
<th>Particulars</th>
<th>Respondent</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Traditional library (Offline)</td>
<td>20</td>
<td>36.4</td>
</tr>
<tr>
<td>2</td>
<td>Digital library(Online)</td>
<td>07</td>
<td>12.7</td>
</tr>
<tr>
<td>3</td>
<td>Both</td>
<td>28</td>
<td>50.9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>55</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

The above table shows that 50.9% respondents has used the both kind of library but still 36.4% respondents only used the traditional library.

**Which library’s membership you have taken?**

<table>
<thead>
<tr>
<th>Sr No.</th>
<th>Particulars</th>
<th>Respondent</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Traditional library (Offline)</td>
<td>28</td>
<td>50.9</td>
</tr>
<tr>
<td>2</td>
<td>Digital library(Online)</td>
<td>09</td>
<td>16.4</td>
</tr>
<tr>
<td>3</td>
<td>Both</td>
<td>19</td>
<td>34.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>55</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

The above table shows that 50.9% has the membership of traditional library and 34.5% respondents has the membership of both library.

**Have you availed following services of “Traditional library” and your satisfaction level?**

5- Excellent 4- Good 3- Satisfactory 2- Poor 1- Very poor

<table>
<thead>
<tr>
<th>Sr.No</th>
<th>Description</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Guidance of librarian</td>
<td>21</td>
<td>25</td>
<td>06</td>
<td>03</td>
<td>00</td>
</tr>
<tr>
<td>2</td>
<td>The physical and logical organization</td>
<td>14</td>
<td>27</td>
<td>12</td>
<td>01</td>
<td>01</td>
</tr>
<tr>
<td>3</td>
<td>Interaction with library employees</td>
<td>17</td>
<td>24</td>
<td>10</td>
<td>04</td>
<td>00</td>
</tr>
<tr>
<td>4</td>
<td>Free and universal access</td>
<td>17</td>
<td>24</td>
<td>12</td>
<td>01</td>
<td>01</td>
</tr>
<tr>
<td>5</td>
<td>Advance search of information</td>
<td>19</td>
<td>21</td>
<td>11</td>
<td>04</td>
<td>00</td>
</tr>
<tr>
<td>6</td>
<td>Cost to user/readers (Charges of library)</td>
<td>14</td>
<td>26</td>
<td>13</td>
<td>01</td>
<td>01</td>
</tr>
<tr>
<td>7</td>
<td>Timing of library facility</td>
<td>20</td>
<td>24</td>
<td>08</td>
<td>02</td>
<td>01</td>
</tr>
<tr>
<td>8</td>
<td>Availability of sufficient book</td>
<td>17</td>
<td>26</td>
<td>09</td>
<td>01</td>
<td>02</td>
</tr>
</tbody>
</table>
The above table shows that respondents feel good about the facilities or services available in traditional library. Have you availed following services of “Digital library” and your satisfaction level?

<table>
<thead>
<tr>
<th>Sr.No</th>
<th>Description</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Guidance of librarian</td>
<td>20</td>
<td>23</td>
<td>06</td>
<td>05</td>
<td>01</td>
</tr>
<tr>
<td>2</td>
<td>The physical and logical organization</td>
<td>16</td>
<td>26</td>
<td>09</td>
<td>03</td>
<td>01</td>
</tr>
<tr>
<td>3</td>
<td>Interaction with library employees</td>
<td>16</td>
<td>24</td>
<td>10</td>
<td>03</td>
<td>02</td>
</tr>
<tr>
<td>4</td>
<td>Free and universal access</td>
<td>24</td>
<td>21</td>
<td>07</td>
<td>03</td>
<td>00</td>
</tr>
<tr>
<td>5</td>
<td>Advance search of information</td>
<td>22</td>
<td>25</td>
<td>06</td>
<td>02</td>
<td>00</td>
</tr>
<tr>
<td>6</td>
<td>Cost to user/readers(Charges of library)</td>
<td>20</td>
<td>23</td>
<td>10</td>
<td>00</td>
<td>02</td>
</tr>
<tr>
<td>7</td>
<td>Timing of library facility</td>
<td>27</td>
<td>20</td>
<td>07</td>
<td>01</td>
<td>00</td>
</tr>
<tr>
<td>8</td>
<td>Availability of sufficient book</td>
<td>22</td>
<td>22</td>
<td>08</td>
<td>03</td>
<td>00</td>
</tr>
<tr>
<td>9</td>
<td>Accuracy of previous used references/books record</td>
<td>22</td>
<td>26</td>
<td>06</td>
<td>01</td>
<td>00</td>
</tr>
<tr>
<td>10</td>
<td>Fines/penalties</td>
<td>17</td>
<td>22</td>
<td>11</td>
<td>02</td>
<td>03</td>
</tr>
</tbody>
</table>

The above table shows that respondents feel excellent about the facilities or services available in digital library.

Which kind of library do you like to use in future?

<table>
<thead>
<tr>
<th>Sr No.</th>
<th>Particulars</th>
<th>Respondent</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Traditional library (Offline)</td>
<td>05</td>
<td>9.1</td>
</tr>
<tr>
<td>2</td>
<td>Digital library(Online)</td>
<td>18</td>
<td>32.7</td>
</tr>
<tr>
<td>3</td>
<td>Both</td>
<td>32</td>
<td>58.2</td>
</tr>
<tr>
<td>Total</td>
<td>55</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

The above table shows that 58.2% respondents like to use both type of libraries in future and only 9.1% respondents like only traditional library.

Findings
1. Nowadays most of the people can read properly.
2. The people like to read something regularly.
3. People like to read regularly but they has not taken membership of any library.
4. People know about the digital library.
5. People know about the digital library but most of the people has not utilized or experienced the services of digital library.
6. College is the main source for creating the awareness about digital library.
7. Friends and some other sources also creating awareness about digital library.
8. Relatives of the people have not creating any kind of awareness about the digital library.
9. People still rely on traditional library for their reading. They use digital library but not wholly they are relying on digital library.
10. The people have taken the membership of traditional library mostly.
11. As compare to digital library guidance from librarian is mostly available in traditional library. The librarian can suggest the books or sources of data as per his experience.

12. Physical organization is available in traditional library mainly. People can choose or read and feel the book physically in traditional library.

13. Library employees can help the readers in book suggestion, update the record of books etc. the readers in traditional library.

14. Digital library opened the doors of world reading sources for the readers which is not possible in traditional library.

15. Technology, new structure and internet charges increasing the expenses of the institutes who providing the digital library facility, which become costly for reader compare to traditional library.

16. Traditional library has time limitations but readers can use digital platform anytime when they needed.

17. Purchasing multiple books and maintaining books is the difficult task, so it is not possible in traditional library to purchasing each book and make available for the readers which possible in digital library.

18. Digital library provide updated record to the readers regarding their previous books or any other reading documents.

19. Traditional library need to make available the book for every reader and they have limited copies for reading so they have to demand the issued book in time for another reader for this purpose they has to charge fine to reader who gave back book after due date of book. Compare to digital library this amount is more.

20. In future readers are like to use both the sources of books which is traditional library and digital library but they do not want rely wholly only on single source.

Suggestions

1. The institute who providing digital library facility should promote this to create awareness and get membership.

2. The institute should provide sufficient facility to use digital library in campus or through any other place.

3. The librarian can play important role in digital library also, librarian should spend some time for improving the experience of digital library users.

4. In traditional library their should be the focus on the variety of books and not on the copies of the books.

5. The institute should increase the members of library to minimize the charges of readers for the both libraries.

6. Traditional libraries should focus on the technology to updating the record of the readers.

Conclusion

The future of the digital library is very bright. The number of sources of information is available for the readers, which creating the faith of readers on digital library.

References


8. www.egyankosh.ac.in
9. www.yourarticlelibrary.com

Bibliography
Abstract:

The libraries are essential to every educational system, the resources offered by the libraries are also required by the people in improving their knowledge. Academic libraries are equipped, moral and spiritual advancement and community. Today academic libraries give vital position to every higher education institution. The libraries express a purpose to organize, preserve, and make knowledge accessible. In what ways, academic libraries likely and come to take place in information technology? The libraries try to answer to academic libraries with the need to recognize and reconstruct means by which they support teaching and learning community in research and educational fields. Now the ability of academic libraries to deliver authenticated and reliable information is continuously challenged by new technologies.

Introduction:

Now a day’s technology has changed the mode of delivery of services from traditional information sources to e-resources such as online database, online information storage and retrieval etc. It provides a tool for the delivery of library service technology faster and those technologies form our traditional library to the modern library.

At the twenty-first century, The academic libraries are information centres which play important roles as sources of Information Technology (IT) in order to facilitate information, acquisition, circulation, dissemination and access to resources in repositories which where before not possible. Library automation software, Electronic resources management software and search software support academic library for efficient and effective performance and library professional will be able to fulfill their duties and responsibilities.

Changing Nature of Academic Libraries:

An academic library is a library that is attached to a higher education institution and to support the curriculum and the research of the university faculty and students. It is unknown how many academic libraries there are worldwide. An academic and research portal maintained by UNESCO links. In the past, the materials for class readings, intended to supplement lectures as prescribed by the instructor, has been called reserves. In the period before electronic resources became available, the reserves were supplied as actual books or as photocopies of appropriate journal articles. Modern academic libraries generally also provide access to electronic resources. Academic libraries must determine a focus for collection development since comprehensive collections are not feasible. Librarians do this by identifying the needs of the faculty and student body and the mission and academic programs of the college or university. When there are particular areas of specialization in academic libraries, these are often referred to as niche collections. These collections are often the basis of a special collection department and may include original papers, artwork, and artifacts written or created by a single author or about a specific subject.

Academic libraries have transformed in the 21st century to focus less on physical collection development, information access, and digital resources. Today’s academic libraries typically provide access to subscription-based online resources, including research databases and ebook collections, in addition to physical books and journals. Academic libraries also offer space for students to work and study, in groups or individually, on "silent floors" and reference and research help services, sometimes including virtual reference services. Some academic libraries lend out technology such as video and audio. Around the turn of the century, this approach began to change. The American Library Association (ALA) was formed in 1876, with members including Melvil Dewey and C.A.Cutter. Libraries reprioritized to improve access to materials and found funding increasing due to increased demand for said materials.

Academic libraries today vary regarding the extent to which they accommodate those not affiliated with their parent universities. Some offer reading and borrowing privileges to members of the public on payment of an annual fee; such fees can vary greatly. The benefits usually do not extend to such services as computer usage other than to search the catalog or Internet access. Alumni and students of cooperating local universities may be
given discounts or other considerations when arranging for borrowing privileges. On the other hand, some universities’ libraries are restricted to students, faculty, and staff. Even in this case, they may make it possible for others to borrow materials through inter-library loan programs. In a rapidly changing educational environment; academic libraries need more time and staff resources to meet the needs of faculty and students. They are also looking for tools that shine a light on their vital contributions toward the success of their academic institutions. OCLC services help simplify library workflows, giving staff the tools and time to invest in relationships across campus, to evolve local collections and to create new programs.

Advantages of Information Technology (IT) in Libraries :-
- Library Automation has been help to the library workers.
- It improves the efficiency of library work.
- It reduce the expense of library like on e-book, e-journal etc.
- The Online Public Access Catalogue (OPAC)is the computer form of assisting library users to catalogue library materials such as book, journal etc.
- It has large number of databases in digital form which occupies little space but it has large capacity.
- It supports library functions such as circulation, acquisition, serials control, stock maintenance and other work also.
- It also provides better information services etc.

Conclusion:-
In recent years, both universities and academic colleges have increasingly required that faculty members conduct research, thus blurring the traditional distinction between researchers and teaching faculty members. A major reason for this change in requirement appears to be related to the continuous development of the information world, as conducting research enriches the lecturers, develops their teaching capabilities, and, consequently, contributes to their promotion in the academic institutions.

Reference:-
1) IGNOU :- Book of BLIS
2) D.D.E (Bodhgaya) :- MLIS
3) University Research Report of Libraries
4) Academic Libraries – Education and Career American Library Association
5) A History of Collaboration – Council of University Libraries
Role of NDL in the Life of Language & Literature Students

Miss. Shraddha Toraskar
(M.A. SET English)
Assistant Professor Kamala College, Kolhapur

Abstract:
This study concerned the importance of digital library in the life of language students. In the country like India, the students of language and literature face a lot of problems of an offline library e.g. limitations of distance, budget, time, travels etc. For that reason so many language students from remote areas are unable to take advantage of those facilities. So in the 21st century, we have a great invention – Digital Library. Digital library is a virtual platform which provides tons of reading materials to every student. Digital libraries do not have any boundaries, they can easily reach to the students who belong to remote areas, they also do not have any restrictions about time and place. So for a language student who loves to read literature, Digital library is like an ocean for them. Digital libraries will allow teachers and students to use information resources and tools that have traditionally been physically and conceptually inaccessible. In India we have National Digital Library in short we call it NDL. In this research paper usage of NDL (National Digital Library) in the life of literary student is discussed.

KEYWORDS : NDL, NMEICT, Digital libraries, Digital resources, electronic resources.

Introduction
Creativity, originality, and the individuality reflected in works of literature of writers from every corner of the world are the factors that interest everyone to study English. Literature opens up a new world for the reader. Whenever someone feels upset by anything or stressed out about the little or big things in life, going back to books gives them an escape from the hard and rough material fact. English literature opens minds toward intellectual activities and also helps to define feelings and emotions. (Mathew)

A student of literature is always hungry to read something new, to learn something new, to get new ideas which can give him or her new knowledge. They just fall in love with every book they touch. They have some favorite books but when someone asked they could never choose. For them books are like gems. Books which leaves your spine aching from sitting up all night reading them. Books whose characters lives in the glittery corner of your mind. (Alllen) To fulfill this hunger, libraries play a very important role.

Role of Library
Library plays a very healthy role in the life of a literary students. The atmosphere in the library is very calm and disciplined. It helps readers to keep a very good concentration on their readings. Freedom is the keyword for the libraries. Readers are allowed to read whatever they like and also read the book according to their own manner. Nobody would disturb them. It is an essential part of the student’s life. They should take full advantages of the libraries available. The resources and services they offer create opportunities for learning, support literacy and education, and help to shape the new ideas and perspectives that are central to a creative and innovative society. (Importance of library in our life, 2018)

A literary student always wants to read books of his favorite authors, poems, even theories of criticism, dramas, old and new literature. So a library offers him access to all sorts of books, magazines, music and movies that he could never afford to buy. It is the place where all walks of life may be present, including children-youth and the aged. For a common man, it is difficult to purchase more than one or two daily newspapers or monthly magazines, but it is the sharp desire of educated people to know all possible shades of opinion as expressed in different newspapers. (KMEA) Libraries provide the students very healthy environment for learning.

In new India, digital library is becoming famous day by day. They combine technology and information resources to allow remote access to reading content. Breaking down physical barriers, it give access to multiple contents with a potentially number of resources and selections at hand. The main limit for traditional libraries is
represented by physical space- books consume a lot of it and people often have to walk around in search of a particular material. (technology) It is helpful for a literary students because they provide a lot of reading content to them, they don’t have financial boundaries also and because it is online, students can get updated content easily. Government of India has launched National Digital library.

**About NDL :**

The National Digital library of India is a virtual treasury of learning tools which is not only just a treasury with a search/browse facilities but also provides a host of services containing textbooks, articles, videos, audio books, lectures, simulations, fiction and all other kinds of learning media for the learners/users community. It is a project under Ministry of Education, Government of India, through its National Mission on Education through Information and communication Technology (NMEICT). NDL provides many books, content of any languages and provides interface support for 10 most widely used Indian Languages. (wikipedia) Teachers and students can easily take advantage of wider ranges of materials and communicate with people outside the formal learning environment. This will allow more integration of the different types of learning. (Gary Marchioinini)

**English Literature And NDL :**

For language students, NDL is like a miracle, everything is available what they want just on a click. NDL gives numbers of reading content on the platform. When we click on the option of ‘Study of English Literature’, we can see a lot of study material is available on the platform. Students can easily get those library facilities. It has so many materials related to English literature in different forms (Books, Audio lectures, video lectures, articles etc.). To get this advantage, one should first go on the chrome browser and type National Digital Library then it will show a lot of options like engineering, school, science, humanities, literature. If someone choose English literature then it will show another options. Some important points/options have mentioned further below:

1. History of English Literature
2. 20th century world literature
3. Indian writing in English
4. English language and literature
5. English literature : Its History and Significance for English Speaking world
6. Classical Indian Literature
7. European Classical Literature – Homer’s Iliad : Article
8. Greek Tragedy
9. British Poetry and Drama
10. War Literature
11. American literature
12. Literary theory & Criticism
13. War Literature
14. Pre-Modern literature
15. Women’s literature

Each topic carries lot of reading material with it. For example in the option of ‘History of English literature’, it will get us through all the points of the history means form the Anglo-Saxon age to renaissance, Elizabethan age to romantic age, Victorian age to postmodern age. It also provides reading materials about the historical criticism like Alexander Pop, Coleridge as critic, Dryden’s Criticism, Chaucer, Philip Sidney, Wordsworth as critic etc.

In Indian Writing English, it has everything like renaissance of Bengal, Decline of Mughals and rise of the English, India theory of drama/ theater/ performance, Kashmiri Poetry : Romantic Form, Shakespeare in India, Short independence India, Short story in Modern India, Women playwrights. It also provide reading materials from ancient great authors like Bhas’sSwapnavasavadatta, Folk theatre forms :Jatra and Qissa, GirishKarnad as
Dramatist, Hellenic Criticism, Indian theatre : Datta Bhagat, R.k. Narayana as a novelist, Rabindranath Tagore and Premachand, Sarojini Naidu : the poet, Vijay Tendulkar etc.

Option of British poetry shows the content about the age of expression, the great discoveries and its effect on the language, rise of renaissance Elizabethan poetry, romantic poetry, Shakespearean sonnets, songs, romantic poetry, and also provides content of authors like Chaucer, Shakespeare, Wordsworth, Coleridge, William Blake etc.

If you choose the option of Women writers, it will get you through the reading materials are like Simone de Beauvoir’s The second sex, treatment of gender inequality in the poetry of Sylvia Plath, A Reassessment of Sylvia Plath, lectures on R.K. Ramanujan (Poetry Criticism), Lectures on Virginia Woolf. (ndl)

Like this, each point provides lots of reading material as well as audio and video lecture which can help students to learn difficult concepts of literature.

Conclusion –
Clearly, National Digital library plays an important role in the life of literary students. The achievement of digital library is really helpful in order to fulfill the requirement of readers. Digital library offers many options to the library users to do the task as quickly as possible. Use of the digital library enables the library to save spaces and time of the users. Although there are some challenges in the digital library. To meet these challenges librarians should play an important role. The library should possess to have well trained library staff who can guide the users and also can teach them how to use the digital resources. Most important thing librarian should do efforts to create more awareness among users about digital resources. (Khan, 2021)

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Emerging Technologies and Their Impact on the Libraries

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Abstract:

In libraries ICT has assisted liberty and information science professionals to provide value-added services and give more remote access to available information resources, information and communication technologies provide faster retrieval of stored information and reform our traditional library to a modern library.

The rapid growth in ICT has made a great impact on libraries with the effect of ICT. The people have changed the way to think, behave, communicate and work. Globalization has been changed the libraries, from traditional to digital libraries where every work is done by computer. In such a way library working has been changed from service oriented to user oriented.

Emerging technologies provide librarians with a unique opportunity to substantially enhance user centered services and to facilitate and promote collaboration between libraries and their users. The shift to digital services and delivery models is one way that libraries are responding to changing expectations among patrons but libraries are also looking for other ways to improve the experience for their users such as by making it easier to find and check out materials that match users’ needs and interests.

Keywords: ILS, Web 2.0, e-books, e-readers, mobile technology, digitalization, virtual technology, artificial intelligence, and maker’s space

Introduction:

The technological change is quick. The new library technologies are emerging today. Technology change is over all process of invention and innovation. Technological change covers the invention of technologies.

The shift to digital services and delivery models is one way that libraries are responding to changing expectations among patrons. But libraries are also looking for other ways to improve the experience for their users’, such as by making it easier to find and check out materials that match users’ needs and interests. Libraries have experienced dramatic changes in the last several years as a result of covid and other external forces. As librarians look ahead to the future the ICT has assisted library and information science professionals to provide value added services and give more remote access to available information resources. Information and communication technology provide faster retrieval of stored information and reform our traditional library to a modern library

Circulation model

An integrated library system(ILS) also known as library management system(LMS) is an enterprise resource planning system for a library, used to track items owned, orders made, bills paid, and patrons who have borrowed an ILS usually is constituted of a relational database software to interact with that database and two graphical user interfaces.

Most ILses separate software functions into discrete programs called modules, each of them integrated with unified interface. Examples of model might include:

- Acquisitions
- Cataloging
- Circulation
- Serials
- Online public access catalogue

Each pattern and item has a unique ID in the database that allows the ILS to track its activity.
Meta searching:

A meta search engine is an online information retrieval tool that uses the data of a web search engine to produce its own results. Meta search engines take input from a user and immediately query search engines for results. Sufficient data is gathered, ranked, and presented to the user.

Problems such as spamming reduce the accuracy and precision of results. The process of fusion aims to improve the engineering of a meta search engine.

Examples of metasearch engines include skyscanner and kayak.com which aggregate search results of online travel agencies and provider websites and a free and open source.

By sending multiple queries to several other such engines, this extends the coverage data of the topic and allows more information to be found. They use the indexes built by other search engines, aggregating and often post-processing results in unique ways. A metasearch engine has an advantage over a single search engine because more results can be retrieved with the same amount of exertion. It also reduces the work of users from having to individually type in searches from different engines to look for resources.

Meta searching is also a useful approach if the purpose of the user’s search is to get an overview of the topic or to get quick answers. Instead of having to go through multiple search engines like Yahoo! or Google and comparing results, metasearch engines are able to quickly compile and combine results. They can do it either by listing results from each engine queried with no additional post-processing or by analyzing the results and ranking them by their own rules.

A metasearch engine can also hide the searcher’s IP address from the search engines queried, providing privacy to the search.

With meta searching, one more new technology which is single search box tools which is also known as discovery tools. This product collects different resource types from different places into a single database and then permit that single database to be readily searched from one box. If we see that this technology is still new it is clear that discovery tools provide noteworthy benefits over the existing other technologies.

E-books and e-readers

Many of the readers still prefer books rather than the digital version. The studies also reveal that even though students can type more on their laptops, they tend to simply transcribe the lecture verbatim. This robs them of the opportunity to process and retain information in such a way that they can reframe it in their own words.

An e-reader also called an e-book reader or e-book device, is a mobile electronic device that is designed primarily for the purpose of reading digital e-books and periodicals.

Any device that can display text on a screen may act as an e-reader, however, specialized e-reader devices may optimize portability, readability, and battery life for this purpose. Their main advantage over printed books is portability. This is because an e-reader is capable of holding thousands of books while weighing less than one book, and the convenience provided due to add on features.

E-readers can hold thousands of books limited by only their memory and use the same physical space as a conventional book. Most E-ink displays are not back-illuminated and therefore seem to cause no more eye strain than a traditional book and less eye strain than LCD screen, with a longer battery life. Features such as the ability to adjust font size and spacing can help people who have difficulty reading. Some e-readers link to definitions or translations of key words. Amazon notes that 85% of e-readers users look up a word while reading.

E-readers can instantly download content from supported public libraries by using apps like overdrive.

Social media and mobile applications

Social media platform allows users to have conversations, share information and create web content. There are many forms of social media including blogs, micro-blogs, Wikis, social networking sites, photo-sharing sites, instant messaging, video sharing sites, podcasts, widgets, virtual worlds and more.

Social media are interactive technologies that facilitate the creation and sharing of information, ideas, interests, and other forms of expression through virtual communities and networks. While challenges to the
definition of social media arise due to the variety of stand-alone and built-in-social media services currently available, there are some common features.

1. Social media are interactive web 2.0 internet based applications.
2. User generated content such as text posts or comments, digital photos or videos and data generated through all online interactions-is the lifeblood of social media.
3. Users create service-specific profiles for the website or app that are designs and maintained by the social media organization.
4. Social media helps the development of online social networks by connecting a user’s profile with those of other individuals or groups.

Social media are computer mediated which allow users to create content and interact with each other. The main advantage of social media is connectivity and main advantage of the social media is that you update yourself with the latest happenings around the world

Maker Space

Makerspace is a collaborative work space inside a school, library or separate private facility for making, learning, exploring and sharing that uses high tech to no tech tools. These spaces are open to kids, adults and entrepreneurs and have a variety of maker equipment including 3D printers, laser cutters, CNC machines, soldering irons and even sewing machines. A makerspace however doesn't need to include all of these machines or even any of them to be considered as maker space. These spaces are also helping to prepare those who need the critical 21st century skills in the field of science, technology, engineering and math. They provide hands on learning, help with critical thinking skills and even boost self-confidence. Some of the skills that are learned in a makerspace pertain to electronics, 3d printing, 3d modelling, coding, robotics and even woodworking.

Digitization and institutional repository system

- Information storage can be simplified if the resources are available electronically.
- It helps the libraries in reducing space utilization and budget. On other hand all the archived materials can be stored with the support of IR systems like E-print and D-space

AI technology

This aspect of AI programming focuses on acquiring data and creating rules for how to turn the data into actionable information. The rules, which are called algorithms, provide computing devices with step-by-step instructions for how to complete a specific task. AI requires a foundation of specialized hardware and software for writing and training machine learning algorithm. No one programming language is synonymous with AI, but a few, including python, R and Java are popular. In general AI system work by ingesting large amount of labelled training data, analyzing the data for correlations and patterns and using these patterns to make prediction about future States. AI programming focuses on three cognitive skills: learning, reasoning and self-correction.

Conclusion

This study clearly indicate that there will be impact on technologies not only in the field of libraries but also rest of the world. It shows us transformation of libraries from the conventional to the computer generated technologies especially in the academic libraries.

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Abstract
The trending technological advancement has brought a lot of changes to library. Librarians are expected to also change with the system in order to render user-centric service by adapting to the trending web technologies being used globally to provide library services to people. Any librarian who fail to keep abreast of the trending issues and adopt the latest technologies in rendering services to users will be left behind and redundant in the field of information science. Therefore, it is very important Librarian to change with the system by ensuring knowledge and skills update as well as the utilization of emerging web technologies in library service delivery. Based on this fact, this paper attempt to identify the emerging technologies for library so that readers can specifically focus on them for effective library services. Also we know the latest library Automation Software's for best library management.

Keyword - Web technology, Automated library softwares, Library Services, Emerging technologies for libraries.

Introduction
Local and international businesses are now benefiting greatly from library in terms of access to new ideas, knowledge and information needed to grow their businesses. Libraries are viewed as important information sources and resources for people seeking mission-oriented information. It also serves as professional services provided by librarians in helping many business originator, researchers, students as well as educators in finding, accessing and utilizing information resources to the fullest extent, especially with regard to electronic resources. Studies also found that business information resources were significantly more valuable with expert help of library staff.

Although many are receiving the information in form of instruction in schools and through seminars but these cannot be complete without the backing of libraries. Libraries and information centers sare an indispensable companion to formal education. The current technological era is accompanied by a corresponding increase in knowledge and skills with a rapid grow of information sharing. This new library and information science environment requires new skills, products, equipment and platforms in seeking, processing and disseminating information.

Emerging Technologies in Library Management System
Libraries are one of the foremost critical social institutions. No society is complete without a library storing information from the world over. Information and Communication Technology (ICT) have extensively impacted libraries and their services.

Earlier, libraries offered manual information resources and services to their users, but now, libraries are opening up to digitalization, primarily in the form of online libraries, eLibraries, or digital libraries.

The Top 9 Current Trends in Library And Information Services
1. **Electronic Resource Management**: Electronic resources refer to e-journals, e-books, online databases, and other materials in digital formats, which are accessible electronically. e-Resource Management Software can be employed by libraries to trace the collection, access, authorization, maintenance, usage, evaluation, reservation, and selection of a library’s electronic information resources.

2. **RFID Implementation**: Radio-Frequency Identification (RFID) uses electromagnetic fields to select and track tags attached to library items automatically. The RFID-based library management system is the
newest technology used to track inventory and strengthen library theft detection systems. This technology enhances the security of libraries and increases their efficiency by streamlining the processes and reducing human dependence. For the users, RFID accelerates the borrowing and return procedures. Hence, RFID saves time and reduces library costs.

3. **Cloud Computing**: Libraries across the world are adopting cloud computing to make library services more streamlined and cost-efficient. This library management system plays a significant role in building digital libraries or repositories. Cloud computing also ensures optimal use of library resources, infrastructure, human resources, etc. Moreover, the technology is also used for library automation and quick data search. Additionally, in a digital library, cloud computing ensures that third-party services can manage servers, carry out upgrades, and create data backups.

4. **Internet of Things**: The best-integrated library software and LMS software have started using the Internet of Things (IoT) to transfer data without human intervention. Libraries use IoT to control inventory, prevent theft, and identify users. It also helps in improving the quality and speed of circulation desk activities. Moreover, IoT expedites reservation of books, fire detection in the library and its prevention, and streamline eLibrary services.

5. **Big Data and Data Visualization**: Big Data and Data Visualization is the method of displaying a large volume of data through charts, graphs, maps, and other visual forms. This makes the info more natural for the human mind to grasp and makes it easier to spot trends, patterns, and outliers within large data sets. This technology is helping digital libraries become more globalized while accessing a vast amount of data. It makes the libraries more easily accessible to readers who can find a plethora of information at their fingertips.

6. **Artificial Intelligence**: Artificial intelligence (AI) uses the power of a robot or a computer that tries to do tasks that humans usually do. The most common application of AI in a library is the chatbots that receive directional questions from users and resolve them. They can alert the user about their book submission due date, direct a user to the relevant library segment, and automatically schedule appointments.

7. **Mobile-Based Library Services**: The three main objectives of a library are to promote literacy, disseminate useful daily information to the people and encourage lifelong learning through its reading materials and resources. Mobile libraries bring resources outside of the library’s fixed location to users who otherwise might not get an opportunity to profit from them. With the help of mobile services like SMS and WhatsApp, libraries can produce new services and provide faster access to their collection. It also includes a learning management system (LMS), a software application that provides the framework that handles all aspects of the learning process and tracks your training content. An example of the best LMS software is Moodle. The OPAC mobile application is a classic example of mobile-based library services. The platform is operated by SLIM Softwares and aims at converting conventional libraries to digital libraries.

8. **Intelligent Library Search & Federated Search**: Federated search and Intelligent Library Search are techniques to retrieve information from many different content locations with only one query and one search interface with federated search. The technology complements main libraries in retrieving information quickly and makes indexing seamless. Libraries also use this technology for descriptive cataloging, subject indexing, database searching, and collection development.

9. **Academic Integrity and Plagiarism**: Any discussion about current trends in library systems will be incomplete without mentioning academic integrity and plagiarism. Plagiarism is using another’s ideas, words, theories, illustrations or graphics, opinions, or facts without giving credit. For students, copying others’ work damages the intellectual integrity of their academic experience. Therefore, avoiding plagiarism has become the need of the hour. Technology has undoubtedly made our lives much simpler. A library is no more the same it was a decade ago. Modern-day school and corporate library software ensure that you get the latest technologies in library

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*Special Issue Theme: Future Academic Libraries: Designing Technological Innovation and Best Practices in Academic Libraries (Special Issue No.117)*

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systems right at your fingertips.

library automation softwares

1. easylib library automation software : easylib is a library services platform that reduces costs, increases user satisfaction, and gets single-window search. this platform includes physical library management, digital library management, and visitor management in one place.

2. surpaas : surpass is a library automation software designed to help public, corporate, church, museum, and school libraries handle cataloging and circulation of books. the integrated patron management module enables administrators to import patron lists, create photo id cards, and automatically send email reminders and payment overdue messages to users.

3. mandarin : mandarin is a web-based library management system targeting smaller private & public facilities with support for cataloguing, circulation & inventory management.

4. resource mate : resource mate is a library automation software designed to help businesses across various industry verticals, such as public libraries, schools, museums, government institutions, non-profit organizations, and more. supervisors can catalog available resources, import or export marc files, and maintain a record of textbooks.

5. alexandria : alexandria is a centralized library software solution for managing and cataloging libraries, giving patrons the ability to search resources from any location.

6. evolve library : evolve library is a cloud-based library management system designed for use by school, public, academic, and specialist libraries of varying sizes. the software offers a range of modules covering acquisitions, catalog, circulation, and periodicals, and can be accessed through any web-enabled device.

7. destiny library manager : follett destiny library manager is a web-based software designed to help k-12 schools manage and record their library's available inventory on a centralized platform. with follett destiny discover, students can receive access to various print and digital resources including audiobooks, subscription databases and more.

8. handy library manager : handy library manager is a library automation software designed to help small to midsize school, church, community, business or public libraries manage book catalogs, generate reports, check-in/out items, maintain a database of records, and more. professionals can preview and print id cards and barcode or spine labels according to requirements.

9. liberty : liberty is a web-based knowledge management & library automation solution which enables the management of all physical, virtual & electronic library resources.

10. accessit : accessit library is a web-based library management system for schools which enables the recording & searching of all teaching resources, including video & audio content. the platform offers z39.50 cataloguing, intelligent search, engaging dashboards, integrations with existing it systems.

conclusion :

in library management system there are major scope in information technology world all emerging technologies built up more resources for implementing library functionalities and minimizing complexity for managing students faculty as well as people who use library for enhance there knowledge and more softwares are available in the market for librarians there easy work.

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Abstract: 

The Library and its services are mostly dependable on social media in this internet age. The use of various social media tools in libraries services is not a new topic and is in vogue for more than a decade now. Academic libraries around the globe are widely using social media tools to reach to their users and promote their products and services. This paper is basically highlights the availability of different types of social media tools, Social networking sites like Facebooks, Twitter, Myspace, LinkedIn, YouTube, Ning, Library thing, Wikis and Blogs etc. Also study the advantages and disadvantages of social media tools in Library services. Also state the use and its application in library services. This paper aims to give a brief overview of the social media tools used in particular to library activities/services.

Keyword: Social Media, Social Media tools, Social Networking Sites, Librarything, Flickr, Wiki etc.

1.1 Introduction:

The use of social media tools by individuals of all ages are on increase and the practice is most common in today's younger generation. The libraries understand the role of social media in connecting, communicating and engaging with users and promoting library products and services. Today social media plays an essential and central role in communication and in building relationships. The online communities are increasingly showing their presence on such platforms which is significant and demands attention, and one will gain by connecting and engaging with people via such channels of communication Bell and in case of libraries, whether that be to reach and engage with library users, to promote library products & services, to promote events etc. The present libraries covers all the digital collections like E journals, E books, E-Database, CDs and DVDs, Scanner, Computer, Kewos etc. Online services and database are the buzz word of the day for the users and library using the latest tools & technology. So also the users are well connected with social media like LinkedIn, Myspace, Twitter and Facebook. To satisfy the users many Libraries are providing service through different social media like Facebooks, Twitter, and Myspace during the last couple of year. Libraries have their own Facebook page and connected to other social networking & academic sites. Social Media are used optimaly to generate a participatory library service emphasizing engagement with users.

1.2 Review of Literature:

(Mishra, 2008) in his paper states that Social networking may be a scheme that allows the user to move and work collaboratively with alternative users, as well as the power to browse, search, invite friends to attach and move with internet world.

(N. & Jagadish, 2012) mentioned the uses of social media in academic libraries are increasing to benefit the users in rendering online information services on account of the changes in various activities like adopting technologies, social interaction, service context, procurement of information resources.

(Gupta et al., 2014) opined that to promote the library services and highlights the resources, patrons use of social media are increase in Academic Libraries.

(Smeaton & Davis, 2014) said the uses of social media are increasing in Public Libraries to meet users in their own spaces. Social Media are used optimally to generate a participatory library service emphasizing engagement with users.
1.3 **Objective of Study:**

1. To study the concept of Social Media in India.
2. To examine the different tools for using social media channels.
3. To state the advantages & disadvantage of social media using for library.
4. To Conclude that the using of social media application in library services.

1.4 **Social Media: The Concept:**

According to Wikipedia “Social media are computer mediated tools that allow people, companies and other organizations to create, share, or exchange information, career interests, ideas, and pictures / videos in virtual communities and networks”.

Definition by (Young Adult Library Services Association, 2011) says “It is a term commonly used to refer to a variety of web-based tools used to connect, collaborate, and create web content and experiences. Websites that allow visitors to send email, post comments, build web content or take part in live audio or video chats are all considered to be social media sites”.

(Neti, 2011) has define term ‘social media’ can be derived from two words which constitute it. Media generally refers to advertising and the communication of ideas or information through publications / channels. Social implies the interaction of individuals within a group or community.

Social media is web based communication media which a user can interact with other user in terms of social life, professional life, and educational purpose. It is just like a communication channel that all wows user communicate among them. The social media are web based applications, user generated information, user creates their own profile, manage them and share with other users, same circle of pictures, personal ideas, text, videos other content. Basic feature like enable many and may interactions, User generated contents.

1.5 **Different Tools for Using Social Media Channels:**

Social media can be categories based on their characteristics. Social media are 8 types. These are as follows:

1. **SOCIAL NETWORKING SITES**

   Social networking sites facilitates the users to create own profile, manage and share it. It also having the privileges to add friends, find friend from other sites, creating a group id with linking the people having common interest. Connect with various groups of people like friends, family members & relatives, professional colleagues etc. with like; minded people are the basic purpose of the social networking sites. Examples of the social media are Facebook, LinkedIn, Myspace, Ning, Google+ etc.

2. **MICROBLOGGING**

   It is a web based interface application which allows the user or subscriber to get updates the short form of message like text, video link from other user that they have already subscribed and can post a short piece of digital content such as text, video, or image. Twitter is one of the popular example of micro blogging. It gives instant short message to the users. According to Wikipedia Twitter has 320,000,000 users till date worldwide (Wikipedia).

3. **BLOGS**

   It is a platform of personal thoughts, ideas, in a single place on the web. Basically it is the platform shared by an Individual for his/her thoughts, ideas, opinions, news and other contents and messages arranged in reverse chronological order. Hence the most recent post will be displayed on the top. Some of the examples are Problogger.net, Libercafe, Infolibrarian, Lislinks, Library Soup, and India Libraries etc. Librarian can use this tools can share the topic, ideas related to library services and share information like job posting, training and seminar etc. to its member.

4. **WIKIS**

   It is a webpage which allow anyone to edit, modify, write the text and edit other contents. It is a web based platform for user to share their knowledge and skills with others. It is a collaborative work of an individual.
or a group of person using a simple markup language and a web browser. Examples are Wikipedia, Appropedia and Library success etc.

5. PODCASTS

According to Wikipedia “a podcast is a form of digital media that consists of an episodic series of audio, video, digital radio, PDF, or ePub files subscribed to and downloaded automatically through web syndication or streamed online to a computer or mobile device”. Examples of podcast are voice from the valley, Radiolab, Buzz out loud etc.

6. MEDIA SHARING

This type of social media tools allow the users specially to upload and share the multimedia files like video, images, songs over the internet. These types of social media are very popular now-a-days among the people. Some of the examples of media sharing are YouTube and Flickr. The users can view, download and make the comments to the uploaded content.

7. BOOKMARKING SITES

It is allow user to save and organize links to any number of online resources and websites. According to wiki “a social book marking service is a centralized online service which enables users to add, annotate, edit, and share bookmarks of web documents”. The popular social book marking sites are Delicious having 1,500,000 Approximate Unique Monthly Visitors and Stumble Upon 28,000,000-estimated Unique Monthly Visitors as on July, 2016 (Ebizmba Inc, n.d.)

8. SOCIAL NETWORKING SITES (SNS) IN LIBRARY SERVICES

There are lot of SNS used in Library services namely Facebook, YouTube, LinkedIn, Blogger, Google+, Flickr, MySpace, Twitter etc.

9. FACEBOOK

It is one of the popular social sites that are used by millions of peoples worldwide. Now its active users are around 1.65 billion monthly (Wikipedia.com, 2016.). In recent few years many of the Library has its own library page and offers different kind of services using the Facebook. The concerned libraries use this social media to provide the information on new Databases, New arrivals of Books & Other resources, Opening Hours, Book Exhibitions, to provide reference services, about upcoming workshops / training programme of Library. It facilitates the user to get instant messages and reference services.

10. TWITTER

Twitter is another popular social networking site among the social media it can be used by the libraries for marketing of library services like reference services and alert services. It is a free micro blogging site developed in the year 2006. It has 310 million active users by March, 2016 (Wikipedia, 2016.). Most of the Libraries are using these tools for promoting library services like new arrivals, event information, news announcements, new database etc. Some of notable Libraries that are actively using the Twitter accounts are Library of Congress having 817k Follower, 10.5 K tweets and National Library of Australia has more than 34 k Followers 9,245 tweets as on 28 July, 2016.

11. MYSPACE

Many a Libraries are active with Myspace site. Like Facebook, MySpace a popular social networking sites allows the user to create their profile with aim to provide better services by way of making friends, groups, sharing views, images and videos etc. Libraries are providing services and receiving feedback from the user related to the services offered by them. The examples are Birmingham public library (https://myspace.com/birminghampubliclibrary), and Schwarzwald library (https://myspace.com/schwarzwaldlibrary).

12. YOUTUBE

This is one of the important social media site widely used by the libraries in and around the world. This helps the Libraries for marketing the information products; share their programs, conferences, and workshops instructional videos of the methods and steps for the use of database, books, E-books etc. Application of YouTube
in library improves the services through tutorial and other video mode. Some of the examples of the institute using You Tube are FedUniLibrary by Federation University Australia and Library of Congress.

13. NING

It is a web based service that facilitates users to create their own profile on social networks and to join and participate in other networks. Librarian uses these tools to connect with the user, the Library Association and with other people for sharing the information to user about the library services.

14. LINKEDIN

It is one of the prime social media platforms that allow the user to connect with the like minded people and same interest. This site is basically a professional social networking site. Application of this site can increase the professional’s network with other librarians; Professional’s share their expertise knowledge, ideas with others. Also it is useful to the Library for marketing their services.

15. LIBRARYTHING

It is an online web application specially designed for the library activities. It facilitates the user for cataloguing of books, Share it and connects with related people. Many libraries now connect with Library Thing. It is also used for copy cataloguing. Users can catalogue up to two hundred books. It enriches the library OPAC and the Librarians can use current publications of university and send it to the user. It is largely used by the Libraries, Publishers, Authors and Individuals.

16. FLICKR

It is a social media basically used for sharing of bulk photos with unlimited storage space. Library can share the poster, brochures, information bulletin and other library photos to the library patrons. Flickr is created and manage by Yahoo.

17. SECOND LIFE

Second Life is a social media used as an online virtual service for sharing of the videos, voice records, 3D images etc. The libraries are using this service to invite the users by way of streamed media, discussions, classes etc.

18. GOOGLE+

It is one of the social media tool like Facebook which allow the users to add, invite, post, edit, upload videos feature with the help of this tool library can share the information service with the member group for the services like News & events, New services, Video Tutorial etc.

19. TEACHER TUBE

It is a video sharing website similar to YouTube that allow users to share videos and designed for educational purpose. Librarians can use this tool to provide various educational related contents for library users and also useful for teachers in adding teaching content for the students.

20. WIKI

It is a very important and powerful tool which acts as knowledge management tool. This tool helps the library to share the information about its holdings like Library resources, Reference sources and also different section of library can connect with the library patrons.

21. PINTEREST

It is a free web based tool which allows sharing content like images, videos and other objects. Pinterest provides great platform to market the library resources. A library can make its own profile and create boards, pinning photos and video showcasing of the library (Jain, 2013).

1.6 Application of Social Media In Libraries:

- Social media can be used for survey purpose for feedback from the user related to the Library services,
- Library can promote library resources using this social media for Ex.: Orientation programme of the database, EBooks, Journals etc.
- Library can create book discussions group using social media.
- New arrival of Books, E-resources and other materials.
1.7 DISADVANTAGE OF SOCIAL MEDIA IN LIBRARIES
The important advantages of the social media are:
- Most of the social media are freely available on internet.
- Library can easily share; connect with other libraries and its members free of cost.
- Social media is easy to find the information and sharing purpose.
- It is accessible 24X7 on internet. There is no time limit to aces the information.
- Social media are very user friendly and simple to use and it needs no extra training.
- It facilitates the user to connect with other people worldwide over the internet. Create the network globally and build professional link.

1.8 DISADVANTAGE OF SOCIAL MEDIA IN LIBRARIES
Some of the limitations and disadvantages of social media are:
- Opens up the possibility for hackers to commit fraud and launch spam and virus attacks.
- Potentially results in negative comments from employees about the institute and library.
- Too many social media tools to learn.
- Users spending much more time on social media than required.
- Privacy decrease and identity theft.
- Lack of validity of information.
- Lack of knowledge how to use it.
- Lack of interest among the majority of librarian for using social media.
- Inadequate training opportunities for library staff.
- Need uninterrupted internet connectivity and electricity connection.
- Slow speeds of Internet hamper the services.

1.9 Conclusion
The social media tools are gaining its importance day by day. In the field of library science and library it is one of the most important and powerful tool for disseminating the library services. Library professional are using these tools for the purpose of the promoting library services and resource. But in India due to the lack of IT knowledge, awareness among the LIS professionals so also the internet connectivity problem, it is seen only used by the modern IT savvy people and modern libraries. There are different kinds of social media tools available globally but it is the librarians responsibility to make it use and choose a best available among them.

Reference:


Open Source Software Applications In Libraries: Issues And Challenges

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Abstract

Technology has made a great impact on library development and an opensource software become a boon for libraries. Due to characteristics of open source; free and open source code change the entire scenario of automation of libraries. Community based development support leads the innovation in application. This paper describes how open source software are helpful for libraries in various areas of automation. Researcher identified the various categories and listed various open source software are available for libraries to be implemented for rendering quality services. Limitations of open source also discussed here with reasons of failures of open source projects in libraries. To implement the open source software in libraries, librarians requires the advanced skill sets for effective and successful implementation.

Keywords: Open Source Software, OSS, Open Source evaluation model; Libraries

Introduction

Information technology has a key role in development of libraries. An Open source concept is strengthening his root in application development world. Developer communities were contributing the quality-based applications to the world. Technology plays an important role in libraries, as it allows libraries to improve services and operations while managing costs. Open source software is playing a vital role in development of libraries. Libraries are using open source software to enhance the library services. Due to the characteristics of Opensource, libraries are shifting from proprietary applications to open source.

In recent years, open-source software has become more popular in libraries. Many libraries have adopted open-source software for their management systems, digital collections, discovery and search, and online resources. Some libraries have also adopted open source analytics and reporting tools for measuring the usages of online resources. Cost-effectiveness is one of the key reasons for adopting open source in a large scale in library environment. For the purpose of data security and privacy, open source software enables libraries to have greater control over their IT infrastructure and data. Open-source software allows libraries to easily customize and adapt their systems to meet changing needs, which is important in today’s rapidly changing technological environment.

Additionally, many libraries are taking part and making contributions to the communities that build open source software, which enables them to directly influence the growth and development of the software.

Open Source

Open source refers to a software licensing model where the source code is publicly accessible and can be freely modified, distributed, and inspected by anyone. This approach fosters collaboration, sharing of knowledge and resources, and drives innovation and customization.

Raymond (2000) defines, “Open source is a development method for software that harnesses the power of distributed peer review and transparency of process. The promise of open source is better quality, higher reliability, more flexibility, lower cost, and an end to predatory vendor lock-in.”

Open Source Initiative (OSI) definition of open source not limited with freely “access to source code”, it also focuses on the free distribution of open source, share, edit and redistribute source code, modifications and derived works, Integrity of The Author's Source Code, No Discrimination Against Persons or Groups and Against Fields of Endeavor, Distribution of License, License Must Not Be Specific to a Product and software, License
Must Be Technology-Neutral. They not only describing the free source code but also enlightening the distribution and licences to all human community (“The Open Source Definition | Open Source Initiative”).

**Characteristics of Open Source**

Open-source software is generally free to use, distribute, and modify, which can save organizations a significant amount of money. Source code is available openly so users have the ability to customize the software to fit their specific needs. Application developed through the community support and as per the need of user and such environment open-source allows for greater transparency. The source code is freely available, so no issue of any vendor lock for future development. Open-source software going through community development phase and code is reviewed by many developers so there is possibility of fewer security vulnerabilities. Quality OSS rises to the top in the same way cream rises to the top of the milk (Morgan, 2002). Open-source development allows for a more rapid pace of innovation and the ability to build on existing work. Open-source software has a large community of developers and users that contribute to the development and support of the software (Fitzgerald, 2006).

**Open Source Technology And Libraries**

Open source technology has had a significant impact on libraries. Variety of applications are available for managing library service management and services. Recent years, so many libraries coming forward to implement the open source applications, this number is increasing day by day due to huge advantages of it. Libraries are using open source applications due to number of ways i.e.:

- To eliminates the need to purchase proprietary software
- To modify open-source software to meet their specific needs
- To take the benefits of community collaboration based innovative applications for providing quality library services to users
- To use reliable and quality software product with integration of data sharing, migration and exchange standards and protocols
- To implement innovative platform for users

Open source applications have allowed libraries to become more efficient, effective and innovative in providing innovative and effective services.

**Areas of Implementation in Libraries**

Most of libraries intend to collect, share information through the available resources. To manage, collect, storage and disseminate and also for retrieving information management and content management systems are required to implement. Wide variety of open source software are available for libraries to assists in management and processing their content workflow, library management software, institutional repository and content management system are the popular open source categories of libraries (Salve, Lihitkar, & Lihitkar, 2012). There are several areas in libraries where open-source software can be used to improve services and operations:

- **Library management systems**: Open-source library management systems can be used to manage library collections, check-out processes, and patron information.
- **Digital collections**: Open-source software can be used to create and manage digital collections, such as digitized books, articles, and photographs.
- **Discovery and search**: Open-source software can be used to improve the discovery and search of library resources, such as through the use of open-source search engines and metadata management tools.
- **Content management**: Open-source content management systems can be used to manage and publish library websites, blogs, and social media.
- **Data visualization**: Open-source software can be used to create interactive data visualizations of library usage, circulation, and collection data.
• **Digital preservation**: Open-source digital preservation tools can be used to ensure the long-term preservation and access of digital library collections.

• **E-resources management**: Open source software can be used to manage e-resources such as e-books, e-journals, and databases.

• **Learning management systems**: Open-source learning management systems (LMS) can be used to provide online learning and training for library staff and patrons.

• **Analytics and reporting**: Open-source software can be used to collect, analyses, and report on library usage data and resource statistics.

• **Outreach & Community Engagement**: Open source software can be used to develop the community engagement platforms i.e. forum, wiki, blogs.

Wide variety of open source software are available for library management, e-resource management, digital content management, library forum, wiki pages, archive management, library website and blog development, document management, learning management. Libraries can use open source software developed for the discussion, feedback mechanism, cloud storage management, polls and surveys and also for reporting and analyses of resources. There is huge collection of open source software are available and libraries can adopt as per their needs. Table-1 showing various categories of open source with various software available under each categories.

Table – 1: Different Open source software categories

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Open Source Software category</th>
<th>Open Source Software</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Library Management Software</td>
<td>Koha, NewGenlib, Evergreen, SLiMS, OPALS, OpenBiblio, PMB</td>
</tr>
<tr>
<td>2</td>
<td>Digital library software</td>
<td>Dspace, Greenstone, E-Print, MyCore, Fedora, KORA, Invenio, Samvera, CONTENTdm, Islandora</td>
</tr>
<tr>
<td>3</td>
<td>Electronic Resource Management System</td>
<td>CORAL</td>
</tr>
<tr>
<td>4</td>
<td>Learning Management System</td>
<td>Moodle, ATutor, Chamilo, Claroline, eFront, Dokeos, DoceboLMS, TCEXams, ILLIAS, Forma LMS</td>
</tr>
<tr>
<td>5</td>
<td>Open Data Repository Management System</td>
<td>CKan, DCan, Inverse</td>
</tr>
<tr>
<td>6</td>
<td>Wiki Management System</td>
<td>Mediawiki, Docuwiki, Foswiki, Tikiwiki, Twiki, Xwiki</td>
</tr>
<tr>
<td>7</td>
<td>Content Management System</td>
<td>Joomla, Wordpress, Drupal, Concrete5, CMS Made Simple, Comporx, Mambo, TYPO3, Fork, ProcessWire, Pluck, ImpressCMS, PopojiCMS, Microweber, Cmrogo, Jamroom, Saurus, WonderCMS, Hotaru CMS, ClipperCMS, Plone</td>
</tr>
<tr>
<td>8</td>
<td>Customer Support/ Reference Service</td>
<td>OSTicket, Faveo Helpdesk, HelpDeskZ, OpenSupports, HelpDEZk, Handesk, Trellis Desk, phpOnline</td>
</tr>
<tr>
<td>9</td>
<td>Document Management System</td>
<td>OpenKM Document Management, LogicalDOC Document Management, OpenDocMan, Quotero (Kimios), Xinco, LetoDMis, PhpFileNavigator</td>
</tr>
<tr>
<td>10</td>
<td>Discovery Interface</td>
<td>VuFind</td>
</tr>
<tr>
<td>11</td>
<td>Cloud Management System</td>
<td>OwnCloud, ProjectSend, Next Cloud</td>
</tr>
<tr>
<td>12</td>
<td>FAQ / Bulletin Board</td>
<td>phpMyFAQ</td>
</tr>
<tr>
<td>13</td>
<td>Kiosk Management System</td>
<td>Libki</td>
</tr>
<tr>
<td>14</td>
<td>E-Book Management System</td>
<td>Calibre</td>
</tr>
<tr>
<td>15</td>
<td>Image Gallery Management System</td>
<td>4images, Piwigo, Coppermine, Zenphoto, Gallery, PhpAlbum, Lychee, Plogger, iGalerie, Chevereto</td>
</tr>
<tr>
<td>16</td>
<td>RSS Feed</td>
<td>Tiny Tiny RSS, selfoss, SimplePie, FreshRSS, Miniflux,</td>
</tr>
</tbody>
</table>
Open Source Software Selection Criteria For Libraries

Selection of a right software the first step of any automation work. Predefined selection criteria help people to select a right software as per their need. In open source domain, so many evaluation criteria were defined time to time. In 2003 Open Source Maturity by Model (OMM) was designed by Capgemini, Navica’s Open Source Maturity Model (OSMM), Atos Origin Method for Qualification and Selection of Open Source Software (QSOS) by Atos origin and Open Business Readiness Rating (OpenBRR) has significant efficiency to select a prominent open source software for user. All these models evaluating software support, documentation, update and maintenance, security aspects, data management elements. Some of these also evaluate the quality and user perspective parameters to evaluate. Thus, there are availability of evaluation models to evaluate overall software quality for selection the right one. These evolution models aimed to design for all the open source software. Here there is no special parameters for specific industry. There was a huge study on implementation of open source in libraries and also the comparative and descriptive study on specific open source used in libraries. This all study were limited to implementation and usability of open source. There a lack of evaluation models specific for open source software used in libraries. So many specialised open source software are used in libraries as per the bias recommendation of others. So, there is strong need of evaluation models for selection open source for libraries. This will be a great challenge in future to select a right open source for libraries. Such selection criteria helpful for libraries to implement a best project in library.

Limitations Of Open Source Software Applications For Libraries

While open-source software has many advantages, there are also some limitations to consider.

- Open-source software may not have the same level of support as proprietary software, and users may need to rely on community-based support. They may not always be compatible with proprietary software, which can limit its usefulness in some environments.
Installation, customization, and maintenance support, Updates, Modules/components missing, Accountability and Management decisions are most common reasons for the limited use of open source in libraries in India (Upasani, 2016).

The quality of open-source software can vary, and it may not have the same level of polish as proprietary software. Users may need to have a certain level of technical expertise to use and customize open-source software. Some open-source licenses may have certain restrictions or requirements, such as the requirement to make any changes to the software open-source as well.

Open-source software can be developed in different ways and in different languages, which can make compatibility and integration difficult. Open-source software may have a lack of dedicated maintainers, which can result in a lack of updates, bug fixes, and security patches.

**Failure of Open Source Application in Libraries**

Open-source software can fail in libraries for a variety of reasons. Some possible reasons include:

- **Technical expertise**: Open-source software often requires a certain level of technical expertise to install, configure, and troubleshoot, and libraries may not have the necessary staff or resources to do this effectively.
- **Limited support and assistant**: Open-source software may not have the same level of support as proprietary software, and libraries may struggle to find help when they encounter problems.
- **Integration issues with external application**: Open-source software may not integrate well with other systems and software that libraries are already using, leading to compatibility issues and data loss.
- **Data security and privacy**: Some libraries may be concerned about the security and privacy of their patron data and resources when using open-source software, and may be hesitant to adopt it.
- **Customization and scalability**: Open source software may be difficult to customize or scale to meet the specific needs of a library, which can make it less efficient or effective.
- **Funding Issues**: Some libraries may not have the budget to invest in open-source software, or may not be able to allocate the necessary resources to implement and maintain it.
- **Lack of training**: Librarians may not have the proper training or support to make the most out of open-source software, this could lead to a lack of adoption and usage.
- **Limited resources**: Some libraries may not have the necessary resources to implement and maintain open-source software, such as adequate staff, hardware, or bandwidth.
- **Misaligned priorities**: Some libraries may not see the benefits of open-source software, or may have different priorities, which can make it difficult to justify the investment.
- **Lack of Documentation**: Lack of proper documentation, its becomes so problematic to implement the open source software in libraries.

It's important to note that these are potential reasons, and that open-source software can be a great solution for many libraries. However, it's important to carefully evaluate whether open-source software is a good fit for a particular library before committing to its implementation.

**Skills For Librarians for Adoption of Open Source Applications**

Librarians who want to adopt open-source software in their libraries will need to have a certain set of skills. These may include:

- **Technical knowledge**: Librarians will need to have a good understanding of the technical aspects of open-source software, including installation, configuration, and troubleshooting.
- **Programming skills**: Librarians will need to have some programming skills, as open-source software is often customizable and requires some level of coding knowledge to modify or improve it.
- **Automation management skills**: Librarians will need to be able to manage the implementation of open-source software projects, including planning, coordination, and budgeting.
Communication skills: Librarians will need to be able to communicate effectively with other library staff, patrons, and vendors to ensure the successful implementation of open-source software.

Knowledge of open-source licenses: Librarians will need to have a good understanding of open-source licenses, to ensure that they are in compliance with legal requirements and to avoid any potential legal issues.

Knowledge of data security and management: Librarians will need to have a good understanding of data security and the measures that need to be taken to protect patron information and library resources.

Knowledge of data management: Librarians will need to have a good understanding of data management, including data migration, data integration, and data backup, to ensure that library data is properly managed and protected.

Knowledge of open-source community: Librarians will need to have a good understanding of the open-source community and how to engage with it for support, resources, and contributions.

Technological Adaptability: Librarians will need to be flexible and adaptable to new technologies and new ways of working.

Continuous learning: Librarians will need to be open to learning new skills and technologies to keep up with the rapid pace of change in the field of open source software.

Future of Open-Source Software Applications In Libraries

The future of open-source software in libraries is likely to continue to evolve as libraries seek to improve services and operations while managing costs. With the ever growing need to manage and organize large amounts of library data, open-source library management systems are likely to become more widely adopted. Libraries are likely to continue to digitize their collections and open-source software will be used to manage and make these collections more accessible to patrons. Open-source search engines and metadata management tools will be used to improve the discovery and search of library resources. Libraries are likely to continue to use open-source content management systems to manage and publish library websites, blogs, and social media. Libraries will use open-source software to collect, analyse, and report on library usage data and resource statistics. Libraries will increasingly rely on open-source software to manage e-resources such as e-books, e-journals, and databases. Libraries will use open-source digital preservation tools to ensure the long-term preservation and access of digital library collections. Libraries will use open-source Learning management systems to provide online learning and training for library staff and patrons. “The future is cloudy”, development of cloud management will boost the open source initiatives in libraries (Upasani, 2016).

The future of open-source software in libraries looks bright, as open-source software provides cost-effective and customizable solutions that can help libraries to improve services and operations while managing costs.

Conclusion

Development of open source-based applications are becoming the most important aspect of library development. Libraries are coming out of the mentality of using propriety software which are a huge financial burden on libraries. Applications like Koha, Dspace, Vufind, NewGenLib, WordPress, Joomla and other content management software improving the quality based library services. Libraries are taking steps to implement open source software in their working environment. Worldwide developer communities were working on the innovative modules of information management and contributing the great initiative to develop the remarkable and bug free software to user community. Libraries have to come forward to implement the open source software successfully. Though, skills are new and changing and librarians must be adopt these modern skills binding with this new open source development. In future open source will become the foremost option and powerful tool for library domain.
References:
Changing Nature of Academic Library Resources and Services for Based on Users Need

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BVDU, SOPH, Sangli

Summary
The purpose of this research is to learn more about how satisfied library patrons in Sangli, Maharashtra, are with the library's materials and services and what kinds of issues they run into while using the library. The study used a quantitative survey-based methodology to collect data. Using convenience sampling, information was gathered from patrons of Academic libraries using a pre-made questionnaire. Users of four large Academic libraries in Sangli, Maharashtra were included in the research population. The survey results reveal that most of the respondents use Academic libraries on a daily basis and are satisfied with the services they receive from the distribution staff. According to them, Academic libraries are the go-to places for finding credible information in the community. However, they are disappointed with the internet-based administrations presented by nearby libraries and the absence of linkages between libraries and their sponsors. User Need and quality of library services have been improved in Academic sector libraries in Sangli through the data provided by this research. It also emphasises the necessity for policymakers in Maharashtra to establish standards for the nature of administrations given by open libraries.

Keywords: Users Need Academic library services, library materials and Academic libraries in Sangli, Maharashtra.

Introduction
The Academic library is an important community institution because of its role as a reservoir of knowledge and a hub for reputable information. It is maintained for the sake of facilitating access to and dissemination of published materials for the purposes of instruction, reference, scientific inquiry, and recreational reading. Libraries build knowledge bases and provide essential services to help communities realise their ideals. As such, Academic libraries should assess their patrons' informational, instructional, and research requirements before developing appropriate resources (Akbaropour, 2004).

The term "information services" is used to describe the work done by libraries (Aina, 2004). In today's world, it's crucial for everyone to keep current, and libraries can help with that (Manjunatha and Sivalingaiah, 2004). It is possible to define library services as any action taken by a librarian to fulfil the information demands of a patron. It is possible to classify them as fundamental or necessary library services (Popoola & Haliso, 2009).

Nature of Academic Library
It's important to check in on the library's progress every so often to see whether it's living up to users' hopes and expectations and to solicit their thoughts on how to make any required adjustments. Lack of capacity to enhance services to an acceptable level. If the views of senior library users are unknown, Academic libraries should take steps to urge clients to take advantage of the data assets and services they provide, leading to higher levels of information use (Parvathamma & Reddy, 2009). Libraries should also have a system in place for
addressing patron concerns (Goulding, 2016). The information demands of library users necessitate that librarians create and provide a set of standard, long-standing library value-added services. It is important to underline that Academic libraries should engage in such marketing initiatives in request to move clients to utilize the library's data assets. Esteem added administrations, for example, proficiency preparing for making the most of collections and services, should also be provided, both online and in local communities (Parvathamma and Reddy, 2009).

**SMART (Academic Library)**

Customer Happiness There is two distinct ways of looking at "user pleasure," each of which is grounded on a different methodology. Need is seen as a characteristic derived from a product or service after consumption in a "outcome-oriented" approach, whereas in a "process-oriented" approach, it is seen as the difference between predicted and realised Need (Lee, 2009). It is hypothesised that the greater the contentment of library patrons, the more beneficial their library visits will be. Superiority of the Library Industry in Terms of Focus on the Customer

In other words, it means never having to worry about losing a client again. And importantly, quality is determined not by library standards but by the client. Long-term library patronage is based only on the Need of those customers who have a positive subjective experience using the library's services (Gomati & Thanavanthan, 2012). Changes to the library's physical location, library operations, capabilities, and economics as a result of digital library services may also have an impact on customer Need with Academic libraries. It is possible that digital library services offered by Academic libraries may either help or hurt their long-term viability (Michnik, 2015).
Recommendation

Academic libraries, particularly successful ones, should get more funding from the government. The library and the computer lab both need climate control systems. To ensure that all library patrons can use the library's Online Access Catalogue (OPAC) to find the resources they need, it should be translated into as many languages as possible. Library users should be encouraged to seek for and acquire digital materials independently. Every Academic library needs a variety of reference desks to better serve its patrons. There needs to be more access to digital resources and online discussion groups for library patrons. At the state and national levels, there is an immediate need to build a network connecting all Academic libraries for the purpose of sharing the most effective practices and most useful information resources.

Conclusion

The Academic library serves as a focal point for any culture that values education and national development throughout the course of a lifetime. The majority of people who use the Sangli Academic library are pleased with the building's design, layout, and amenities, including its architecture, ambience, and sitting options, according to this survey. Users complained that the library was closed too early and that there were nowhere to congregate that was visible to passers-by. Currently, books and periodicals are the mainstays of Academic library holdings. Subscribing to the digital library of Maharashtra's Higher Education Commission (HEC) is essential if you want to have access to academic research materials online. Academic libraries in Maharashtra are in dire need of enhancements across the board, particularly in the areas of services, facilities, and resources. There is a pressing need to implement cutting-edge communication channels in libraries, such as web-based chat rooms, IM, and electronic mail. Adequate library resource marketing and promotion is also required. Academic libraries have lagged behind in the Information and Communication Technology (ICT) era because they have not invested in creating technology laboratories to serve the needs of their patrons. It's also not possible to meet the demands of people with impairments or learning problems.

References

Use of Digital Libraries in Learning English Language and Literature

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Kamala College, Kolhapur.

Since ancient time libraries have played pivotal role in sharing knowledge. Libraries are the backbone of teaching and learning process. The role of libraries in opening new avenues of knowledge and preserving the culture is indispensable. Because of libraries innumerable opportunities of learning are available which help in shaping innovative ideas which ultimately help an individual to grow and prosper in particular and leads the society to be creative in general. Libraries have evolved in the course of time to a considerable degree. Their resources, processes and services are changing according to the demand of the society. Students, teachers, researchers and scholars are also accepting the innovative services provided by digital libraries. Before a decade or two, use of digital libraries started increasing which accelerated rapidly in the last three years of pandemic. The unprecedented restrictions and lockdown led the stake holders of education field to take shelter of digital resources. Ultimately, demand for digital libraries multiplied tremendously. In this changing scenario the role of libraries are also changing. The teaching learning process is becoming digital and the stakeholders in education field have become resources-centrists. In these days libraries have become the facilitators of digital resources. New digital avenues have been made available to the students researchers and scholars.

For the study of English language and literature digital libraries have been playing an important role and the demand for such libraries in English classrooms has increased rapidly. In the English classrooms text books and reference books are essential without which the teaching learning process is incomplete. Today, not only text books and reference books, but also hyperlinks, annotations in the digital form are helping the students in a great manner. Students of English literature need illustrations and explanation of a particular text the hypertext facilitates the study of the original text in an easy way. There are many digital interactive editions which help the students in many ways. Citation of books, old question papers, reference books have been helping the students a lot. Obviously, in the last few years the demand for such resources is increasing. Because of the abundant availability of the digital resources from every corner of the world the resources are also evolving in their nature. These resources are getting more authentic, updated and reliable. Thus, the students of English Language and Literature are seeking thorough knowledge of the concerned subject.

Digital libraries are helping the students of English in improving the four basics skills of language in an effective manner. N-number of audio books, videos, animations, etc. Have made learning experience more enjoyable. Because of these interesting and easy access of e-libraries, students need not go to libraries or seek guidance from the teachers. These resources are self-explanatory and students can do language learning activities by their own. These digital resources are updated and quite relevant as well as reliable. Because of its attractive aspect it has been capable enough in sustaining attention of the learners, sufficiently. Teachers also save their time of preparation of study material. With the help of well-prepared digital material like images, audio, videos, text dialogues, practices, and quizzes the teachers get we-equipped while dealing with the class. There are interesting exercises like scrambled sentence exercise, the image guessing exercise, collocation matching exercise, etc. That keep the students engaged. Teachers make their teaching more effective and interesting with help of these resources. Interaction between the students is increased while learning through digital libraries. Through such language learning resources the process of learning is getting more enjoyable. As there is large storage available, ultimately large content is easily stored and it is easily accessible. The digital data is stored in hardware and cloud storage. Considering the importance of digital libraries, it is but obvious that such digital libraries are becoming indispensable in acquiring English language. Such Language Learning Digital Libraries (LLDL) are made available by many universities and other resource generating professionals.
There are many English speaking and listening digital resources which help in widening the horizon of experience of the students. They can easily practice the tasks provided and master the skills. A wide study has been undertaken by the researchers to find out the effectiveness of use of digital resources versus print resources and it is observed that digital resources are getting momentum because of its impact and easy access. Today, many such digital archives are incorporated in the teaching learning process. The print media has its own limitations, for example pronunciation of a particular word, in spite of having transcription, may sometimes fail to reach the expected result while the digital resources available in front of the students are very effective. They can see and listen it properly which increases their comprehension of word pronunciation. English Language Learning Exercises ELLE provide diverse kinds of interactive practice exercises.

While learning History of English literature the multi-modal digital resources are quite helpful for the students and teachers. With the help of interactive audio-visual aids, the students get better experience of learning the history of literature which otherwise would have been boring and painstaking to memorize the same for the examination. Today we have a number of videos digital picture books to explain the exact contemporary scenario of the bygone era. National Digital Library of India has such a vast collection of the same that for the students it is as if a treasure opened at the click of the mouse. Many videos of lectures by the eminent personalities are available there. Same is the case with reading the fiction of various era. Along with fictional works, analysis, interpretation, explanations of these fictional works are available in abundance. There are many projects like 19th Century Collections Online which are used widely while studying particular age, genre or movement. Open Access Institutional and Subscription only digital data basis are utilized for the advance studies in literature. Several projects on fiction, culture or race in various Era are discussed and used for Research and classroom teaching.

MLA international bibliography provides citations to articles, books, book chapters and dissertations which help the researchers in many ways. There are Literature Resource Centers that provide biography, literary criticism and other resources also are made available. Even OED Online Oxford English Dictionary is all the time available for the users. Some Universities like The Princeton University Library has made all these facilities available in the digital format. University libraries also provide arts and humanity citation index or project news which offers innumerable titles from many scholarly publishers. There is JSTOR archive which provides image and full text online. Access to back issues of selected scholars’ presentation, abstracts are also made available where millions of entries are found for doctoral dissertations. Even the new publications have been made available to help the researchers. There are certain links for electronic thesis and dissertation centre with the help of such resources research activities have increased. INFLIBNET is involved in modernizing university libraries in India using the state-of-art technologies for the optimum utilization of information. INFLIBNET Shodhganga, e-Shodhsindhu, Shodhgangotri, etc. are providing abundant information which is useful in knowledge expansion.

Certain digital libraries like M Library Research Guides provides selected sources and useful research related sites in the field of English Language and Literature. Whereas on the Online Books Page there is a vast range of online literature, large, general-purpose collections with substantial English-language listings. In National archives Acronyms, Abbreviations, and Initialisms, Books and Book reviews, Citations, Dictionaries, Natural language processing and text analysis, Quotations, Style guides, Technical writing, Text analysis, Thesauri, Vocabulary development, Writing skills, etc. are available. “The National Digital library of India is a virtual repository of learning resources which is not only just a repository with a search or browse facilities but it also provides a host of services containing textbooks, articles, videos, audio books, lectures, simulations, fiction and all other kinds of learning media for the learners and users community. It is a project under Ministry of Education, Government of India, through its National Mission on Education through Information and Communication Technology (NMEICT). The objective is to collect and collate metadata and provide full text index from several national and international digital libraries, as well as other relevant resources.” Thus, digital libraries have been at the center of teaching learning process. Many such resources are enriching the experience of English Language and Literature Learning.
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Disaster Management in College Libraries: An Overview

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Abstract:
Libraries are custodians of information resources. These resources are highly valuable bearing in mind that the collections are usually built over a period of time. By extension, they represent the values and efforts of the library staff, parent institutions and users. The objective of the present study is to ascertain and suggest the roles a librarian & the supporting staff perform during any disaster or emergency. How a disaster can be best managed by pre planning, preparation and preventions. The paper also aims to spread awareness among library professionals in particular for their prospective roles in case of any emergency.

Keywords: Disaster, Disaster Management, Libraries, Types of disaster, Component of disaster plan, Technology, Disaster Preventions.

1.1 Introduction:
Prevention is always better than cure; this is also true for libraries. The vitality and relevance of academic libraries are increasingly at risk due to insecurity and visions of ongoing chaos. Faculty and students on/ off campuses expect more from the library due to the growth of information available through the electronic resources. Libraries have very successfully geared themselves to adopt any new technology that is emerging with new innovations every day. Libraries are now functional 24x7 day and night in a networked world. In the era of www, internet and other technological advancements that have been implemented in library and information centres, the librarians are now facing new challenges in managing the affairs of their institutions in the present scenario of new modes and methods of information bases, new formats of storage, and ever changing information seeking behavior of the users. Librarian is now working as an information scientist, researcher, educator, psychologist, coordinator, public relations officer and what not. With huge responsibilities on the shoulders of a librarian or the information scientist one has also to safeguard and preserve the variety of precious and invaluable information sources from any disaster or any risk. These disasters –natural, man-made or technical can completely damage the information sources. In fact there is no library in the world that is free from risk. In order to avoid disasters to affect the library and information centre in research institutions, it is necessary to have a disaster management plan. Disaster management is the process of measuring or assessing risk and then developing strategies to manage the risk.

1.2 Review Of Literature:
More S.P (2017) He has studied disaster management plans prepared by college libraries in Ratnagiri district. He main objective of the study is to Determine the level of staff training and awareness on disaster preparedness of the libraries. and Find out the availability of insurance policy of academic libraries. he has concluded that Multi-Faculty colleges are more than single stream colleges in Ratnagiri districts. It is due to the demand and scope of the curriculum available in the colleges.

Jaeger, Paul T. and others (2008) in their article, “The 2004 and 2005 Gulf Coast Hurricanes: Evolving Roles and Lessons Learned for Public Libraries in Disaster Preparedness and Community Services’ stated that, in the aftermath of the 2004 and 2005 Gulf Coast hurricanes, public libraries played many important roles in their communities, though ensuring access to vital information may have been the most critical service.

Morgan, G. and Smith, J.G. (1997) stated in their research project entitled,“Disaster management in libraries: the role of a disaster plan” that, disaster management and planning should be one of the most important aspects.
of library management, but in practice it has been found to be a neglected field in librarianship, particularly in South Africa.

Chakrabarti, Abhijit and Pramanik, Abhiji (2017) have mentioned in “Disaster Management Methods and Techniques for Library and Information Centres: a framework” that, to save libraries from forthcoming hazards, the authorities should apply suitable methods and techniques of disaster management. To avert and alleviate the outcome of any type of disasters, the researchers present a framework for Methods and Techniques of Disaster Management for Library and Information Centers keeping in the mind of the need of Library and Information Centers.

Echezona, R. I, Ugwu, C.I and Ozioko R. E. (2012), in their research entitled, “Disaster management in university libraries: Perceptions, problems and strategies” explore disaster management in terms of its perception, problems and strategies in University libraries in South Eastern Nigeria. The study revealed a number of strategies that could be put in place to ensure effective disaster management which include training of firefighting equipment in offices and raising awareness of libraries on the need to protect documents from disaster.

1.3 Objective Of Study:
1. To highlight the importance of the concept of disaster management, types of disasters has been discussed.
2. The objective of the present study is to ascertain roles a librarian & the supporting staff perform during any disaster or emergency.
3. The suggest the roles a librarian & the supporting staff perform during any disaster or emergency.
4. To determine the availability of disaster prevention equipment.
5. To concluded the disaster management college library.

1.4 Definition Of Disaster
1. The United Nations defines a disaster as a serious disruption of the functioning of a community or a society. Disasters involve widespread human, material, economic or environmental impacts, which exceed the ability of the affected community or society to cope using its own resources.
2. The Red Cross and Red Crescent societies define disaster management as the organization and management of resources and responsibilities for dealing with all humanitarian aspects of emergencies, in particular preparedness, response and recovery in order to lessen the impact of disasters.
3. A disaster has been defined “as a serious disruption, occurring over a relatively short time, of the functioning of a community or a society involving widespread human, material, economic or environmental loss and impacts, which exceeds the ability of the affected community or society to cope using its own resources”
4. Anderson and McIntyre refer to a disaster that affects libraries as “an unexpected event with destructive consequences to their holdings. It can be a small-scale incident or a full blown emergency, but in either case it requires prompt action to limit damage.”

1.5 Types Of Disaster
When we talk about disasters, the first thing that comes to the mind is the destructive forces of nature. The instances where the equilibrium of the nature is disturbed by unforeseen and uncontrollable events are often treated as disasters. They may be termed as „acts of God” which are literally speaking, beyond the control of humans. At the same time disaster may be the result of reckless or intentional human act and technical difficulties. Three main kinds of Disaster-

1. Natural Disasters
It has included Rain/ Precipitation, Flood /Avalanche, Cyclone/ Tornado, Earthquakes and Drought, Biological Damages, Micro-organisms, insects or vermin infestation, Volcanic eruptions, Cold wave and thunder
storms/ Blizzard, Wildfires, Heat waves and Mud mud slides, Air quantity: temperature and humidity, Sinkholes etc.

2. Human/ Man-made Disaster
   It has included Act of War and terrorism, Fires, Water (broken pipes, leaking roofs, blocked drains), Burglary, Vandalism, Arson, Poor design and quality of the buildings.

3. Technical Disaster
   It has included collapse of shelving and other indoor structural accidents, Computer system failure, Elevator failure, Power failure, Heating the cooling system failure and Telecommunication failure.

1.6 Disaster Management For Library
   Disaster management plan must be incorporated in initial planning of establishing a library. Several smaller pointers for a comprehensive disaster management plan, which are independent of each other but are interlinked, as parts of whole plan are set forth. The disaster and its control mechanism normally go through three stages - before, during and after. All these three stages are kept to be kept in mind while planning to minimize the impact and recover out of potential emergencies. Each disaster plan must cover whole library including staff, readers, sources of information, equipment and infrastructure and must be a team effort.

   Eden and Mathew (1996) define disaster as an incident which threatens human life/ or/ and damages or threaten to damage a library building, collections, equipment and systems. The Dictionary for Library and Information Services (2005) defines a disaster plan as a set of written procedures prepared by the library staff in advance to deal with an unexpected occurrence that has the potential to cause injury to personnel or damage to equipment or to collections and/ or to facilities sufficient to warrant temporary suspension of services. Libraries are the centre of learning. They act as repositories of cultural heritage. Libraries collect, stock, process, organize, disseminate and distribute information/ knowledge recorded in documents. Libraries play a pivotal role in the educational process of formal and non-formal learning, in research and development, cultural activities, spiritual realms, recreation and entertainment. It would be no exaggeration to say that libraries act as a cornerstone of the cultural and civilizational edifice. Modern society is heading towards an information society in which the central instruments of change, force and direction of change are knowledge and information. Libraries through their books, journals and other learning materials enable the readers to partake of the wisdom and knowledge Libraries and information centres are vulnerable to the whole range of disasters. No library is entirely free from risks and disorders. Thus, libraries support and promote research, thereby contributing to the development of a nation’s economy. Libraries cater to the recreational needs of the users. Libraries act as the heart of an academic institution supporting teaching and research. They provide an environment in which creativity is facilitated and fostered. They help preserve the wealth of knowledge which symbolizes the onward march of mankind on the path of progress and enlightenment from the stage of primitivism to modernism.

1.7 Component of Disaster Plan
   The following are considered to be the main components that a disaster plan should contain:

1. List of human resources - This section should include the names, addresses and telephone numbers of all the members of the disaster team.

2. Reaction procedures - A summary of the reaction and evacuation procedures, reaction procedures relevant to different types of disasters, the location of disaster supplies must be indicated.

3. Salvage and recovery procedures - Once the material is in a safe storage area, prompt decisions must be taken regarding salvage procedures, according to the different types and extent of the damage. Each type of recovery procedures, for example vacuum-freeze drying, air drying.

4. Equipment and supplies - Equipment will also be necessary, and the location of this equipment must be indicated if available on the premises. The following are examples of equipment that might be required, wet and dry vacuum cleaners, hand-or battery operated.
water pumps, fire extinguishers, fans, dehumidifiers, water hoses.

5. **Priority materials** - There should be clear indication of which important and/or rare materials should be evacuated first.

6. **Directory of external services and products** - A list of local providers of services and backup Facilities are an essential part of the disaster plan. Their names, addresses and phone numbers should be given. In each case a second contact name should be given in case the first is not available.

7. **Co-operative arrangements** - The details of co-operative arrangements, which exist to share facilities and services in the event of an emergency.

8. **Insurance** - The adherence to insurance conditions is important, in order not to jeopardize the validity of possible claims. For example, the damaged premises might have to be inspected by an insurance agent, before anything is moved or any clearing up begins.

9. **Procedure for obtaining emergency funding** - Very often, in an emergency, ready cash is needed for various reasons, such as the purchasing of extra disaster supplies. Arrangements should be made to have access to contingency funds to meet such needs.

### 1.8 Disaster Prevention

There are some routine activities which should be conducted regularly as preventative measures.

1. Arrangements for regular building inspections - the methods of inspection and the frequency between inspections should be indicated. If inspections are carried out by external contractors, then contract names and phone numbers should be provided.

2. Arrangement for regular inspection of security equipment - facilities such as fire extinguishers and security alarms should be regularly inspected to ensure that they are in good working order. Details of the service contractor, contact names and phone numbers should be provided, as well as information regarding the optimum frequency of such inspections.

3. Arrangement for regular emergency drills - routine emergency and evacuation drills are essential, both to ensure that staff are aware of procedures, and that emergency procedures, exits and equipment such as fire alarms, are in working order. This section should include: The list of staff members responsible for organizing emergency drills, frequency of emergency drills, details of the evacuation route and the equipment and exits, which must be checked in the process.

4. Technological advancements - the technological advancements especially in the information and communication sector have provided a real yardstick to warn, prepare, share, respond, quickly to a disaster for minimizing its impact and in some cases it is even possible to avoid the damages by a natural disaster. Following technologies can be helpful in the reduction of damage by a disaster.

   a) **Remote Sensing Technology** - this technique can read possible threats of any weather disturbances through its weather and other observation satellites. It helps in gathering data by means of radiation from electro-magnetic spectrum.

   b) **Geographic Information Systems** - this system integrates stores, edits, analyzes, and shares geographically referenced data and is helpful during floods, landslides, earthquakes.

   c) **WWW and Internet** - it provides a global platform for instant and automatic sharing of information regarding a disaster and its management.

   d) **Communication Technology** - it is particularly effective in mitigation, preparedness, response and recovery. Communication technology used to spread and share information relevant during and before any disaster situations, for examples Internet, Fax, Mobile Phones, E-mail, Radio and Television etc.

   e) **Global Positioning System** - this technology by means of which one can pinpoint the exact place where disaster has struck. The exact damage site then can be visited to start rescue operations. This can be very effective for search and evacuation of displaced people or people buried under debris.
f) Forecasting and Warning System- this plays a vital role in determining the possible action of a disaster. The potentially affected area can be evacuated and people can be moved to safer places even before the disaster. It is effective for floods, cyclones. Earthquake warning systems is being used these days to warn people against its possible strike.

1.9 Conclusion
In conclusion it can be stated that it is important that all libraries have a formal disaster plan and disaster management procedures. The library and information science curricula also needs to be modified keeping in view the importance of disaster management for library and information centers and above all because libraries world over act as service agencies and librarians as service and information handling managers.

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Abstract
Cloud computing technology (ICT) has come up as a blessing for libraries and is offering various opportunities and services for libraries to connect their services with clouds. ICT has forced the libraries and librarians to change its functioning and processing of the information retrieval system. In this digital era, libraries are moving towards advanced level called cloud computing. Cloud computing offers a new importance in computing, it changes how we invent develop, scale, update, maintain and pay for applications and infrastructure on which they are run. This paper tries to highlight basic knowledge about cloud computing, its deployment models, types, and benefits. It also shows cloud computing initiatives for libraries along and its benefits in LIS/LMS (Library Information System)/(Library Management System) domain.

Keywords- Cloud computing, infrastructure as a service (IaaS), platform as service (Paas), and software as a service (SaaS), deployment models, LMS

Introduction-
Cloud Computing provides us means of accessing the applications as utilities over the Internet. It allows us to create, configure, and customize the applications online. The term Cloud refers to a Network or Internet. In other words, we can say that Cloud is something, which is present at remote location. Cloud can provide services over public and private networks, i.e., WAN, LAN or VPN. Cloud computing is a computing model, not a technology. In this model “customers” plug into the “cloud” to access IT resources which are priced and provided “on-demand”.

Applications such as e-mail, web conferencing, customer relationship management (CRM) execute on cloud. Cloud Computing is the delivery of computing services such as servers, storage, databases, networking, software, analytics, intelligence, and more, over the Cloud (Internet).

Cloud Computing provides an alternative to the on-premises datacentre. With an on-premises datacentre, we have to manage everything, such as purchasing and installing hardware, virtualization, installing the operating system, and any other required applications, setting up the network, configuring the firewall, and setting up storage for data. After doing all the set-up, we become responsible for maintaining it through its entire lifecycle.

Cloud Computing -
Cloud computing technology was designed by the National Institute of Standards and Technology (NIST) to increase the capacity of shared computing resources in a quick and secure way in various locations around the world. Cloud computing is the delivery of computing services over the internet. The name cloud originates from the use of cloud-shaped symbol as an abstraction for the complex infrastructure. Cloud services allow users and businesses to use software and hardware that are operated by third parties at dispersed geographic sites. It provides a shared pool of resources that includes huge storage, space, processing power, networks, and dedicated corporate and user applications.

In cloud computing, the users use the web interfaces like the web browsers; however the software and data are stored at the remote servers. The term cloud computing refers to delivery of computing resources over the internet. It allows users to store their data over the internet instead of storing it into a hard drive. Cloud resources are usually not only shared by multiple users but are also dynamically re-allocated per demand.

The users or Service providers using clouds needs to pay for their resources and services rendered used in cloud computing environment. Cloud computing is not a new technology that suddenly appeared on the web but it is a new form of computing. Cloud computing is a kind of computing technology which facilitates in sharing
resources and services over the internet rather the having these and resources on local servers/nodes or personal devices. Cloud Computing, a cloud vendor is responsible for the hardware purchase and maintenance. They also provide a wide variety of software and platform as a service. We can take any required services on rent. The cloud computing services will be charged based on usage. Cloud computing offers platform independency, as the software is not required to be installed locally on the PC.

The latest technology trend in library science is use of cloud computing for various purposes and for achieving economy in library functions. Since cloud computing is a new and core area the professionals should be aware of it and also the application of cloud computing in library science. A definition for cloud computing can be given as an emerging computer paradigm where data and services reside in massively scalable data centres in the cloud and can be accessed from any connected devices over the internet. Cloud computing is a way of providing various services on virtual machines allocated on top of a large physical machine pool which resides in the cloud. The cloud environment provides an easily accessible online portal that makes handy for the user to manage the compute, storage, network, and application resources.

Features of Cloud Computing -
Cloud computing is becoming popular day by day. Continuous business expansion and growth requires huge computational power and large-scale data storage systems. Cloud computing can help organizations expand and securely move data from physical locations to the 'cloud' that can be accessed anywhere.

1. Resources Pooling -
Resource pooling is one of the essential features of cloud computing. Resource pooling means that a cloud service provider can share resources among multiple clients, each providing a different set of services according to their needs. It is a multi-client strategy that can be applied to data storage, processing and bandwidth-delivered services. The administration process of allocating resources in real-time does not conflict with the client's experience.

2. On-Demand Self-Service -
It is one of the important and essential features of cloud computing. This enables the client to continuously monitor server uptime, capabilities and allocated network storage. This is a fundamental feature of cloud computing, and a customer can also control the computing capabilities according to their needs.

3. Easy Maintenance -
This is one of the best cloud features. Servers are easily maintained, and downtime is minimal or sometimes zero. Cloud computing powered resources often undergo several updates to optimize their capabilities and potential. Updates are more viable with devices and perform faster than previous versions.

4. Scalability And Rapid Elasticity -
A key feature and advantage of cloud computing is its rapid scalability. This cloud feature enables cost-effective handling of workloads that require a large number of servers but only for a short period. Many customers have workloads that can be run very cost-effectively due to the rapid scalability of cloud computing.

5. Economical -
This cloud feature helps in reducing the IT expenditure of the organizations. In cloud computing, clients need to pay the administration for the space used by them. There is no cover-up or additional charges that need to be paid. Administration is economical, and more often than not, some space is allocated for free.

6. Measured And Reporting Service -
Reporting Services is one of the many cloud features that make it the best choice for organizations. The measurement and reporting service is helpful for both cloud providers and their customers. This enables both the provider and the customer to monitor and report which services have been used and for what purposes. It helps in monitoring billing and ensuring optimum utilization of resources.

7. Security -
Data security is one of the best features of cloud computing. Cloud services make a copy of the stored data to prevent any kind of data loss. If one server loses data by any chance, the copied version is restored from the other
server. This feature comes in handy when multiple users are working on a particular file in real-time, and one file suddenly gets corrupted.

Roots of Cloud Computing -

We trace the roots of cloud computing by focusing at the advancement of technologies in hardware (multi-core chips, virtualization), Internet technologies (Web 2.0, web services, service-oriented architecture), distributed computing (grids or clusters) and system management (data center automation, autonomous computing).

The emergence of cloud computing is linked to these technologies. We take a closer look at the technologies which is the basis of cloud computing that give a canvas of the cloud ecosystem. Cloud computing Internet technologies have so many roots.

There are four roots of cloud computing which are given below:

1. Internet Technologies
2. Distributed Computing
3. Hardware
4. System management

Deployment Models -

The cloud deployment model identifies the specific type of cloud environment based on ownership, scale, and access, as well as the cloud’s nature and purpose. The location of the servers you’re utilizing and who controls them are defined by a cloud deployment model. It specifies how your cloud infrastructure will look, what you can change, and whether you will be given services or will have to create everything yourself. Relationships between the infrastructure and your users are also defined by cloud deployment types.

1. Public cloud
2. Private cloud
3. Hybrid cloud
4. Community cloud

Public Cloud -

Public cloud is open to all to store and access information via the Internet using the pay-per-usage method. In public cloud, computing resources are managed and operated by the Cloud Service Provider (CSP). Public cloud may be less secure because of its openness. Public clouds are managed by third parties which provides cloud services over the internet to the public, these services are available as pay-as-you-go billing models. They offer solutions for minimizing IT infrastructure costs and become a good option for handling peak loads on the local infrastructure. Public clouds are the go-to option for small enterprises, which can start their businesses without large upfront investments by completely relying on public infrastructure for their IT needs.

Example:

Amazon elastic compute cloud (EC2), IBM SmartCloud Enterprise, Microsoft, Google App Engine, Windows Azure Services Platform.

Private Cloud -

These clouds are dedicated to a particular organization. That particular organization can use the cloud for storing the company's data, hosting business application, etc. The data stored on private cloud can't be shared with other organizations. The cloud is managed either by the organization itself or by the third party.

Private cloud services are delivered from a business's data center to internal users. This model offers the versatility and convenience of the cloud, while preserving the management, control and security common to local data centers. Internal users may or may not be billed for services through IT chargeback. Common private cloud technologies and vendors include VMware and OpenStack.
Hybrid Cloud -

Hybrid cloud solutions are a blend of public and private clouds. Hybrid Cloud is a combination of the public cloud and the private cloud, we can say:

\[
\text{Hybrid Cloud} = \text{Public Cloud} + \text{Private Cloud}
\]

Hybrid cloud is partially secure because the services which are running on the public cloud can be accessed by anyone, while the services which are running on a private cloud can be accessed only by the organization's users. A hybrid cloud is a heterogeneous distributed system formed by combining facilities of the public cloud and private cloud. For this reason, they are also called heterogeneous clouds.

Community cloud-

Community clouds are distributed systems created by integrating the services of different clouds to address the specific needs of an industry, a community, or a business sector. But sharing responsibilities among the organizations is difficult. In the community cloud, the infrastructure is shared between organizations that have shared concerns or tasks. The cloud may be managed by an organization or a third party. Community cloud allows systems and services to be accessible by a group of several organizations to share the information between the organization and a specific community. It is owned, managed, and operated by one or more organizations in the community, a third party, or a combination of them.

Example: Health Care community cloud

Services Models-

SaaS, PaaS, and IaaS are the three main cloud computing service model categories. You can access all three via an Internet browser or online apps available on different devices. The cloud service model enables the team to collaborate online instead of offline creation and then share online.

1. Infrastructure as a Service (IaaS)-

An infrastructure cloud includes the physical components that run applications and store data. The very first and basic layer of cloud computing is Infrastructure as a service (IaaS). Infrastructure as a Service means that you rent IT infrastructure from a cloud provider, such as Microsoft Azure or Amazon Web Services. This happens on a pay-as-you-go term, meaning you only pay for what you use. It is a cloud computing offering where a vendor provides users access to resources such as storage, data servers, and networking. This means organisations don’t need to handle that in-house.

2. Platform as a Service (PaaS)-

The second layer of the cloud is the platform – the PaaS (Platform as a service). This layer is a development and deployment environment in the cloud and provides the resources to actually build applications. Just like IaaS, Paas includes infrastructure, but it also includes development tools, database management systems, middleware, business intelligence, and more. It is designed to support the entire web application lifecycle—from building and testing to deployment, management and updating. In combination with Infrastructure as a Service, PaaS, therefore, provides the ability to develop, test, run, and host applications. This type of cloud computing is similar to IaaS but is more advanced. With PaaS, apart from simply providing infrastructure, providers also offer a computing platform.

3. Software as a Service (SaaS) -

The third cloud layer is the actual Software – the SaaS (Software as a service). This is the layer that provides a complete software solution. Organisations rent the use of an app, and the users connect to it via the internet, usually with a web browser. In a cloud setting, SaaS is therefore the layer where the user consumes the offering from the service provider. It must be web-based and accessible from everywhere and preferably on any device. The service provider manages the hardware and software. One type of SaaS is web-based email services such as Outlook, Gmail, and Hotmail. Here, the email software is located on the service provider’s network—together with your messages.
Traditional Method of Library Management -

Traditional libraries were providing services based on the print media and the developments were based on the manual power. The traditional practices were mainly influenced by cataloguing, classification and indexing and reference services etc. Some of the important components of traditional method of library management are as follows –

![Traditional Library Management System](image)

**Fig.**: Traditional Library Management System.

Cloud Computing In Library Management -

The use of cloud computing services and facilities has begun in libraries, leading to a new concept called cloud library. The use of cloud computing in libraries has transformed the delivery of resources and services. It provides shared access and wider usability. Libraries are shifting their services with the attachment of cloud and networking with the facilities to access these services anywhere and anytime. In the libraries, the following possible areas were identified where cloud computing services and applications may be applied.

**Building Digital Library/Repositories** -

An efficient way to manage resources, information and library related services is to maintain a digital library. The user may be facilitated access via network. Many open source software are providing a platform to digital form, investing on hardware and undertaking MA backup.

**Searching Library Data** -

Cloud computing technology also facilitates libraries for searching and sharing its data for years together. For example, OCLC World Cat service is one of the popular services for searching library data using cloud computing technology. OCLC is offering various library activities pertaining to circulation, cataloguing, acquisition and other library related services on cloud platform through the web share management system.

**Building Community Power** -

Cloud computing technology offers great opportunities for libraries to build networks among the libraries and information science professionals as well as other interested people including information seekers by using social networking tools; the most famous social networking services are Twitter and Facebook which play a key role in building community power. This cooperative effort of libraries will create time saving, efficiencies and wider recognition, cooperative intelligence for better decision-making and provides the platform for innovation and sharing the intellectual conversations, ideas and knowledge.

**Library Website Hosting** -

Cloud computing technology also facilitates many organizations including libraries that preferred to host their websites on third party service providers rather than hosting and maintaining their own servers. For example, Google Sites serves as an example of a cloud service for hosting websites outside of the library's servers and allowing for multiple editors to access the site from varied locations.
Cloud based library services -

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<td>Googledoc</td>
</tr>
<tr>
<td>Online Image store</td>
<td>Picasa</td>
</tr>
</tbody>
</table>

Challenges in the Cloud-

Security and Privacy-

Security and Privacy of information is the biggest challenge to cloud computing. Security and privacy issues can be overcome by employing encryption, security hardware and security applications.

Portability-

This is another challenge to cloud computing that applications should easily be migrated from one cloud provider to another. There must not be vendor lock-in. However, it is not yet made possible because each of the cloud provider uses different standard languages for their platforms.

Interoperability-

It means the application on one platform should be able to incorporate services from the other platforms. It is made possible via web services, but developing such web services is very complex.

Computing Performance-

Data intensive applications on cloud requires high network bandwidth, which results in high cost. Low bandwidth does not meet the desired computing performance of cloud application.

Reliability and Availability-

It is necessary for cloud systems to be reliable and robust because most of the businesses are now becoming dependent on services provided by third-party.

Data Loss -

Data loss is the most common cloud security risks of cloud computing. It is also known as data leakage. Data loss is the process in which data is being deleted, corrupted, and unreadable by a user, software, or application. In a cloud computing environment, data loss occurs when our sensitive data is somebody else's hands, one or more data elements can not be utilized by the data owner, hard disk is not working properly, and software is not updated.

Hacked Interfaces and Insecure APIs -

As we all know, cloud computing is completely depends on Internet, so it is compulsory to protect interfaces and APIs that are used by external users. APIs are the easiest way to communicate with most of the
cloud services. In cloud computing, few services are available in the public domain. These services can be accessed by third parties, so there may be a chance that these services easily harmed and hacked by hackers.

**Data Breach -**

Data Breach is the process in which the confidential data is viewed, accessed, or stolen by the third party without any authorization, so organization's data is hacked by the hackers.

**Conclusion -**

Cloud computing technology provides libraries an opportunity to improve their services and relevance in today's information society. It can bring several benefits for libraries and give them a different future. It helps libraries to deliver its resources, services and expertise at the point of need, within user workflows and in a manner that users want and understand. It should free libraries from managing technology; so more focus is on collection building, improved services and innovation. The cloud computing model will encourage libraries and their users to participate in a network and community of libraries by enabling them to reuse information and socialize around information. This technology can also build a dominant, unified presence for libraries on the Web and give users a local, group and global reach.

All library resources and service distributed on the Internet can be integrated as a whole, which forms a new type of adaptive control service system supporting interlibrary collaboration and service access, as well sharing resources from different libraries. But in practice, the cloud computing is facing the large number of technical problems and engineering problems.

Therefore, it is necessary to encrypt data and make that the data obtained illegally cannot be deciphered. Cloud computing technology is still relatively young in terms of maturity and adoption. The expectation is that it will undergo several changes in the future, in terms of resources, issues, risks, and ultimately best practices and standards. However, there are some sought of great advantages it can potentially provide value for institutions of higher education.

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Role of Technology in Outreach Activities

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Our current way of life has undergone significant alteration with the invention of modern technology. Before technology, man relied on basic, crude tools for everything and lacked many modern conveniences. The inherent necessity of technology in our daily life is something that no one can deny. We are all so reliant on technology that we struggle to function without it. Because it is utilized in every aspect of life, technology is significant. Consider your everyday activities and the number of technological devices you use in a single day, and you'll quickly see how crucial technology is to your use of your phone, TV, automobile, computer, and other electrical devices. In actuality, it is rising daily.

Reaching out to a population that hasn't previously had access to a service, wherever they may be, is known as outreach. A simple definition of an outreach strategy is the manner in which you present your services and message. A significant demand for cutting-edge digital items was further generated by digital outreach. Since then, a feedback loop has developed. Smartphones, apps, ads, and social media have all transformed how the general public is reached and made outreach simpler. This outreach has increased demand for more modern, cutting-edge digital goods.

Information and communication technology (ICT) has made significant contributions to social and economic advancements, including increased access to better quality of life and higher employment and productivity. ICT includes electronic tools and methods for managing knowledge and information, such as information-handling tools for creating, storing, processing, disseminating, and exchanging information. ICT advantages can be attained directly, by bettering healthcare delivery and illness prevention, or indirectly, by bettering social infrastructure, economic growth, or other more general population health determinants. If properly planned and implemented, ICT can have a variety of beneficial effects on public health, including better access for communities living in rural or remote areas, support for medical professionals, real-time disease surveillance, data sharing, and data capture, storage, interpretation, and management.

The pandemic problem makes the need for research scientists to be involved in education and public outreach much more obvious than it has been in recent years. In addition to the personal satisfaction they derive from engaging in outreach activities, scientists stress the value of engaging with the general public and being more involved in the community, particularly in schools.

Younger adults are increasingly using the Internet, which has greatly increased the popularity of social networking services and sites (SNSs). According to Enders and Wineland (2012), “without having a social media presence in 2012 is like not having a telephone in 1992.” Students today are probably going to interact with organisations that make use of the newest technological trends. As a result, libraries are now using various social media platforms for various objectives in an effort to engage the younger population. Libraries have embraced social media platforms including Facebook, blogs, wikis, and Twitter. Despite SNSs Orkut is commonly utilised in the Asia Pacific area and South America, but Bebo is more well-known in Australia and Europe. While sites like Facebook and MySpace are well-known in the West, such as the U.S. Weibo, the Chinese equivalent of Twitter, and Renren, the Chinese equivalent of Facebook, are primarily used in China, in contrast. It has been asserted that libraries' usage of social media has improved their attempts to encourage outreach and inclusiveness. Despite the fact that a number of related issues have cropped up, including challenges in determining the precise impact of social media on advertising library services and in determining which social media technologies are best for users, Enders and Wineland pointed out that, “a social media policy to guide postings and set limits on use can address several of these concerns.”
According to the United Nations Educational, Scientific and Cultural Organization (UNESCO), ICT “provides teacher education and training, enhances professional skills, provides better conditions for lifelong learning, and provides universal education for those on the outside.” The United Nations Millennium Development Goals emphasize ICT as a means of reaching out to the underserved, listening to them and learning from their experiences. Online education is essential for students whose physical presence in the classroom is limited due to work or family circumstances, geographic restrictions, health issues, or other constraints. While homes seem to prefer face-to-face interactions in classrooms, the number of on-campus online colleges and online courses offered by colleges has increased over the past decade. must understand the institution’s unique ICT needs.

Frequently used resources for Digital Outreach?

- **Social Media Channels** – Twitter and LinkedIn: While sharing the latest news with the community in a fashionable way is Twitter's strength, LinkedIn is often used to share company ethos, employer branding, Twitter news details, job postings, and more. LinkedIn is rapidly emerging as a professional digital outreach media platform as it continues to add new tools, such as LinkedIn Elevate, to increase awareness and increase the impact of your content.

- **Social Media Channels** – Facebook: Facebook is seen as a more personal social networking platform. Many companies can benefit from this network. For example, a startup that caters to the needs of working mothers (such as babysitting) can greatly benefit from social networks like Facebook. Registration for activities such as cooking classes can be easily managed through platforms such as Facebook. However, it is important to note that Facebook is also an important resource for crowdfunding activities, gaining the attention and trust of the masses, so it is not limited to such activities.

- **Blogs and LinkedIn articles**: Articles are one of the most nuanced forms of public relations, and also the most direct. For example. You can write a LinkedIn article to advertise your new job and explain the role of each position within it. This article can now be shared any number of times. In the more nuanced version, companies aren't communicating directly about what they're doing, but about broader issues (related to them, of course). It brings traffic and awareness.

- **Events and Hackathons**: One of the best ways to effectively reach large audiences is through events. Events can be tailored to specific audiences. For example, a startup challenge is best formulated as a hackathon. It's fun, and the real solutions can come out of it eventually. Any future collaboration that results from the connection is a bonus.

- **Webinars** are one of the most popular outreach activities for disseminating technology, science, and future ideas to the masses. Webinars eliminate scheduling conflicts by making lectures and presentations easy to access and listen to later. This made the information flow very easy and accessible. Webinars are great, but they're not the easiest place to network. To make real connections, he can host small intimate events with small groups of 5 to 8 people. These help foster real connections because there is plenty of time to talk.

- **SEM**: search engine marketing. By optimizing the keywords searched on search engines, SEM brings certain options to the top of search results. This will increase page views and increase awareness and knowledge of the product in question.

- **PR resources** never run out. Websites, emails, applications, and advertisements all serve as outreach resources. It is the strategy chosen for public relations that determines the resources used.

**Conclusion:**

Educators are always striving to personalize student learning. Technology can help you reach new heights with access to real-time student data, longitudinal information, content, apps, and more. Technology is helping educators create integrated learning environments, leverage digital tools for formative and summative assessment, and bring new models of learning and teaching to the classroom. In the process of personalizing learning,
technology is empowering students by giving them ownership of how they learn, making education relevant to their digital lives, and preparing them for the future. Access to technology and resources beyond the walls of the classroom inspire students to become problem solvers, critical thinkers, collaborators, and creators. Where technology is successfully integrated into the classroom, students develop a lifelong love of learning.

References:
Cloud Computing applications in Academic libraries

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Abstract
Pertaining to the 5th law of library science, library is a growing organism. Today we are living in the age of information and with modern technology. A well equipped library is the heart of any higher education and also helpful for the growth of national economy by providing information on time. Internet is one of the greatest technologies of this millennium; it revolves around advancements in ICT applications in all the area of our routine work. Library is place where information is gathered, stored and retrieved by the patrons. Now-a-days information is available only on online and in digital format and the need of information is high. So the librarian should use the modern technology to store the digital information in a wide number which can be retrieving by various users. Such technologies are Web 2.0, server virtualization, cloud computing etc... And this technology can be used to store more information at libraries as content creation, storage, e-learning, archives etc... Data storage is the basic task of any library; hence this paper gives the clear picture of impact of cloud computing at libraries.

In this paper, an attempt has been made to give an overview of how service, platform and infrastructure forms of cloud computing have been used to serve library needs.

This paper discusses about characteristics, types, advantages and disadvantages, role of cloud librarian, use of technology, initiatives of cloud computing. An attempt has also been made to overview the areas in libraries where this technology can be deployed to provide better library services and the productivity of library staff can be augmented.

Keywords: Cloud computing, web 2.0, cloud librarian, cloud architecture, requirements for cloud computing at library, cloud platform for libraries, cloud and its applications.

Introduction
Till recently, and now too many organisations and individuals use computers to work alone, inside a business or home by investing on hardware, software and maintenance. It is the need of the day to adopt the latest technology in an organization. With the help of technology, it can ensure quick and appropriate access of every information when needed. Cloud computing is use of internet for computing needs. There are so many forms of using this technology. For example, use of software applications, storing data. Etc Accessing computing power or platform to build applications is also the example of such services. From e-mail, to word processing or photo sharing or video sharing there are so many services one can choose from. These services can be accessed from any type of internet connection and are secure.

These services are also backed up. The best live example of this is Gmail, which is increasingly used by organisations and individuals to run their e-mail services. Google Apps being free for educational institutions is widely used for running different applications, especially the email services, which was earlier run using their own computer servers. This has saved cost for the organisations as they pay per use for applications and services and time for the computer staff, which they can invest on running other services.

Google takes care of the upgrading, backup and maintenance of servers. Libraries are using computers for running services such as Integrated Library Management Software (ILMS), website or portal, digital library or institutional repository, etc. These are either maintained by parent organisation”s computer staff or library staff. It involves investment on hardware, software, and staff to maintain these services and undertake backup and upgrade as and when new version of the software gets released. “Now many university libraries are virtualizing servers and desktops, collaborating with other campus organizations and saving money and staff time” (Kelley, 2012).

Cloud based services provide a means for libraries to free resources on information technologies and focus on libraries” core competencies- manage, organize and disseminate information. “Cloud based services
are also bringing cutting-edge services to libraries that have less information technology expertise,” according to Zhu (2012). Library professionals in most cases not being trained in maintaining servers find it difficult to undertake some of these activities without the support of IT staff from within or outside the organisation. Now cloud computing has become a new buzzword in the field of libraries, which is blessing in disguise to run different ICT services without much of a problem as third-party services will manage servers and undertake upgrades and take backup of data. Even though there are some concerns in using cloud services such as privacy, security, etc., some of the libraries have already embraced this new technology to run some of their services. Many libraries now adapting 3M cloud libraries applications

Research Description

1) Cloud Computing:

In simplest terms, cloud computing means storing and accessing the data and programs on remote servers that are hosted on the internet instead of the computer’s hard drive or local server. Cloud computing is also referred to as Internet-based computing.

Cloud Computing Architecture: Cloud computing architecture refers to the components and sub components required for cloud computing. These components typically refer to:

1. Front end (fat client, thin client)
2. Back-end platforms (servers, storage)
3. Cloud-based delivery and a network (Internet, Intranet, Intercloud).

Hosting a cloud: There are three layers in cloud computing. Companies use these layers based on the service they provide.

• Infrastructure
• Platform
• Application

At the bottom is the foundation, the Infrastructure where the people start and begin to build. This is the layer where the cloud hosting lives. Now, let’s have a look at hosting: Let’s say you have a company and a website and the website has a lot of communications that are exchanged between members. You start with a few members talking with each other and then gradually the number of members increases. As the time passes, as the number of members increases, there would be more traffic on the network and your server will get slow down. This would cause a problem. A few years ago, the websites are put on the server somewhere, in this way you have to run around or buy and set the number of servers. It costs a lot of money and takes a lot of time. You pay for these servers when you are using them and as well as when you are not using them. This is called hosting. This problem is overcome by cloud hosting. With Cloud Computing, you have access to computing
power when you needed. Now, your website is put in the cloud server as you put it on a dedicated server. People start visiting your website and if you suddenly need more computing power, you would scale up according to the need.

2) Cloud Computing: Characteristics:-

3) Types of Cloud Computing:-

4) Cloud Computing: Applications in Libraries:-

There are some organizations and business houses who function as cloud computing vendors for library softwares, search engines and digital libraries etc and offer the use of cloud computing platform for these purposes. Some of these are:

OCLC’s Webscale:-

OCLC is perfectly using cloud computing for libraries and set an example for others. Years together OCLC has been functioning as a cloud computing vendor because they provide cataloguing tools over the internet and allow member institutions to draw on their centralised data store13. OCLC has implemented the plan of library management systems i.e. worldshare management services (WMS). This service has services for many areas like acquisitions, analytics, resource sharing, cataloguing and license management components. It offers the entire library collection management in a cloudbased application. The main purposes of webscale are that libraries can share their resources, data, and innovation with ease. To serve these purposes, it has some certain features that work together to provide its users better library services. In other words, this will generate cost benefits for libraries and efficiencies not possible when utilizing disparate, specialised systems13. The service promises to include privacy, security, scalability and technical support.

Ex-Libris Cloud:-

Ex-Libris is a leading library software vendor from USA. It provides cloud based solutions to automate the library operations. It developed most products for locally implemented solutions and adapted them to a hosted environment later. Its website claims that over 5300 in more than 80 countries are deploying Ex-

Libris solutions for automation of their library resources. It allows libraries to enhance their efficiency and lower the cost of operations and extend their value through launching new services. It has changed the way to provide traditional management of library resources through its library based system, Alma. It besides ensuring considerable savings in total cost, involved in the implementation of software and the use of a centralized cloud service enables libraries to easily influence the collaborative efforts of the library community to provide effective services for their users14. To provide worldwide cloud-based services; it has opened data centers at various locations. The company promises to adhere to data security, updates, and standards in
implementing cloud services to safeguard the interests of customers.

**Duraspace’s DuraCloud:**

Duraspace provides open source repository solutions by undertaking turnkey projects for organizations and libraries to enable them to share scholarly literature using DSpace and Fedora Commons. It is particularly devoted to improve and sustain Fedora and DSpace. These open source repository solutions are very famous for IR solutions. Its new service DuraCloud provides digital preservation support services in the cloud, which is cost effective and simple for libraries. DuraCloud helps libraries to move content to the cloud and store it with different service providers to eliminate the risk of data loss. The cloud solutions offered include online backup, preservation and archives, media access, online sharing, and cloud broker.

**OSS Labs:**

OSS labs from India is using Amazon’s elastic cloud computing platform owing to the various capabilities of Amazon such as high durability of data, ISO standards based strong information security and flexibility. It is expected that the OSS labs will be able to provide robust open based solutions to demanding customers. OSS Labs offer hosting and maintenance services for Koha ILS and DSpace IR. OSS Labs use Amazon’s cloud services. Library operations have become very cost effective and the library staff need not to worry about maintenance of software etc.

5) Enhancement Of Library Services By The Use Of Cloud Computing:

**E-books Lending Service:** Cloud platform is now becoming popular to lend the E-Books.

**Union /Shared Catalogue/OPAC:** Network libraries can use same platform and give access to their collection on one platform. Through cloud computing creation of union catalogue becomes very easy.

![Figure 1: The Model for Cloud University Library](image)

**Document Download Service:** One can download documents easily if permit access in the network.

**Digital preservation/Scanning Service:** Digitization and scanning work can be done centralized and so one can avoid duplication of such time consuming work. Libraries can preserve the collection is digital form in the form of archives.

**Article Delivery Service:** Cloud computing can be used for article delivery service to the patrons by the libraries. Publishers are already using this technology for providing access to libraries.

**Current Awareness Service:** To provide current awareness service to all patrons has become easy with cloud computing.

**Document Sharing:** Document sharing has become easy with cloud computing. **Bulletin board service:** We can provide new services on bulletin board with this technology.

**Information Common:** Information common like bibliographical data, content pages, cover pages, question papers, syllabus, and other reading material we can share on one platform. It helps in improving economy of library and avoids duplication of library purchase.
**Collection Development:** Cloud computing is used for collection development. Duplications can be easily avoided and alternate resources can be located and made accessible to patrons.

**File sharing:** To share various files in electronic form become easy with the cloud computing.

**Information Discovery:** Cloud provides a platform to store all information that one can access anytime from anywhere; so information discovery and searching become easy and it is very useful for researchers.

**E-Learning:** In the E-Learning environment too, cloud computing is boon. Study material can be kept on the cloud for reference purpose and online examinations also can be conducted. Discussions, revisions can be done at a time from different places.

**Information Literacy/Orientation:** Libraries can conduct information literacy and orientation courses on the cloud. They can keep the tutorials, videos, presentations and files on the cloud for user’s orientation.

**Social Interactions with the users:** Can be possible because of cloud computing.

6) **Role of Cloud Librarian:**
   - To track member information and transactions
   - To provide Access Pin to students and define validity. (Pin can be auto generated; Validity can be set in the software)
   - To communicate with the member libraries contributing their resources to cloud for resource sharing
   - To communicate with the Ebooks, Journals publishers & distributors, consortia, database providers
   - To discuss with faculty members and subject experts, librarians for preparing different packages for different faculties and classes.
   - To update technological skills
   - To give technological support to member libraries
   - To conduct training and awareness programs for readers
   - To provide interlibrary loan facility
   - To track usage record of cloud resources
   - To develop digital collection
   - To keep record of physical resources too for providing referral service
   - To deal with Cloud resource and players and select the best bargain.
   - To maintain own virtual profile by creating his or her blog or social network profile to interact with the user. The same platform can be used for providing reference services and educating the users on cloud resources or how to use the Cloud infrastructure.
   - To use his or her strategic planning and decision making ability at different stages of developing a Cloud library.

7) **Advantages and Disadvantages:**

![Advantages and Disadvantages](image-url)
*Questions*

**Research Paper Questionnaire!**

- Cloud Computing Applications in Academic Libraries

1. Do you know about Cloud Computing?
   - Yes
   - No

2. Which type of library is more helpful nowadays?
   - Digital (Modern) Libraries
   - Traditional Libraries

3. What do you think "Is Cloud Computing helpful in Academic Libraries"?
   - Yes
   - No

**Responses**

7 responses

**Insights**

<table>
<thead>
<tr>
<th>Average</th>
<th>Median</th>
<th>Range</th>
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<tbody>
<tr>
<td>0/0 points</td>
<td>0/0 points</td>
<td>0/0 points</td>
</tr>
</tbody>
</table>

Total points distribution:

<table>
<thead>
<tr>
<th>Points scored</th>
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<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of responses</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

1. Do you know about Cloud Computing?
   - 7 responses
   - Yes: 0%
   - No: 100%
Conclusion

Cloud computing is a new phenomenon in the computer systems technology. It emerged due to the developments in internet and associated technologies. This phenomenon is in developing stage and will be very helpful for the organizations, if the services are being used with care. However, this technology is very helpful for organizations like libraries in automating and managing their services. This technology has certain advantages. With the help of this technology, library staff will be free from managing the servers. It is commonly seen that it is difficult for library professionals to manage the technologies. The reasons may be their skill levels; there may be lack of support from IT section or absence of IT facilities in the organizations. In these circumstances, the library staff hinders in undertaking automation of library activities or developing digital library services, etc. This technology can be of immense importance in helping libraries to undertake modern ICT activities. The library professionals need not to worry technical side of ICT activities. They only have to add content of resources. Libraries in the west countries have already been using the cloud computing technology for their resources. Slowly the awareness about this technology is spreading in other parts of the world and with the use of ICT and internet; library professionals are sharing their library resources with others on the platform. Thus this technology will be of immense use to libraries, if handled with utmost care and awareness about its disadvantages.

Reference List

Use of e-resources among LIS students of Yashwantrao Chavan Maharashtra Open University, Mumbai Region

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Abstract:
This paper discusses about awareness of use of e-reference sources by Library and Information Science (LIS) students of Yashwantrao Chavan Maharashtra Open University Students in Mumbai region. Questionnaire method was used for the data collection. The purpose of the study is to explore the level of awareness, purpose of accessing e-resources, difficulties while accessing e-resources and highly used e-resources by LIS students.
Keywords: e-resources, Shodhaganga, NOPR

Introduction:
Information resources play an important role in providing library services. Information and Communication Technology (ICT) bring a radical change in the information world. Use of ICT in libraries fetched transformation in library functioning. Information sources and services provided by the libraries are two prime factors of any library. With the advent of ICT, both these factors function more efficiently. The technology has led to the spread of electronically available information resources, which include CD – ROM databases, electronic mails, Online Public Access Catalogues (OPAC) and internet browsing (Olatokunbo & Okiki).

Print and e-resources are important tools in scholarly communication process. Easy availability, accessibility, cost-effectiveness and time-saving are the significant features that attract user fraternity towards e-resources. E-resources are the electronic representation of information that is available in various forms. Electronic resources deliver the collection of information as full text Databases, E-journals, Image Collection, Multimedia in the form of CDs, Tape, Internet, Web Technology etc. E-resources include e-journals, e-discussions, e-news, data archives, e-mail online chatting, etc (Singh, 2019). The awareness and use of electronic information resources in the libraries is a need of time.

Objectives:
1. To explore level of awareness of e-resources among LIS students.
2. To distinguish the usage of highly used e-resources by LIS students.
3. To recognize the purpose of accessing the resources.
4. To identify the difficulties while accessing e-resources.

Review of Literature:
Sivakami and Rajendran (2019) describes the awareness, access and usage of E-resources available in the Arts and Science Colleges Faculty Members in Erode District and found majority of faculty using the e-resources for their notes preparation. Kolawole & Francis (2020) with descriptive research method examined the use of Electronic Resources and Print Resources among Lecturers in two private universities in South-South Nigeria. It is revealed that libraries should acquire, maintain adequate and balanced information resources, as both print and e-resources were found to be relevant sources of information for effective teaching, learning and research. Priyadharshini (2015) describes the awareness, access and use of electronic resources available in the Agricultural College and Research Institute, Madurai. Kaur and Kathuria (2016) in their research work proposed the
suggestions as regular training to the staff in terms of adequate skills, compulsion on students to attend the user education programme/training provided by the library, more emphasis on Consortia to increase the use of e-resources in the library, implementation of web 2.0 in providing library services, a mandatory paper on library resources for all the classes can be started and upgradation of infrastructural needs as per requirement.

Aregbesola & Oguntayo (2014) in their research discussed about level of awareness, frequency of access, motivations and constraints of electronic resources use among faculty members in Landmark University, Omu-Aran. They further recommended about repeated user training sessions for better usage as well as stimulate the interest of users.

Chanda (2016) explored the level of awareness of e-resources, their usage pattern, frequency of usage of e-resources, perception of college students on the use of electronic resources, the challenges faced by them while using electronic resources, and their level of satisfaction with using the e-resources.

Scope:

Yashwantrao Chavan Maharashtra Open University (YCMOU) is one of the best University in Maharashtra providing education through distance mode. It has many study centres all over Maharashtra. The present study was conducted in VPM’s B.N.Bandodkar College of Science, Thane and K.P.B. Hinduja College of Commerce, Charni Road, Mumbai region. The population selected was Master of Library and Information Science Students affiliated to YCMOU and students of both the colleges.

Research Methodology

The study implemented Survey method and data was collected through online Questionnaire. The questionnaire was distributed to 54 respondents through email and what’s app. out of 54, only 37 respondents replied to the questionnaire. After data verification, 36 responses were selected for final data analysis. Data analysis was carried in Ms-Excel application and represented in tabular and graphical format.

Data Analysis and Interpretation:

A) Gender wise distribution of responses received:

<table>
<thead>
<tr>
<th>Name of Study Center</th>
<th>Respondents (Male)</th>
<th>Respondents (Female)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bandodkar College</td>
<td>09</td>
<td>18</td>
</tr>
<tr>
<td>Hinduja College</td>
<td>01</td>
<td>08</td>
</tr>
<tr>
<td></td>
<td>10 (27.77%)</td>
<td>26 (72.22%)</td>
</tr>
</tbody>
</table>

Table 1 : Genderwise Distribution of respondents

Table 1 shows that 27.77% respondents are male and 72.22% are female.

B) Type of gadgets used while accessing e-resources:

<table>
<thead>
<tr>
<th>Type of gadget</th>
<th>No of Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile</td>
<td>17 (47.22%)</td>
</tr>
<tr>
<td>Laptop</td>
<td>04 (11.11%)</td>
</tr>
<tr>
<td>Computer</td>
<td>02 (5.55%)</td>
</tr>
<tr>
<td>Mobile and laptop</td>
<td>10 (27.77%)</td>
</tr>
<tr>
<td>Mobile and computer</td>
<td>03 (8.33%)</td>
</tr>
</tbody>
</table>

Table 2 : Types of gadgets

The responses were collected to find out the most popular gadget used for accessing information and it is found that mobile is highly preferred gadget by 47.22% respondents followed by laptop (11.11%). Few respondents also used both the gadget as mobile and laptop (27.77%) & mobile and computer is used by 8.33 % respondents.
C) Type of e-resources used:

Figure 1 shows that e-Newspapers is highly used e-resource by 66.66% respondents followed by e-books 36.11%, e-Journals and e-Theses by 33.33% respondents. E-books and e-statistical databases were never used by 13.88 % respondents respectively. It is revealed that 13.88% respondents never used e-books and e-statistical databases & e-newspaper is the resource which was used by every respondent.

D) Use of e-Resources:

As a LIS student, it is essential to actually use few e-resources regularly. Thus the respondents were enquired to indicate for the highly used open access resources which they used. Shodhaganga was on the priority list. 55.55% respondents gave their preference to Shodhaganga followed by Google books (44.44%), NDLI 38.88% and Google Scholar (27.77%). 8.33% respondents never accessed N-List, DOAJ, NOPR, NDLI and Project Gutenberg respectively. It is also revealed that Shodhaganga resource is highly popular and used by every respondent.
E) Purpose of accessing e-resources:

Figure 3 shows the main aim of accessing the e-resources is to get information reported by 33.33% respondents, followed by study and research purpose by 25% and only 16.66% access e-resources from the librarian point of view.

F) Difficulties faced while using e-resources:
e-resources is the easiest medium to access information, which save the time of the user also. Still there are difficulties found in accessing the e-resources. Internet speed is the highly rated barrier by 41.66% respondents followed by network connectivity, time to download the material and language is the one of the difficulty.

Discussions:
The study revealed that mobile is the preferable gadget to access the information. However quite a good number of respondents use mobile and laptop both gadgets to access the e-resources.

The study also explore that E-newspaper is highly used resource followed by e-books, e-Journals, e-databases, e-Theses and Statistical databases.

It has been found that Shodhaganga is highly used resource followed by e-books and NDLI. It is clear from this study that Shodhaganga and NDLI is known to every respondent.
It is found that respondents used e-resources mainly for the purpose of acquiring more knowledge, followed by research and study purpose. Very few refer the e-resources as a useful tool in their future librarianship career. Internet connectivity found the major barrier in accessing the resources. Very few respondents mentioned about language barrier.

**Conclusion:**

E-resources are an important tool for the user community. This study come out with the fact that users are aware of e-resources but still they are not accessing it full fledge. More awareness about open access resources need to be created especially for LIS students, as today’s students are tomorrow’s Library professionals, so it is highly essential to aware LIS students about most of e-resources.

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RFID तंत्रज्ञान का बढ़ता प्रयोग

कविता विजुलालाल सोळंके,
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रेडियो-आवृत्ति प्रयोग :
एक बस्तु का उपयोग है (आम तौर पर RFID टेग के रूप में संदर्भित) जिसे एक उपचार, पशु, या व्यक्ति में रेडियो तरंगों के इस्तेमाल से पहचान करने और ट्रैकिंग के उद्देश्य से लगाया व डाला जाता है। कुछ टेग को कई मीटर दूर से और पाठक की दूरी रखने के बाद से एक पादक की टेक पर रखने से पढा जा सकता है।

अधिकांश RFID टेग में कम से कम दो रेडियो-आवृत्ति (RF) संकेत को मोडुलेट और डीमोडुलेट करने और अन्य विविध कार्य करने के लिए जिम्मेदार है।

प्रस्तावना :
आम तौर पर तीन प्रकार के RFID टेग होते हैं: सक्रिय RFID टेग, जिसमें एक बैटरी होती है और ये संकेतों को स्वतंत्र रूप से संसाधित कर सकते हैं, निजी RFID टेग, जिसमें बैटरी नहीं होती है और संकेत संचरण प्रीत करने के लिए एक बाहरी स्थान को संचालित होता है और बैटरी समर्पित निजी (BAP) जिसे जागरूक के लिए बाहरी स्थान को आकर्षण करता है लेकिन इसमें महत्त्वपूर्ण उच्च फ्रेक्वेंसी लिंक क्षमता है कि अन्यविध पदन सीमा प्रदान करता है।

RFID के कई अनुप्रयोग हैं, उदाहरण के लिए, यह उद्य उद्योग की आपूर्ति श्रुतिकला प्रबंधन में प्रयोग किया जाता है ताकि वस्तुओं पर नज़र रखने में और प्रबंधन की कुशलता में सुधार किया जा सके।

इन्हें और प्राथमिक पुस्तकम सूक्ष्मकरण

रेडियो-प्रयोग के उपयोग :
मोबाइल फोन से भुगतान, पवरर्थन भुगतान, कार-सिफारिस, रेडियोचुम्बकीय तरंगों द्वारा शक्तिशाली, और सवितर जो एक बाह्य स्रोत से विद्युततंत्र को पुन: संचालित करता है।

इसी प्रकार की समान प्रौद्योगिकी का उपयोग उद्य रुपांतरण द्वारा विमानों की दोस्त्त या दुश्मन के रूप में पहचान करने के लिए इस्तेमाल किया जाता है।

1945 में लिन्डन मैंचिन ने सोवियत संघ के लिए एक जासूसी उपकरण का आविष्कार किया जो श्रय जानकारी के साथ घनना रेडियो तरंगों को पुन: संचालित करता था। इसके तर्क एक डायफ्राम को हिलाती थी, जो रेडियो उपकरण के आकार को बोझिल बदल देती थी, जो विचित्रित रेडियो आवृत्ति को मोडुलेट कर देती थी। यद्यपि यह उपकरण एक श्रय उपकरण था, तब भी इस RFID प्रौद्योगिकी का एक ज्ञानकारी रूप से ध्यान में रखा जाता है, क्योंकि यह भी वैज्ञानिक रूप से अभी तक प्रयोग पाया जा रहा है।

1915 में आयोजन विबल्तन ने आयोजन संसथ के लिए एक जासूसी उपकरण का आविष्कार किया जो श्रय जानकारी के साथ घनना रेडियो तरंगों को पुन: संचालित करता था। इसके तर्क एक डायफ्राम को हिलाती थी, जो रेडियो उपकरण के आकार को बोझिल बदल देती थी, जो विचित्रित रेडियो आवृत्ति को मोडुलेट कर देती थी। यद्यपि यह उपकरण एक श्रय उपकरण था, तब भी इस RFID प्रौद्योगिकी का एक उपकरण माना जाता है, जो एक बाह्य स्थान से विद्युतपुम्प्कीय तरंगों द्वारा आकर्षित और सक्रिय हो जाता था।

तत्काल संघ्रण और प्राथमिक पुस्तकम :
एक वनक्टिय टैग और एक आधावरतत वडिाइसवफडेवलटी के सार्थ काम कर रही थीं। तक अपने पयािरण को झेल सके गा और एक री िैं।

मोबाइल फोन से भुगता एक बड़ी चुनौती एंटेना को िोड़ना िै, इस प्रकार पठन सीमा के लिए लहरी मिलीमीटर तक सीवमत कर वदया आकार के ये वचप्स, 128 बिुत ओन्ली मेमोरी (संभािना िै)

अवधकांश प्रणाली 915 का, स्त्टीिन डेप, अल्फ्रे ड कोएले और रॉबटय फ्रे मन द्वारा 1973 में लॉस एलामोस नेशनल लेबोरेटरी में लॉस एलामोस नेशनल लेबोरेटरी में किया गया। यह पोर्टेबल प्रौद्योगकी के दो नए उपयोग के लिए अधिकार UHFID और माइक्रोएन्ड RFID टेग का आवश्यकता करता है।

सीखना नाम RFID जैसे प्रौद्योगकी, अमरीकी रक्षा विभाग द्वारा विभाग द्वारा अपने द्वारा से अधिक कंटेनरों पर साधी। दृष्टि की रफ्तार उपयोग जो महाद्वीपीय ऑमिका (CONUS) के बारे में है। समस्त बड़ा निक्षय RFID प्रौद्योगकी, डिफेंस लॉक्स्कट्स ऐसेस (DLA) का है जो आठ द्वारा 72 सुबिहाओं पर लागू है, निसे एसआरस के लिए विशेष प्रचार िया। जो वर्ष में 13 परिसंधानों से निम्निता है।

सूक्ष्मक रूप से RFID

RFID वह प्रौद्योगकी है जिसमें उन्हूँ अन्तर समानों में छिपाया या दालना आसान होता है। उदाहरण के लिए, विल्सल विश्वविद्यालय के क्षेत्रों को 2009 में RFID को उपयोगी प्रौद्योगकी के विकास के साथ जोड़ने की संभावना है। हालांकि, यूँ से पढ़ने की शुरूआत इज़ासहस्पति विद्यालय द्वारा सीमित है।

सबसे छोटी RFID चिप का उपयोग द्वारा अन्तर के विपक्ष को 38 अंकों की संख्या को संग्रहित कर सकते हैं। एक बड़ी बैंक ने यह प्रौद्योगकी को प्रयोग की दालने के बाद अन्तरों पर देखा जा सकता है। यह वाचक एंडेना की पोटेंटियल घड़कर और IC पर IR-LED के साथ प्रतिपीडित किया जा सकता है।

रेफ्लेक्टर पांवर (मॉडुलेटेड बैकस्टेट) RFID टेग का एक बहुत प्रारंभिक प्रदर्शन, निक्षय और अर्थ-निक्षय, दोनों का, स्टीवन डेप, अलेक्स कोेन और रॉबर्ट प्रेम द्वारा 1973 में लॉस एलामोस नेशनल लेबोरेटरी में किया गया। यह पोर्टेबल प्रौद्योगकी 915 महानागर के चेक बुक, महानागरी इलेक्ट्रॉनिक कार्ड की प्रज्ञा को आंदोलन के लिए बेचकी प्राचर कर्ता री िै।

प्रदर्शन की काययिा: 2009 की गर्भमयों के बाद से, दो नए उपयोग के विशेष अनुभव अब वकसी भी मोबाइल फोन से गैर-कंटेनर से घटने से रेफ्राइड अधिकार वाला लागू, छपाना या डालना आसान िो िाता िै।

आयुशी इंटरडिसिप्लिनरी रिसर्च जर्नल (ISSN 2349-638x) Impact Factor 7.367

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विब्योक्तक के संयोजन में डिवर्सी क्षेत्र ने भी अपने नए व्यापारी और पुरुष कार्यक्रम के हिस्से के रूप में मोबाइल फोन पर RFIDS का प्रयोग शुरू कर दिया है। अपने पास पर लगाने के लिए संरक्षक, एक RFID टेग प्राप्त कर सकते हैं। सड्यकण के बाद, फोन में प्रोत्साहित और कृपण प्राप्त होगे, जिसे विब्योक्तक के विशेष NFC उपकरण के लिए प्राप्त कर सकते हैं ।

इसी तरह, 7-ELEVEN, एक नए संपर्क-मुक्त भुगतान प्रणाली की एक बड़ी देने के लिए MASTER CARD के साथ काम कर रहा है। परिणाम में शामिल होने वालों का एक मानव नोकिया 3220 सेलफोन दिया जाता है — सड्यकण के बाद, इसे एक RFID स्मार्ट कार्ड क्रेडिट कार्ड के मूल में, दुनिया भर के 7-ELEVEN की किसी भी श्रृंखला में इस्तेमाल किया जा सकता है।

NOKIA के 2008 के उपकरण, 6312, में RFID कमांड भी है। स्मार्ट हैंडसेट का उपयोग करते हुए क्रेडिट कार्ड की जानकारी को साहसितिक किया जा सकता है और बैंक में भर से उपयोग कह जा सकता है। इस पास को, आप मोबाइल भुगतान के लिए एक चेक नुम्बर में RFID में इस्तेमाल करना जा तो इसमें इस मायने में आत्मििक सृष्टि होती है जिसमें उपयोगकर्ताओं को भुगतान की प्राथिकता होने से पहले एक पासवार्ड या पिन दर्ज करने की आवश्यकता होगी।

परिणाम भुगतान:

सरकारें, यातायात प्रदेश के लिए RFID अनुपालन का उपयोग करना है, जबकि मोटर बाहन कंपनियों, उत्पाद प्रदाता के लिए विभिन्न RFID ट्रांजाङ्ग सामायिक प्राप्त कर उपयोग करती है। इन समाधानों में से कई, भीतर में एक साथ काम कर सकते हैं, हालांकि गोपनीयता निम्न कई पहल को उस गति में आगे बढ़ाने से रोकते हैं जिसकी तकनीकी अनुमति देता है।

कार-स्वरूपित की विश्वसनीयता किशोर कार सहभाजन:

ZIPCAR को कार सहभाजन सेवा, कार में ताला लगाने और उसे खोलने और सदस्य की पहचान करने के लिए RFID कार का उपयोग करती है।

सीज़न पासवार्ड टिकट:

एक सफल पानपल्ट के बाद, आवास एवं मिसाल बोर्ड (HDB) सिंगापुर ने 2006 में कार्य सीज़न पासवार्ड टिकट (SPT) के प्रस्तावित करने का उपयोग करता है। इस समाधानों में से कई, भीतर में एक साथ काम कर सकते हैं, हालांकि गोपनीयता निम्न कई पहल को उस गति में आगे बढ़ाने से रोकते हैं जिसकी तकनीकी अनुमति देता है।

टोल सड़कें:

- RFID का इस्तेमाल मोटरवेज, पाकिस्तान, में E-टीलिंग के लिए किया जा रहा है, जो NANDRA द्वारा कार्यनिष्ठ है।
- तुर्की में, RFID का उपयोग एक भुगतान पद्धति के रूप में मोटरवेज और रेजियन (नव्यम्बर 2008) में किया जाता है; (कृपया उद्देश्यों रूप में इसी तरह), इंडिया में इलेक्ट्रॉनिक बस टिकट में भी इसका प्रयोग किया जाता है।
- RFID का मलेशिया एवं भुगतान प्रणाली में खोल किया जाता है। प्रणाली का नाम टॉप इंडिया है टॉप। ये जैसा कि इस प्रणाली का नाम इंडिया किया जाता है इसका कार्य उपयोगकर्ता इसे खुद के रूप में एक अंतर्गत एक तोल कार का उपयोग करने के लिए दिजाइन किया गया है।
- नाइमं, सभी सावन्तकार्य टोल सड़कें, ऑटोपास नाम से जात एक RFID भुगतान प्रणाली से लें उपयोग।
- सिंगापुर में सावन्तकार्य परिचालन के लिए व्यवसायों में RFID का प्रयोग किया गया है जिसमें EZ-LINK कार्ड के रूप में जाना जाता है। दो ध्यान देने के आत्मििक क्षेत्रों में यातायात को चर टोल द्वारा नियंत्रित किया जाता है जिसमें एजेंड कार्ड (कॉशार्ड कार्ड के रूप में जाता) के उपयोग के लिए सफर करने के लिए RFID कार के मूल करने के लिए इस्तेमाल किया जाता है।
- टोल्स्टो, ऑटोसियो, कनाडा में और आस्पास के क्षेत्रों में इलेक्ट्रॉनिक रोड मूल्य निर्धारण प्रणाली को ४०५ जारमास्त पर टोल भुगतान जमा करने के लिए किया जाता है।
- RFID टोल का इस्तेमाल जिन टोल बुल्ब पर इलेक्ट्रॉनिक टोल संक्रमण के लिए किया जाता है उसमें शामिल हैं जैसा कि क्रीजार और इलेक्ट्रॉनिक टोल संक्रमण के लिए किया जाता है ।
Special Issue Theme: Future Academic Libraries: Designing Technological Innovation and Best Practices in Academic Libraries (Special Issue No.117) Feb. 2023

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Peer Reviewed Journal www.aiirjournal.com


5. Airbus Selects ODIN Technologies as Exclusive Worldwide RFID Partner

6. Ants' home search habit uncovered
शोध सारणी:
सोशल मीडिया और हिंदी भाषा का अनन्य साझारण महत्व है। दोनों एक दूसरे के पूरक है। भाषा का प्रयोग विज्ञान रखना हर एक ज्ञानेदार है। फेसबुक टिव्टर इंस्टाग्राम, काटटस्टर,टेलीग्राम इन के माध्यम से भाषा के क्षेत्र में बुनाकर परिवर्तन आ रहे हैं। भाषा का प्रवाह कठिन ता से सरलता की ओर जा रहा है। पारंपरिक शब्दावली में परिवर्तन हो गया है। जान श्रोत की भाषाएँ संदर्भ बदल रहे हैं। आज जानस्थल का स्वरूप परिवर्तित हो रहा है। प्रथमत हमारे पोकेट में आ गया है। सोशल मीडिया का यह एक ऐसा प्रमाण है कि घर बींट किसी भी किताब को पढ़ सकते हैं। आधुनिक युग पीढ़ी इसका त्रूच मद्दत में लाख उतारे हुए दिखाई देती है।

सीट अध्य: जानस्थल, भाषाक संदर्भ, सोशल मीडिया,हिंदी भाषा,टेलीग्राम, फेसबुक, इंस्टाग्राम, काटटस्टर, पारंपरिक शब्दावली।

प्रस्तावना:
सोशल मीडिया क्या आज की जानकारी का विषय है। दुनिया में कोई ऐसा ही नहीं होगा जिसमें सोशल मीडिया का जान ना हो सोशल मीडिया आज के युग में हमारे जीवन का एक अवश्यक घटक है। जिसकी विवाह आज के लोग अपनी जीवन अभूर्त समझते हैं। सोशल मीडिया एक ऐसा प्लेटफार्म है जहां, पर लोग अपनी मालनामा या अपने साथ होने वाली घटनाओं विचारों का लोगों के साथ वायरल ठहराया करते हैं। सोशल मीडिया भी नेटवर्क प्लेटफार्म के स्तर पर होता है। इस प्लेटफार्म एक दूसरे को जोड़ने का कार्य करता है। ठीक उसी प्रकार सोशल मीडिया भी एक दूसरे को जोड़ता है।

सोशल मीडिया का अर्थ है- ऐसा मीडिया जो बाकी सारी मीडिया एडिस्ट्रोनिक और समांतर मीडिया से अलग है। 1997 में इंडियन वेबरी द्वारा “सिक्सयर्डाइरी” नामक दुनिया का सबसे पहला सोशल मीडिया प्लेटफार्म लॉन्च हुआ था। सोशल मीडिया इंटरनेट के माध्यम से एक वर्चुअल वर्ता बनाता है जिसे उपयोग करने वाला व्यक्ति सोशल मीडिया के किसी प्लेटफार्म फेसबुक, टिव्टर, इंस्टाग्राम आदि का उपयोग कर पहचान सकता है। सोशल मीडिया के संरचनात्मक मार्क जुकेरबर्ग एडुआद सोवरिन मास्कबुच्स क्रिस हुजन ने। सोशल मीडिया का संपूर्ण एक विश्वविद्यालय है। इस विश्वविद्यालय सोशल मीडिया का इस्तेमाल आज हर क्षेत्र में किया जा रहा है और अपने क्षेत्र को सोशल मीडिया द्वारा विश्व स्तर पर लोगों के साथ रखा जा रहा है। सोशल मीडिया का उपयोग शिक्षा साहित्य संस्कृत संस्थान, जनता संकेत आदि जैसे अन्य क्षेत्रों में उपयुक्त है।

सोशल मीडिया का स्वरूप:
सोशल मीडिया का स्वरूप अन्य माध्यमों से बहुत अलग है। इसके द्वारा आप देश दुनिया किसी भी कोने के व्यक्तियों से आमतौर तकनीकी के माध्यम से सहज रुप से जुड़ सकते हैं। इसके माध्यम से अधिक आडियो कोई कई संदर्भ संग्रहित कर सकते हैं। इसके गये हमसे जुड़ने को माध्यम से व्यक्तियों से चेटिंग भी कर सकते हैं। आज के दौरान में सोशल मीडिया का महत्व और उसका इस्तेमाल बढ़ गया है। इसके माध्यम से बीडियो आडियो कोल के माध्यम से दुनियाभर के व्यक्तियों से जुड़ सकते हैं। इसके द्वारा न्यूज़ मनोरंजन और व्यक्तिगत सुधार का प्रोमोशन कर सकते हैं। व्यक्ति को सीधे तौर पर जुड़ने और
संबंधों भी वदन अलग माके कटगने -
अपनी में |
को सोशल के स्त्िाद से उपयोग युवा वर्ग के माध्यम से होता है। इसके बावजूद सोशल मीडिया का इस्तेमाल करना आसान है और कोई भी कर सकता है। सोशल मीडिया पर लोग अपना कौशल दिखाकर पैसे कमा रहे हैं। सोशल मीडिया के माध्यम से हम हमारे पास की जानकारी एक दूसरे से आदर-प्रदान कर सकते हैं।
भारत में सोशल मीडिया लोगों के जीवन का एक हिस्सा बन गया है। इसके अलग-अलग सोशल नेटवर्किंग साइट पर आज ऐसे कोई भी व्यक्ति नहीं है जो सोशल मीडिया के इस्तेमाल के बारे में नहीं पता देने का राजनीति और राजनीतिकों के अलग-अलग बातों का तथा देश की स्थिति को हम किसी के माध्यम से जाना जाता है। सोशल मीडिया और देश के व्यापार का विस्तार भी बढ़ा रहा है। सोशल मीडिया के कारण यात्रियों को अन्य देश के व्यापार के बारे में जानकारी प्राप्त होने का मौका मिला है। सोशल मीडिया के कारण समाज का हर एक वर्ग अपने संघ वर्ग में विकास कर रहा है। एक दूसरा को संघ के नचार बना रहा है। सोशल मीडिया के बावजूद इन्हीं बातों को अपने माध्यम से आदर-प्रदान कर सकते हैं।
भारत में सोशल मीडिया नवीनता के अंतर्गत हमें एक साथ जोड़े दिया है। जो कि एक अच्छा समाज के लिए काफी महत्वपूर्ण है। इससे माध्यम से हम समाज विचारधारा लोगों से भी मिल सकते है इस प्रकार से सोशल मीडिया का हमारे जीवन, समाज, देश आदि क्षेत्रों में इसका महत्व अन्य साधारण है।
हिंदी आज ऐसी भाषा है जो दुनिया में बड़े स्तर पर बांटी और समझी जाती है। हिंदी का विकास देश बनने के लिए आज दिन-ब-दिन बढ़ा जा रहा है। आज के संस्कृत के बाहर ही हमें देश का प्रारंभ प्रदान देखा जा सकता है। हिंदी के इस विकास में सोशल मीडिया ने महत्वपूर्ण भूमिका निभाई है।
हिंदी की सभी भाषाओं में देश और राज्य का प्रति आता है। इसलिए भारतीय सभ्यता के लिए राजस्व आवम समाज का हर व्यक्ति अपने माध्यम से आदर-प्रदान कर सकते हैं।
हिंदी आज देश के अलग अलग देशों में भाषा करवाया है जो हमें भाषा का क्षेत्र में देखते हैं। हिंदी भाषा का अन्य साधारण है।
सोशल मीडिया के साकारात्मक और नकारात्मक दो फलन है। इस संसार में हर चीज के प्रति दो नजरिए होते हैं। सकारात्मक-नकारात्मक, अच्छी-योनी यह हम पर निर्भर करता है। हम किसी चीज को प्रसन्ना कर सकते हैं और हम सोशल मीडिया के केवल नकारात्मक हिस्से को ही देखते हैं। भाषा के संस्कृति के लिए कम सकती है। राजनीति, आत्मविश्वास और विचारधारा का चरम अवसाद तथा धार्मिक संदर्भ के लिए रहती है।
Designing Technological Innovation and Best Practices in Academic Libraries (Special Issue No.117)  
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की कोशिश की जा रही है। डिजिटल लाइब्रेरी के माध्यम से हमें जो सामग्री आवश्यक है वह हमें कहीं भी कभी भी उपलब्ध हो सकती है। डिजिटल लाइब्रेरी के माध्यम से हम अपनी इच्छा और रचन के माध्यम को ध्यान में रखकर किताबें चुनते हैं। इसमें पुरानी से पुरानी सारी पत्न सामग्री हमें उपलब्ध हो जाती है।

डिजिटल लाइब्रेरी के आज के युग में बहुत महत्व है। लाइब्रेरी में हर विषय से संबंधित हर किताब समय पर उपलब्ध होंगे। यह संभव नहीं है ऐसे में डिजिटल लाइब्रेरी एक बहुत अच्छा पर्याय साबित होता है। डिजिटल लाइब्रेरी के कारण आज अध्ययन का क्षेत्र बदलता नजर आ रहा है। कई वेबसाइट के माध्यम से आज हम डिजिटल ज्ञान का स्वाद लेते हैं।

निष्कर्ष के रूप में कह सकते हैं, कि ज्ञान श्रोत के नए भाष्कर संदर्भ बदल रहे हैं। उसका पूरा लाभ आज की आधुनिक युग की पूरी उद्भव है। सकारात्मक सोच का निर्माण हो रहा है। पत्न संस्कृति से हटा हो रही पीढ़ी आज फिर से एक नई उम्मीद, नई उमंग को साथ लेकर पत्न का आस्वाद लेतीं दिखाई दे रही है। बदलते भाष्कर संदर्भ के कारण ही आज आधुनिक युग की पीढ़ी सजग, सत्तर्क और लाभान्वित हो रही है। आने वाले भविष्य में शक्तिक प्रशासन की हटोप से यह कदम बहुत ही लाभदायक सिद्ध हो सकता है।

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3) https://webdunia.com तिथि : 26/01/2023
प्रस्तावना :-

आज आधुनिक युग का मनुष्य अपनी वास्तविकता एवं अपने व्यक्तित्व को आकार देने के लिए समाज से विभिन्न तरीकों से जुड़ता है। समाज में उत्पन्न हुई बातों को विवाद करके अपने जीवन को एक नई दिशा देने के लिए वह हर क्षण किसी ना किसी माध्यम से अपने ज्ञान का बढ़ावा देने की कोशिश करता है। आदिम युग से ही मनुष्य अपने अनुक्रमणिक स्वभाव के आधार पर जहां जहां से ज्ञान की प्राप्ति हो सकती है वहाँ-वहां से ज्ञान प्राप्त करने का प्रयास करता है। इसी प्राप्त ज्ञान के आधार पर आज का मनुष्य आधुनिक युग वादी मनुष्य समझा जाता है। कठिनाई से समर्पित की ओर बढ़ते रहने का प्रयास वह दिन-रात करता है। आज के मनुष्यों में प्रत्येक वस्तु के प्राप्त सरलता वाला गुणधर्म की अपेक्षा के कारण ही ज्ञान बढ़ाने वाले व्यक्तिगत अवधारणाओं का विवाद हुआ दिखाई देता है। आज 21वीं सदी में सोशल मीडिया वह ज्ञानकारी प्राप्त करने तथा संपर्क के माध्यम से अपनी भावनाओं को व्यक्त करके अपने मन को व्यक्तित्व का कार्य किया जाता है। इंटरनेट कुछ साल पहले सोशल मीडिया की अवधारणा के स्पष्ट से निर्भावित नहीं किया जा सकता था। उस समय मोबाइल इंटरनेट आदि का प्रयोग इतनी मात्रा में तथा सहज रूप में नहीं था लेकिन विझार दो दसाँक में सोशल मीडिया में दिन-ब-दिन क्रांतिकारी परिवर्तन हुए दिखाई देता है। सोशल मीडिया के आधार पर समाज को उसकी समस्याओं को, उसकी आवश्यकताओं को तथा व्यक्ति के मन को उसकी भावनाओं को प्रतिभागित करने का कार्य होता है। आज सोशल मीडिया मनुष्य के जीवन का आकार घटक बन चुका है। ज्ञान प्राप्ति के लिए तथा संगठन पुष्टि के लिए आईटीसीए, फेसबुक, ट्विटर, लिंग, इंटरनेट, रेडियो, टेलीविजन आदि के माध्यम से मनुष्य के जीवन का सहारा बना हुआ दिखाई देता है।

1. जनसंचार माध्यम का स्वरूप :-

जनसंचार माध्यम में 'संचार' शब्द की उपर्युक्त संस्कृत के 'चर' शब्द से हुई है, जिसका अर्थ है - चलना। आज का आधुनिक युग मनुष्य अपने विचारों को तथा अपनी भावनाओं को समाज के धरती पर व्यक्त करने का प्रयास नित्यसार रूप में करता आया है। इसी कारण मनुष्य एक सामाजिक प्राणी होने की अवधारणा स्थापित होती है। अपनी बातों को समाज के समस्त विस्तृत रूप में तथा स्पष्टता के साथ रखने के लिए वह सोशल मीडिया का सहारा लेता है। साधारण रूप में इंटरनेट के प्रयोग से निम्नलिखित उस समूह को सोशल मीडिया कहा जाता है, जिसके जरिए आम आदमी अपने विचारों को समाज के सामने रख सकता है। इसका प्रयोग करते वर्तन हर व्यक्तिका हर एक फोर्यू ड्राइवर के रूप में मौजूद होता है। इन फ्रॉक्सकर्मी के जरिए लोग अपनी बातों को लिखक कराने तथा अपने विचारों और मीडिया समायोग के रूप में इंटरनेट पर प्रस्तुत करते हैं। साधारण रूप में सोशल मीडिया की पारस्परिक मीडिया और आधुनिक मीडिया ऐसे दो हिस्से बनते हैं। पारस्परिक मीडिया के अंतर्गत समाचार घर, पत्रकारों, गैज, टेलीविजन आदि का प्रयोग होता है। तो आधुनिक मीडिया के अंतर्गत इंटरनेट के आधार पर चलने वाले फेसबुक, ब्लॉग, इंटरनेट आदि का समावेश होता है। पारस्परिक मीडिया और आधुनिक मीडिया में अंतर सफ्पट रूप से यह देखा जा सकता है कि पारस्परिक मीडिया समाज के कुछ लोगों के हाथ में था। समाज का योग बढ़ने वाले वक्त को वहाँ व्यक्त कर पाता था लेकिन आधुनिक मीडिया के अंतर्गत हर व्यक्ति अपने भावनाओं को 24 घंटे में से कभी भी किसी भी क्षण लिख सकता है। अपनी बातों को खुद आसमान समाज के समस्त रख सकता है।
2. जनसंचार के माध्यम :-

संस्थाल मौड़ीया आधुनिक युग के एक अन्वित आवश्यकता बन चुका है। इसके बिना मानव जीवन अपराहु है। मनुष्य की मूलभूत आवश्यकताओं में आगे जनसंचार माध्यमों को जोड़ दिया जाता है तो वह अति अस्तित्व का निरोगी बन जाता है। आज जनसंचार माध्यम का विकास करने तेज रुप में हो रहा है। इस के संदर्भ में डॉ. रमा नवले कार्यकर्ता के द्वारा कहा जा सकता है कि “जनसंचार माध्यमों का समाज में बड़ा महत्व रहा है। वह विकास से अनुग्रह लेता रहता है।” जनसंचार माध्यमों में एक, तथ्यों, तथ्य-तथ्य इन तीन मुख्य विषयों को देखा जाता है। आजकल तथ्य-तथ्य माध्यम के अंतर्गत जनसंचार माध्यमों का विकास विशेष रूप से होता है जो अपने उद्देश्य आ रहा है। इसके सहयोग में इंटरनेट की भूमिका भी आज रही है। “इंटरनेट का युग लिखत जनसंचार माध्यम सेवाओं के साथ, गैर-तथ्य, तथ्य-तथ्य इन तीन मुख्य विषयों को देखा जाता है। आजकल तथ्य-तथ्य माध्यम के अंतर्गत जनसंचार माध्यमों का विकास विशेष रूप से होता है।”

3. जनसंचार माध्यम और हिंदी भाषा :-

इस वैश्विककरण के युग में संस्थाल मौड़ीया एक ऐसा जाल बन चुका है, जिसमें विविध जनताकी तथा नया शिल्पित निर्माण हो रहा है। भाषाओं के विकास में भी इस संस्थाल मौड़ीया का महत्व अवश्य साधारण है। व्यवसाय समय में इलेक्ट्रॉनिक मौड़ीया ने समाज को बहुत कम समय में अपनी और आर्थिकता कर लिया है। समाज में जनजातियों का आदन-प्रदान के लिए समय सीमा का बंधन अंत हट कुछ हृदय का दृष्टि नीदिनों के शब्दों में कहा और, “संचार बहुत सी जीवनकथिति है। जनसंचार का इस सारी दिशाओं में संशोधन की सफलता पद के सारी संसंगतता भाषा करती है। भाषा के बिना जनसंचार का लक्ष्य नहीं हो सकता चाहे माध्यम कुछ भी हो। इसलिए जनसंचार के सभी संसाधनों के लिए हर युग में किसी न किसी भाषा का उपयोग अनिवार्य रूप से होता आया है। भाषा में जनसंचार के कार्यों का सुमारा निर्णय, आर्थिक प्रदान किया और विद्युत भी दिखा है।”

3.1. समाचार चर -

सुचनाओं का प्रसारण करना तथा उन सुचनाओं को समाचार के रूप में प्रस्तुत करना पत्रकारिता का मुख्य उद्देश्य माना जाता है। हम सुचनाओं का संवेदन जनमानस व समाज का रूप प्रदर्शन करती है। साहित्य का तेज समाचार पत्र भी समाज का प्रभावित होता है। हालाँकि मूलभूत रूप से इसमें एक अंतर है कि साहित्य बोते हूए कार्य का दस्तावेज होता है, तो पत्रकारिता में व्यवसाय की दिशा का लेखक बनाई जाती है। राजकीय, आयसी संघ, सामाजिक समस्याओं को उजागर करना, समाज को जागरूक करना, अपनी बातें को समाज के प्राचीन कविता, साहित्य गलत पत्रकारिता को विशेष बातें मानी जाती हैं। सी. ज. मुंकर पत्रकारिता की परिभाषा देते हैं कि, “पत्रकारिता एक व्यवसाय है जिसका सीख संवेदन सामाजिक ज्ञान से है इस व्यवसाय के अंतर्गत तथ्य की प्राति ध्यानपूर्वक उसका मूल्यांकन तथा समय प्रस्तुति अनूठी है।”

4. हिंदी भाषा और पत्रकारिता का संवेदन काफी समय पूर्व से माना जाता है। भाषा में प्रकाशित होने वाला पत्र का सार प्रसारित करने का उद्देश्य मूल्यवान होता है। भाषा में प्रकाशित होने वाला पत्र का सार प्रसारित करने का उद्देश्य मूल्यवान होता है।
3.2. रेडयो:-
आज का युग आधुनिक युग के शुरुआती दौर से ही जनसंचार माध्यमों में अलग-अलग तकनीकी प्रक्रियाओं का प्रयोग किया है। आधुनिक माध्यम के अंतर्गत रेडयो की फलता इलेक्ट्रॉनिक तकनीक का प्रयोग हुआ था। इसमें ध्वनित तरंगों के आधार पर संगीत करना संभव हुआ। इसी के माध्यम से समाचार, गीत संगीत आदि को समाज की आम जनता तक पहुँचाया गया। भारत की सरकार अरुणाचल प्रदेश के रूप में हिंदी को माना जाता है। हिंदी का प्रसारण समाज में एकता के आधार पर किया जाता है जिसकारण रेडयो पर प्रसारित होने वाले कार्यक्रम तथा उनकी संभाषण प्रणाली तथा भाषा ने वृद्धि रूप से हिंदी को एक अलग पहचान मिली। रेडयो की भाषा में एक विशेषता आवश्यक होती है, जो श्रीताओं के मन में विविध का चरण तृतीय कर सके और हिंदी ही वह भाषा थी, जिससे वह संभव हुआ था। विविध साक्षात्कार तथा परिचय और माध्यम से हिंदी को विदेश तक पहुँचाने का कार्य रेडयो के माध्यम से हुआ दिखाई देता है।

3.3. दूरदर्शन:-
दूरदर्शन यह आज का युग का सबसे सरासर तक-शाई माध्यम है। इसमें प्रसारित होने वाले विविध चैनल, संगीत, समाचार, धारावाहिक आदि के माध्यम से हिंदी को घर-घर तक पहुँचाने का महत्वपूर्ण कार्य दूरदर्शन के माध्यम से हुआ है। हिंदी भाषा के प्रचार एवं प्रसार का कार्य तथा दूरदर्शन की भूमिका महत्वपूर्ण है। भाषा का हर हद तक पहुँचाने का कार्य दूरदर्शन के माध्यम से हुआ है। दूरदर्शन कर लेने वाले भाषा का भी दूरदर्शन पर प्रसारित किया गया। इसरूपे हम कह सकते हैं कि, “हिंदी की साधितक वृत्तियाँ में उपयोग, नाटक, कविता, कहानियों आदि पर दूरदर्शन में काफी सलाह देने के लिए प्रसारित किए हैं। दूरदर्शन पर काफी समय ने हिंदी के प्रचार-प्रसार में महत्वपूर्ण भूमिका दिखाई।” दूरदर्शन के माध्यम से हिंदी की भाषा का काफी समय तक पहुँचाया गया। और विभिन्न के रूप में इसमें स्वतंत्रता उत्पन्न हुआ। दूरदर्शन के माध्यम से हिंदी का प्रसारण अधिक मात्रा में होता है। लोगों में हिंदी के प्रति रुचि निर्भर करना तथा आलोचना को प्रति कराया जा सकता है। इसके लिए हिंदी का प्रयोग भाषा और अनुसार भाषा का काफी आयाम प्रदान किये हैं।

3.4. इंटरनेट:-
इंटरनेट यह आज के आधुनिक युग की सबसे सरासर सफल प्रणाली है। यह मानव जीवन का तथा उसके जान भंडार को एक नई पहचान देने वाली प्रणाली है। इसके माध्यम से दुनिया आज मानव के मुद्रों में समाय हुई दिखाई देती है। इंटरनेट के माध्यम से भिडियो जानकारी भी विषय या विषय को जानकारी एक ही क्षण में प्राप्त होती है। इंटरनेट के माध्यम से हिंदी का प्रयोग मध्यम में प्रसारित होता है। हिंदी भाषा के प्रवृत्ति, नाटक-प्रतिक्रियाओं, समाचार या अन्य भाषा के संदर्भ में इंटरनेट पर जानकारी प्राप्त करा जा सकती है। यहाँ हिंदी भाषा के प्रचार-प्रसार के रूप में हिंदी भाषा को हिंदी भाषा को हिंदी के माध्यम के लिए उच्चतम प्राप्त किया जा सकता है। इसके लिए हिंदी के विविध रूपों इंटरनेट पर भी विदेश देना होगा। जब विश्व में हिंदी भाषा का प्रचार-प्रसार करने के लिए नेतृत्व देने वाले कैबल निर्माताओं के लिए अनेक विकासी विकास से विनिमय किए जाने लगा है। हिंदी का प्रचार एवं प्रसार में हिंदी के प्रचार-प्रसार के साथ आगे बढ़ रहा है। भारत में ही नहीं विदेशों में भी हिंदी के प्रचार-प्रसार लोगों के लिए विश्व में हिंदी का प्रचार-प्रसार करने के लिए नेतृत्व देने वाले कैबल निर्माताओं के लिए अनेक विकासी विकास से विनिमय किए जाने लगा है। हिंदी का प्रचार-प्रसार हिंदी के लिए नेतृत्व देने वाले कैबल निर्माताओं के लिए अनेक विकासी विकास से विनिमय किए जाने लगा है। हिंदी का प्रचार-प्रसार हिंदी के लिए नेतृत्व देने वाले कैबल निर्माताओं के लिए अनेक विकासी विकास से विनिमय किए जाने लगा है।
तरह बढ़ रही है। जनसंचार की प्रक्रिया को हिंदी भाषा अर्थपूर्ण बना रही है तथा हिंदी भाषा के प्रचार प्रसार में जनसंचार माध्यम अपना अमूल्य योगदान दे रहे हैं। इसलिए कहना योग्य होगा कि आज का युग हिंदी का है और हिंदी भाषा हमारा गोरख है।

संदर्भ :-

2. डॉ. महेंद्रसिंह राणा (2005) प्रयोजनमूलक हिंदी के आधुनिक आयाम, पृष्ठ- 237.
भूमंडलीकरण के दौर में मोबाइल के कारण हुए वर्तमानकालीन बदल

('मुनी मोबाइल' उपन्यास के संदर्भ में)

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जीवन का एक अहम हिस्सा बन चुका है। आज हर व्यक्ति के पास चाहे वह गरीब हो या अमीर मोबाइल फोन है। आज का युग स्मार्टफोन का युग है इस फोन को आदत बेंद्र व्यक्तियों से लेकर सुश्रुशित युवा वर्ग में भी नजर आती है।

मोबाइल फोन के अविकार ने पूरी तुलना को एक नया रूप दिया है और मुन्नी को एक दूसरे के साथ जोड़ने जोड़ने रखने का कारण इस डिवाइस ने किया है जिसके कारण यह सब का प्रभावदाता उपकरण बन चुका है। दुनिया का फहला मोबाइल वर्ष 1973 में मोटोरोला कंपनी ने बाजार में उर्दुक नवी फोन के कॉल न्यूमार्क से न्यूज़ पी की थी। इसका नाम डायना टेक 8000x था इसका वजन करोड़न 2 किलोग्राम था इसकी बेटीरी चार्ज होने में करीब 10 घंटे का समय लगाता था।

आज स्मार्टफोन का विकास बड़ी तरह से हो रहा है। स्मार्टफोन के बारे में इस चयन करने के लिए 30 मिनट कार्य करने दे तो भी मोबाइल फोन की कमान 1,50,000 के दौरे के टेलीफोन के फोन यह दूसरे के क्षेत्र में एक अद्भुत कारण था। आज 21वीं सदी में मोबाइल फोन ने अपनी सीमाओं को भी पार करने के लिए विदेश सार्थ फोन को एक बुध में बांध दिया है। मोबाइल के फाइव एवं नुकसान के साथ विचार लीवर ने अपने मत प्रस्तुत किए हैं और हिंदी साहित्य में भी लेखन हो रहा है। मोबाइल के अद्वितीय प्रयोग के कारण मुम्बाई युवा भीड़ इसकी चपेट में आ रही है और इसी विषय पर भाषा करने वाला प्रदीप सोरेश द्वारा लिखा उपन्यास है — 'मुनी मोबाइल' जो बाणी प्रकाशन से 2009 में प्रकाशित हो गया है।

मुनी मोबाइल भूतिकाव्यी दुनिया का प्रतिनिधित्व करता है। इस भूतिक जगत नहीं समझा को किस तरह चयन में लिखा है। इसका जीवन उपरांत इस उपन्यास के प्रमुख व्यक्ति पांडुआय उसके मुनी मोबाइल। भूमंडलीकरण के कारण 'वृक्षयुग कुंद्रकस्म' की संकल्पना सकारात्मक हो रहा है। उसी समय ने अपने मत प्रस्तुत किए हैं और हिंदी साहित्य में भी लेखन हो रहा है। मोबाइल के प्रेम युग के उपर विचार लीवर ने अपने मत प्रस्तुत किए हैं और हिंदी साहित्य में भी लेखन हो रहा है। मोबाइल के अद्वितीय प्रयोग के कारण हमारी युवा भीड़ इसकी चपेट में आ रही है और इसी विषय पर भाषा करने वाला प्रदीप सोरेश द्वारा लिखा उपन्यास है — 'मुनी मोबाइल' जो बाणी प्रकाशन से 2009 में प्रकाशित हो गया है।

उपन्यास के प्रमुख व्यक्ति अंयाण भारती जो पकड़ा है। वह अपनी पकड़ की हृदि से पुनर्मुखों के दंगों से हमें परिशिष्ट रहा है। राजनीतिक चरित्र के अपनी लेखनी से सच्चाई के साथ पूरे तथ्यों के साथ पार्श्वों तक पहुँचाते हैं। सच्चे पकड़क के रूप में उनका चरित्र उम्मेद आता है।

इस उपन्यास का दूसरा अंश 'पासरा महत्वपूर्ण पासरा' है — 'बियू दादा उसके अधिकार कथानक मुनी मोबाइल के जीवन से जुड़ा हुआ है। इस उपन्यास में मुनी के जीवन का चरित्रक व्यक्ति और भूमिका (मोबाइल, घर, गड्ढा,पैसे और अच्छा नाम) आदि विवाह सबसे अन्तिक हुआ है।अपने जीवन में वह अद्वितीय सुधारितक एवं पैसों का आयोजन करने को उसकी गति अद्वितीय तीव्र दिखाई देती है।

मुनी का गांव साहिबाबाद है। उसकी पत्ती नंदलाल एक शाही बाणा नामक वाणी फैक्ट्री में काम करता है। साहिबाबाद दिल्ली के पास ही था मुनी का गांव छोड़कर जब साहिबाबाद आई तब 17 साल की थी एक बच्ची उसके साथ थी। उसकी जीवन एक कमरे में बंद था हर साल एक बच्चे को जन्म देती थी उसके 6 बच्चे हुए बच्चों की पालना और पत्ते के लिए खाना बनाना ही उसकी ही जिदी थी, लेकिन क्रोशिया चलाना और स्वस्थ बनाना उसे आता था। उसी काम से उसके घर से बाहर निकलते वाली
खिड़की को खोल दिया। फिल्मी बार जब उसने स्वेटर बुनकर ₹50 कमाए तो उसके सामने की दूनिया और भी बड़ी हो गई। उसे लगा कि अब टीवी से लेकर मूवीय रूप से कला सब चौंजों उसे मिल जाएगी। इसी बीच उसकी मुलाकात गांव के एक फिल्मी डॉक्टर की बांसू की बांसू की बांसू की बांसू की काल्पनिक बांसू की बांसू की बांसू की बांसू की बांसू की बांसू की बांसू की बांसू की काल्पनिक करते हुए।

उस समय डॉक्टर के निंदेने के लिए लगाया दिखाया। डॉक्टर ने उसने मुलाकात से मोहल्ले दिखाया, सिनेमा दिखाया के लिए लकर जाने लगी। उसी समय 2023 रिकार मुन्नी के जीवन की वित्तीय में धार्मिक रुप से जिंदगी का सप्ताहांत दिखाया। डॉक्टर के अवध तक एस, उसके कमाए ₹500 और कमाओं को मिलाने लागा। मुन्नी की तरक्की देख डॉक्टर ने उसी तरह जलने लगा और वे उसकी अपराधी हो गई और वह उससे दूर हो गयी। मुन्नी की बांसू की बांसू की काल्पनिक चीजें को पाने के लिए हमेशा संयमर्य पिकाफ दिखाया। उसमें कुछ हद तक तो यथाभाषण दिखाया। लेकिन वह भीतरीता से प्रेषित हैं। मुन्नी के चारे के बाबे में अपराधी कुमारी देती हैं।

आनंद भारती की तबवाला जो गुजरात से हिंदी में हो गया तो उसके घर में पर का काम करने आने लगी। दिवाली का त्वरित जब आ गया तब आनंद भारती से उसने मोबाइल मांग कर देती है। लेकिन आनंद भारती उसे चुप कर देते हैं और उसे दिवाली के लिए मिटाया, कपड़े वस्त्रों दे देते हैं। लेकिन मुन्नी उससे नहीं लेती। महिला गुरु जाता है, लेकिन मुन्नी वह समान को हाथ नहीं लगाती तो मुन्नी का मौल आनंद भारती को परिशंप करने लगता है। उसकी बकबाकी से हमेशा पर गुजरात रहता है। लेकिन वह चुप हो गई थी। आनंद भारती उसके समान हार जाते हैं और उसे एक मोबाइल खिसी कर देते हैं। मोबाइल देखकर उसने चमक आ गई मम्मी का मोबाइल आया और आनंद भारती के घर चिट्ठियों जैसे कलर शुरु हो गया। आनंद भारती का नांद उसमें चिंता तनाव तेज कर दिखा क्योंकि उसे पहली लिखना आता नहीं था। एक दिन वह खाना बनाए थे और फोन आ गया और मुन्नी बांट करने लगी तो रोटी जल गयी। आनंद भारती को गुस्सा आया और उहाँने कहा कि "यह मुन्नी मोबाइल"। और उसी दिन से यह साहित्य देने वाले मुन्नी मोबाइल बन गयी। मुन्नी को यह अच्छी-बुनियाद है।

मुन्नी ने जब हीरा सिंह को सामने वाली जगी बना बना दिया तो फिर से उससे खुदनुस पालने लागा। इसी के चलते एक दिन मुन्नी की बच्चे को पीना, मुन्नी ने जैसे-जैसे उनकी कार्य का आवश्यक धारण कर लिया पुरुष भी अब गयी। यहमला उसने हारी। दिवाली का त्वरित जब आ गया तब आनंद भारती से उसने मोबाइल फोन की मांग कर देती हैं। लेकिन आनंद भारती उससे नहीं लेती। महिला गुरु जाता है, लेकिन मुन्नी वह समान को हाथ नहीं लगाती तो मुन्नी का मौल आनंद भारती को परिशंप करने लगता है। उसकी बकबाकी से हमेशा पर गुजरात रहता है। लेकिन वह चुप हो गई थी। आनंद भारती उसके समान हार जाते हैं और उसे एक मोबाइल खिसी कर देते हैं। मोबाइल देखकर उसने चमक आ गई मम्मी का मोबाइल आया और आनंद भारती के घर चिट्ठियों जैसे कलर शुरु हो गया। आनंद भारती का नांद उसमें चिंता तनाव तेज कर दिखा क्योंकि उसे पहली लिखना आता नहीं था। एक दिन वह खाना बनाए थे और फोन आ गया और मुन्नी बांट करने लगी तो रोटी जल गयी। आनंद भारती को गुस्सा आया और उहाँने कहा कि "यह मुन्नी मोबाइल"। और उसी दिन से यह साहित्य देने वाले मुन्नी मोबाइल बन गयी। मुन्नी को यह अच्छी-बुनियाद है।

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सप्लाई का काम........ मुन्नी के संघर्ष से लेकर सफल होने तक की इंद्रजन्तु यात्रा बदरंगे हो गई थी । और इसी रैकेट में पैर जमाने के कारण सेक्स रैकेट से जुड़े अन्य लोग सोनु पंजाबी, अंकित धार, रितिका ठाकुर, बाबा ठाकुर आदि द्वारा उसकी सुपारी लेकर उसका खून किया जाता है और पैसे कमाने का लालच हो उसकी जान ले लेता है।

मुन्नी की मृत्यु के पश्चात उसकी बेटी रेखा ने मुन्नी की लड़कियों को संभाल लिया मुन्नी अपनी बेटी को एक बड़ा अफसर बनाना चाहती थी लेकिन अब मुन्नी को नजर रखा ने ले ली है। यह अब रैकेट की कस्तूर और लड़कियों का लेख-जोखा अपने लेपटॉप में रखती है। पक्षी कस्तूर को एसएमएस कर देती है। लड़कियों की तस्त्िीर को उसने अपने ब्लॉग पर डाल दिया है। रेखा आधुनिक उपकरणों का प्रयोग कर अपना धंधा चला रही है। कॉलगांल वर्ल्ड की नए अवतार के रूप में मुन्नी की बेटी रेखा ठाकुर बन गई है।

निष्कर्ष के रूप में हम कह सकते हैं कि आधुनिक दौर भूमंडलीकरण के जाल का है। बहुत ही आधुनिक उपकरणों ने लोगों को अपने और आकर्षित कर लिया है। इसी का शिकार हो गयी बिन्दु यादव जो मुन्नी को मोबाइल में मोबाइल के आ जाने से उसकी प्रभावित होनें भावना तेजी से बढ़ती जाती है। पैसा कमाना है उसका एकमात्र लक्ष्य बन जाता है। पैसे कमाने के लिए वह अपने माहौल को भी बदल देती है और अपनी मृत्यु को आमंत्रण देती हुई जीत जाती है। प्रस्तुत उपन्यास में प्रदीप सौरभ जी ने मुन्नी के माथे में पाठकों के सामने भूमंडलीकरण के भूमतक को दुनिया का सच्चा पाठकों के सामने प्रस्तुत किया है।

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हिंदी भाषा के प्रचार और प्रसार में सोशल मीडिया का योगदान

श्री. अजय महेंद्र कांबझे  
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सारांश -
आज 21 वीं सदी के युग में वैज्ञानिक करण के कारण जनसारोगी और सोशल मीडिया का दर्जा बहुत व्यापक होता हुआ विद्यार्थी देता है। इंटरनेट के साथ-साथ सोशल मीडिया में और भी ऐसे कई ऐसे हैं जो हिंदी भाषा के प्रचार और प्रसार में उनका योगदान दे रहे हैं। वर्तमान समय सोशल मीडिया का चल रहा है और हमें सोशल मीडिया का उपयोग लेना है तो हमें भाषा आत्मकर्मी भी होना चाहिए। इस समय सोशल मीडिया पर हिंदी एक ऐसी भाषा बन गई है जो जनमानस की भाषा है। संपर्क भाषा के रूप में इसकी भाषा को अपने पहुंच में होते हैं जो भाषा भाषा का ही नाम आता है। आज आज सोशल मीडिया की सहायता से हिंदी भाषा भारत के बाहर भी फैली हुई हमें नजर आती है, और इन दृष्टियों के हर कोने तक पहुंचने का काम सोशल मीडिया कर रहा है। (लक्ष्य, 2013)”

बीजगणित- हिंदी भाषा, सोशल मीडिया, इंटरनेट, टेलीबिजन, कंप्यूटर।
भारत एक ऐसा विशालकाय देश है जिसमें सो से अधिक भाषाएँ बोली जाती है। लेकिन इस भाषाओं में हिंदी एक ऐसी भाषा है जो पूरे भारत में बड़े स्तर पर बोली और प्रयुक्त की जानेवाली भाषा है। सर्व भारत में ही नहीं तो पूरे विश्व में हिंदी भाषा अधिकतम रूप में प्रयुक्ती की जाने वाली भाषा बन रही है। इसे पूरे विश्व में पहुंचाने का कार्य आज सोशल मीडिया कर रहा है। हिंदी भाषा आज के वर्तमान समय में कम्प्यूटर से कम्युनिकेशन तक देश को जोड़ने वाली भाषा बन गई हैं। हमें भारत का ध्यान रखना है तो संपर्क भाषा के रूप में हिंदी का ही प्रयोग बड़े पैमाने पर होते हैं हमें विद्यार्थी देता है।

इंटरनेट को हिंदी में 'अंतरजाल' कहते हैं। इंटरनेट की सहायता से हम आज विश्व के किसी भी कोने से जुड़ सकते हैं। इसीलिए इसे विज्ञानकारी नेटवर्क भी कहा जाता है। आज इंटरनेट पर 15 से ज्यादा सर्व इंजन उपलब्ध है। इनमें हिंदी वेबसाइट का प्रयोग करने वालों की ताजा बढ़ती ही चली जा रही है। इंटरनेट की सहायता से हर कोई आज व्यंग्य लिख रहे हैं। आज हमें हिंदी भाषा में व्यंग्य प्रकार के लिए अधिक उपयोग के लिए उपलब्ध है। इंटरनेट की सहायता से हर संभावित जीवनकालीन जीवन में समाप्तित रूप में इंटरनेट का जन्म जाना जाता है। वर्तमान समय में इंटरनेट में समाप्त दुनिया का आज एक छोटे से गांव में परिवर्तित कर दिया है। इंटरनेट को हिंदी भाषा में पढ़ने वालों पाठक वर्ग अब विद्यार्थी में भी तेजी से बढ़ता हुआ विद्यार्थी देता है।

आज विविध बने भारत के प्रचार के प्रारंभ में इंटरनेट के रूप बढ़ा चुके है कि इस संदर्भ में निर्भरता आत्मकर्मी जी कहती है कि "फेसबुक बाटरसाइड और वीडियो एयर विद्यार्थी द्वारा मानव के दृष्टिकोण से भी बल्ले होती है, जब कि हिंदी में कोई पोस्ट लिखता है तो वे ट्रेनर्स का सहायता से उसका मतलब पता करते हैं, कई बार उसे पहुंचकर उस पोस्ट पर हिंदी में टिप्पणी लिखते हैं। (अन्याय, 2018)” यह हमारे लिए गवर्त का बात है कि विदेश में भी लोग हमारी भाषा के बारे में जानना चाहते हैं। इससे यह पता चलता है कि दुनिया भर में हिंदी भाषा के प्रचार और प्रसार में इंटरनेट का महत्वपूर्ण योगदान रहा है।

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Mobile, film industry, Facebook, Instagram, Twitter, WhatsApp and Hindi language being popular worldwide is discussed.

Sundarb:

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2. Institutional Repository is a digital Collection resulting from capturing, preserving and disseminating the intellectual output of a single university community. (Naik. P.G., Naik G.R.)

In Institutional Repository is an archive for Collecting, Preserving and disseminating digital copies of the intellectual output of an institution, particularly a research institution. (Wikipedia)
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कमला इन्स्टिट्यूशनल रिपोर्टरी —

कमला इन्स्टिट्यूशनल रिपोर्टरी हिं डी-एसपी अंशावली चा वापर करून तयार करण्यात आली आहे. इन्स्टिट्यूशनल रिपोर्टरी ऑनलाइन किवा ऑफलाइन दोन्ही स्वरूपात वापरली जेणेकरून, कमला इन्स्टिट्यूशनल रिपोर्टरी ही ऑनलाइन स्वरूपात वापरली जाते वाचकांना एक वैविध्यसंवर्धक वातावरण दिले. विध्यार्थी व प्राध्यापन कार्यालयांनी इन्स्टिट्यूशनल रिपोर्टरी मुटून वाचन साहित्य 24/7 कोलेक्शन उपलब्ध करते येतात. कमला इन्स्टिट्यूशनल रिपोर्टरी म्हणजेच संस्थानाच्या कला, संस्कृती, प्राध्यापनातील उपयोगास तयार करताता. इन्स्टिट्यूशनल रिपोर्टरी तयार करताना 2 मेन Communities म्यात आल्या आहेत.

1) Krantiveer Rangrao Dadat Patil Library

क्रांशतवीर रंगरावदादा पाटील ग्रंथालय या Community मध्ये वाचकांना Sub-Community पुढीलहात येतो. त्यामध्ये:

- College Photo Gallery - http://192.168.1.254:8080/xmlui/handle/1/3
- Previous Question Papers - http://192.168.1.254:8080/xmlui/handle/1/259
**Special Issue Theme:** Future Academic Libraries: Designing Technological Innovation and Best Practices in Academic Libraries (Special Issue No.117)  
Feb. 2023

- **Faculty Research Publication** - [http://192.168.1.254:8080/xmlui/handle/1/1205](http://192.168.1.254:8080/xmlui/handle/1/1205)

2) **Tararani Vidyapeeth Documentary Center**

**Kamala Institutional Repository**

**Browse by:**
- News Paper Clipping
- Photo Gallery

**Search by:**
- Sub-communities in this community:
  - News Paper Clipping (1989-2023) (112)
  - Photo Gallery (27)

**Syllabus**

- News Paper Clipping
- Photo Gallery

**Compulsory Subject Books**

- News Paper Clipping
- Photo Gallery

**Faculty Research Publication**

- News Paper Clipping
- Photo Gallery

**Kamala Annual Magazine**

- News Paper Clipping
- Photo Gallery

**Kamala College Publications**

- News Paper Clipping
- Photo Gallery

**M.Phil / Ph.D Theses**

- News Paper Clipping
- Photo Gallery

**Major / Minor Research Project**

- News Paper Clipping
- Photo Gallery

**NAAC / AQR Report**

- News Paper Clipping
- Photo Gallery

या सर्व Sub Communities मधील महत्त्वाची व विद्याध्यायी उपयुक्त असनारी Sub Community म्हणजेच Previous Question Papers शिक्षाधीन विद्याध्यायींच्या ज्ञान वाढवण्यासाठी प्रमुख प्रयोग दिविजिटल स्वरूपात जतन करण्यात आले. इस्टेट्स्युशनल रिसर्चिंग आणि अनलाइन असंस्थासहून प्रस्तुतीकरण किताब प्रस्तुतीकरणाचा सोपीरेक्टित्या प्राप्त करार यासाठी QR Code (Quick Response Code) तयार करण्यात आले. असंस्थासहून प्रस्तुतीकरणाच्या पाहल्यासाठी http://59.97.238.102:8080/xmlui/handle/1/45 ह्या URL वापरता येईल. या सर्व विद्याध्यायी प्रस्तुतीकरण कोणत्या ह्याचा प्रश्नपश्चिनेच प्रश्नपश्चिनेच शिक्षाध्यायी चेहरे व आहार बदलतो.
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Special Issue Theme : Future Academic Libraries

Designing Technological Innovation and Best Practices in Academic Libraries (Special Issue No.117)-Feb. 2023

- Tararani Vidypeeth Publication —
- हा गांध वंदनाचा
- भावसुपाध
- क्रितीचे रंग
- महाराणी ताराराणी
- कमला सुपूणाची महोस्तवी अंक
- कमला तिरस्तताल्ल क्रम
- कमला अमृत महोस्तवी अंक

कमला इन्स्टेट्यूशनल रिपोर्टरींची महत्व — कमला महाशिवद्यालयाची कमला इन्स्टेट्यूशनल रिपोर्टरी हि महाशिवद्यालय सोबतच संस्थेतैनेन्हानुसार अपलोही वृद्धी संपदेच जतन करून देवायास मदत करते. हमी भी माहिती हवी ते ते ते पाहता येते. विद्यार्थी, प्राध्यापक व इतर वाचक यांचे सर्वांना इन्स्टेट्यूशनल रिपोर्टरींचा उपयोग होतो.

निष्कर्ष —
आपण इन्स्टेट्यूशनल रिपोर्टरींच्या कार्याचे पाठ्य कमला इन्स्टेट्यूशनल रिपोर्टरी चा आहाता घेतला. ही आपण इतर वाचकांसोबतच संस्थेते दुरुस्त करून करून भरून ठेवले. करून ठेवले असून पूर्ण तर तसेच काळी मुळे या आपण इन्स्टेट्यूशनल माहिती जातील आपल्या आंगणाच्या माहितीत आणि साधनाच्या प्रमाणीकरणाच्या माहितीत. काळी मुळे आपण इन्स्टेट्यूशनल रिपोर्टरींच्या पाठ्यांच्या वाचणार्थ वाचकांच्या माहितीत ते कृतीतून प्रमाणे करून प्रमाणे करून प्रमाणे वाचकांसोबत दुरुस्त करून करून ठेवले. काळी मुळे आपण इन्स्टेट्यूशनल रिपोर्टरींच्या माहितीत आणि साधनाच्या माहितीत ते कृतीतून प्रमाणे करून प्रमाणे वाचकांसोबत दुरुस्त करून करून ठेवले. काळी मुळे आपण इन्स्टेट्यूशनल रिपोर्टरींच्या माहितीत आणि साधनाच्या माहितीत ते कृतीतून प्रमाणे करून प्रमाणे वाचकांसोबत दुरुस्त करून करून ठेवले. काळी मुळे आपण इन्स्टेट्यूशनल रिपोर्टरींच्या माहितीत आणि साधनाच्या माहितीत ते कृतीतून प्रमाणे करून प्रमाणे वाचकांसोबत दुरुस्त करून करून ठेवले...
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संदर्भ —

1) मुलाख्त — उर्मिला कदम, ग्रंथपाल, कमला कॉलेज, कोल्हापुर।
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A frontal view of a document page with text in Marathi. The text appears to be a feature or article page with titles, headings, and possibly abstracts or summaries in the context of academic libraries. The page includes references and possibly highlights on certain sections.
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1. विज्ञान विद्यथापन
2. ग्रंथ खरेदी विद्यथापन
3. मनुष्यवाढणे विद्यथापन
4. सेवा विद्यथापन

आधुनिक ग्रंथालयाचे विद्यथापन करून असाताना सांतोषीय विद्यथापनानाला फायदा होत आहे, कारण विद्यथापन असेल तर ग्रंथालयी या ही व्यक्ती प्रकारे वाचकांना सेवा पुरुषे शक्त नाहीत. ग्रंथालयात ग्रंथ खरेदी, मासिक खरेदी व वर्तंते प्राप्ती खरेदीसाठी विद्यथापनाची गरज भासते.

ग्रंथालयाच्या उपेरुसा कऱ्याच्या वर्ण असेल तर आधुनिकतेचा काळात योग्य प्रकारे सेवा देवू शक्त नाही. चूंकी पृष्ठभूमिमापणे ग्रंथालयात कर्मचारी वागणायचे नेमणून करणे आवश्यक आहे. महाविद्यालयीन ग्रंथालयात ग्रंथावली समितीने ठरवून दिल्यामापणे ग्रंथ खरेदी विद्यथापन करणे आवश्यक आहे. ग्रंथालयात कामकांडाचा अभावस्करण करावे असताना कसेही आवश्यकता आहे, याचे याद म्हणजेच आधुनिक ग्रंथालयांनी विविध अभावस्करणाचा विविध महत्वाच्या घेऊन व त्याने ग्रंथविविध समितीच्या मान्यता घेऊन ग्रंथखरेदी केली पाहले. ग्रंथालयात ग्रंथावली परिपूर्णता ज्ञानांतर सेवा विद्यथापन फायद्याचे आहे. ग्रंथालयात देत असाताना विद्यथापन, नागरिक व संस्थानाचा योग्य उपलब्ध करते. आवश्यकता आहे, मासिक, सेवा, संस्थान, व ग्रंथालयाने नवनिर्माण ग्रंथाचा महत्त्व व संस्थानकाचे उपलब्ध करून देते हे ग्रंथालयात कर्मचारी-एचबा ग्रंथाचे महत्त्व करते. असे कामगार, नवनिर्माण करणे आहे. यासाठी खातील नवनिर्माण अभाव उपक्रम राखाव्याने आवश्यक आहे.

ग्रंथालयांमध्येच संस्कृतीकृत कार्यक्रमाची निमित्ताने शेंद प्रदर्शन आयोजित करत ग्रंथालयात असाताना वाचनाची साहित्यची महत्त्वपूर्णता आहे. ग्रंथालयात विविधादिक म्हणून करणे आवश्यक होणाराचा दिसले पाहले. ग्रंथालयात विद्याविविध करणे ग्रंथालयात आवश्यक असते. ग्रंथालयात विद्याविविध करणे ग्रंथालयात असवया वाचनाची साहित्याची महत्त्वपूर्णता आहे.

महाविद्यालय ग्रंथालय असते ता विद्याविविध ग्रंथालय असते यामध्ये आधुनिक विद्यथापनाची विचार करून असाताना महाविद्यालयाचा उपलब्ध असाताना मनुष्यवाढणे विविध करणे आवश्यक आहे. ग्रंथालयात आधुनिक तंत्रज्ञानकार कर्मचारी वापर करून ग्रंथालयातला सेवा देत असाताना पुरूष मनुष्यवाढणे विविध वापर वापर. ग्रंथालयात असाताना उपलब्ध सेवा, विद्याविविध ग्रंथाचे मान्यता आहे. ग्रंथालयात विविध करणे अत्यंत ग्रंथालयाच्या अवसरांचे उपक्रम आवश्यकता आहे.

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कोरोना महामारी च्या काळातील शिवाजी ग्रंथालयाचे विविध उपक्रम

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सारांश:
दोन वर्षांनी जातीपुढे कधीही येवू नये अशा प्रकारचे संकट उभे राहतो. कोरोना महामारी च्या सारखे संपूर्ण जगातील विविध व्यवहार शोकलेले. भारतातील उद्योजकांनी, शिक्षण संस्था व इतर अनेक घटकांना लॉकडॉन मध्ये परिणाम झाले. या संकटामध्ये जेथे लोक एकत्र येऊन पर्यंत असणारे तेथे जास्त सेवा म्हणून विविध उपक्रम आढळाला. शहाजी महाविद्यालयाच्या शिवाजी ग्रंथालयाने या संकटाची विविध संभाजने करून विविध उपक्रमात जास्तीत जास्त सेवा पाहून ग्रंथालयाचे काम हणारी अन्नलाई सुरू झाले. तसेच, अन्नलांत असां-या सोयी सुविधा बनावून कल्यंत्र विषयातील निर्देशनाचा आयात आला. शहाजी महाविद्यालयाच्या शिवाजी ग्रंथालयाने हे कोरोना महामारीच्या काळात विविध उपक्रम राहून, कोरोनाचे 16 वातावरण गुप्त तयार करून कर्मचारी मध्ये देखील तयारी आली. तसेच, वेबसाइट, व्हॉट्सअप ग्रुप तयार करून देखील वापर करून वापरकर्त्यांना सुविधा पाहून जास्तीत जास्त सेवा देत आला. शहाजी महाविद्यालयाच्या विविध उपक्रमांनी राहून आल्या. त्यांच्यासाठी सोयी सुविधा म्हणून ग्रंथालयाचा अद्वितीय आयात आला. त्यांना वेबसाइट, व्हॉट्सअप, मोबाईल, टेवलफोन या माध्यमातून त्यांचे सल्ला मुळे तसेच त्यांना ईमेल, व्हॉट्सअप, मोबाईल, टेवलफोन या माध्यमातून त्यांचे सल्ला मुळे.

शोध शब्द--ई-सर्वोत्तम, डाटाबेस, इलेक्ट्रॉनिक बुक्स, जनषल्स. एन-वलस्ट, झूम, गुगलमीट.

प्रस्तावना:

covid-19 च्या महामारी च्या काळातील लोकजनसाठी विविध प्रतिबंधात्मक उपाय योजनायाचे आयोजन केले गेले. भारत सरकार, महाराष्ट्र सरकार, विद्यापीठ सरकार तसेच अनेक पारंपरिक संस्थांनी विविध उपक्रमांना साध्य केले. कोरोनाचे प्रभाव विविध तंत्रज्ञानाच्या माध्यमातून हे विविध प्रकारचे आयोजन केले. कोरोनाच्या प्रभावाची विविध विषयांत उपक्रमाचे आयोजन केले. कोरोना महामारीच्या काळात शिवाजी ग्रंथालयाचे विविध उपक्रम अद्वितीय आयात आला. त्यांच्यासाठी सोयी सुविधा म्हणून ग्रंथालयाचा अद्वितीय आयात आला. त्यांना वेबसाइट, व्हॉट्सअप, मोबाईल, टेवलफोन या माध्यमातून त्यांचे सल्ला मुळे तसेच त्यांना ईमेल, व्हॉट्सअप, मोबाईल, टेवलफोन या माध्यमातून त्यांचे सल्ला मुळे.

संशोधन विधा न: कोरोना महामारी च्या काळातील शिवाजी ग्रंथालयाचे विविध उपक्रम.
संशोधनाची महत्त्वपूर्णता: सदर महाविद्यालयाने कोरोना महामारीच्या काळात शिवाजी ग्रंथालयाचे विविध उपक्रमांनी आयोजित केले. त्यांच्यासाठी सोयी सुविधा म्हणून ग्रंथालयाचा अद्वितीय आयात आला. त्यांना वेबसाइट, व्हॉट्सअप, मोबाईल, टेवलफोन या माध्यमातून त्यांचे सल्ला मुळे तसेच त्यांना ईमेल, व्हॉट्सअप, मोबाईल, टेवलफोन या माध्यमातून त्यांचे सल्ला मुळे.

संशोधनाची उद्देश्ये:
1. कोरोना महामारी च्या काळातील शिवाजी ग्रंथालयाचे दिलेल्या ग्रंथालयीन सेवांचे महत्त्वी पणे.
2. तसेच, कोरोना महामारीच्या काळात शिवाजी ग्रंथालयाचे विविध उपक्रम अद्वितीय आयात आला. त्यांना वेबसाइट, व्हॉट्सअप, मोबाईल, टेवलफोन या माध्यमातून त्यांचे सल्ला मुळे तसेच त्यांना ईमेल, व्हॉट्सअप, मोबाईल, टेवलफोन या माध्यमातून त्यांचे सल्ला मुळे.

माहिती: सदर संशोधन हे श्री शहाजी छत्रपती महाविद्यालय कोल्हापूर मधील.
शिवाजी ग्रंथालयाने रास्त्यावरून चाललेल्या विविध सेवा आणि उपक्रमापूर्ती मर्यादित असलेल्या विकल्पातील उपक्रमासाठी सदर म्हणजेच अध्यापकांनी ठरून घेतलेल्या असलेले कायद्यांमध्ये निवडणारे निरसंहाराची स्थिती करून ध्यानदर्शनीला आला. विद्यार्थ्यांच्या विकल्पातील अभियुक्त असलेल्या प्रश्नमंजुरींच्या स्पष्टपणे स्पष्टतया वाचकांने दिली जाईल आहेत. वाचकांनी या विषयातील उपक्रमांची अहवाल यांच्या प्रश्नावरील ध्यानात आलेली असलेली विद्यार्थ्यांची अद्वर्यूणाची उपायात्मकता सदरमैत्रीवा राहून विविध संस्थानांवर येणाऱ्या अडचणींचा उहापोह सदर संशोधनात घेण्यात आलेला आहे.

शिवाजी ग्रंथालयावरील एक हंदभाषेत:
श्री शाहू महाराजांच्या गणतंत्र्याच्या राजवटीत शिवाजी ग्रंथालयाची शिक्षण अभ्यासाचा प्रारंभ 82129 च्या संशोधनपद्धतीत असलेला आहे. 64 हजार अंदाजीपर्यंत निरसंहाराची विविध विवरणे, शिक्षणाची द्विदिशेची संदर्भातील विविध सारख्यांची प्रश्नमंजुरी वेगवेगळ्या वाचकांसमोर; तंत्रज्ञानाचा अभ्यास व विकल्पातील साहित्य, कला, वाणिज्य, विज्ञान, राजनीतिक, शिक्षण, वाणिज्यातील वेगवेगळ्या विषयांचा निरसंहार प्रकट होत. विद्यार्थ्यांच्या विकल्पातील विविध विकल्पातील संशोधनांत आलेल्या अद्वर्यूणाची उपायात्मकता सदरमैत्रीवा राहून विविध संस्थानांवर येणाऱ्या अडचणींचा उहापोह सदर संशोधनात घेण्यात आलेला आहे. अद्वर्यूणाची शिक्षणाची अटकावृत्ती आतील तर त्यांच्यावरील विकल्पातील उपक्रमातील उपचारांची आधारित अभियुक्त असलेली विद्यार्थ्यांची अद्वर्यूणाची उपायात्मकता सदरमैत्रीवा राहून विविध संस्थानांवर येणाऱ्या अडचणींचा उहापोह सदर संशोधनात घेण्यात आलेला आहे.

कोरोनाव्यवहाराचा प्रतिबंधामित्ती उपचार योजना:
कोरोनाचा महामारीच्या विकल्पातील शहरांत स्थापित केलेल्या ग्रंथालयांमध्ये शिवाजी ग्रंथालयाच्या अवधक संस्थानांतरीला अध्यापकांनी विविध विकल्पातील उपक्रमात विकल्पातील उपचार संस्थानांच्या अवडाच्यांच्यावरील संपूर्ण अध्यावकारांची सप्ताहीन विकल्प संस्थानांतरीला अध्यापकांच्या प्रतिबंधामित्ती उपक्रमातील उपचार वापरासाठी लागू होला. विद्यार्थ्यांच्या विकल्पातील उपक्रमातील उपचार संस्थानांतरीला अध्यापकांनी विविध विकल्पातील उपक्रमातील उपचार संस्थानांतरीला अध्यापकांच्या प्रतिबंधामित्ती उपक्रमातील उपचार वापरासाठी लागू होला. विद्यार्थ्यांच्या वापरासाठी लागू होला. विद्यार्थ्यांच्या वापरासाठी लागू होला.
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Peer Reviewed Journal www.aiirjournal.com

Special Issue Theme : Future Academic Libraries:
Designing Technological Innovation and Best Practices in Academic Libraries (Special Issue No.117)
Feb. 2023

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On-Line magazine by the app to students. This includes examination and running events. Librarians and teachers can use this app to provide students with timely knowledge. Resources are also uploaded on the website of the university, such as catalogs, and books are available online. In this way, various instructors have created YouTube channels, and the library is also being aired through this channel.EBSCO database is being used by the students, and they can access one lakh and one thousand books. The library staff has provided book sharing through the library software from January 2021 onwards. Teachers are also attending online. In the period of the coronavirus, the librarians have used different modes to complete this work. On this occasion, Dr. Bhagwan Mahavir was also present. The library has also benefited from the teachers and staff who have worked in the library.

On this occasion, Dr. Bhagwan Mahavir was also present. The library has also benefited from the teachers and staff who have worked in the library.
Online service delivery in diverse situations

Library staff and users need to be trained in technological innovation in libraries. The library can organise training seminars and workshops for library staff and users to enhance their technological knowledge. The library also needs to have backup systems such as UPS and generators to ensure continuous power supply in the library to meet the demands of various staff and students.

Abstract

1. Shri Shahajee Chatrapati Mahavidyalaya Kolhapur, Assistant Professor, Saurashtra University, Bhavnagar, 2021. Guest Editor Dr. Ar. N. Sharanidwadarn
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Sometimes, a man enjoys the unaccustomed beauty of a panorama of the entire world. The transformation from one state to another is so subtle that it is difficult to notice it. The same holds true for the way technology is transforming libraries. The transformation is not just in the physical form but also in the way information is accessed and used. Libraries have always been the fountainhead of knowledge, and with the advent of technology, they have evolved to become more accessible and user-friendly.

The transformation of libraries is not just about the physical changes that have taken place over the years. It is also about the way technology has changed the way information is accessed and used. The transformation is not just in the physical form but also in the way information is accessed and used. Libraries have always been the fountainhead of knowledge, and with the advent of technology, they have evolved to become more accessible and user-friendly.

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बदलत्या काळानुसार प्रंग्रहालये चालकृत्य आणि वाचन चालकृत्याची देखील आपले स्वरूप बदललेले दिसून येत आहेत. त्यामुळे ई-बुक/ई रियॉर्डगार्डर्सचा नवसंकल्पना सत्यात उत्तरत्या आहेत. संगणक वापरात तज्ज्ञ ज्ञानेली नवप्राप्ती या ग्रंथ व प्रंग्रहालयांच्या नय्या स्वरूपाचा सहजतेने स्वीकारात दिसत आहेत.

कमी चेंडूत, कमी जाहीर, अधिक पुस्तके, मजबूत वाचण्याच्या सोय झाली. प्रंग्रहालयांच्या जागेंचे येईल आहे. पुस्तकांची देखभाल बंद झाली, सर्व गोष्टी संगणकाच्या एका लिकविकर होऊ लागल्या त्यामुळे तरगतीमध्ये वापरात वापरणारा अनेक आपत्ती लढते. गुरुरीड्स्य, कार्मिकतांशी, शेलफ, स्क्राब्ल, पोशेंट, औफर ड्राइड, स्टीलरिब्ल, कोटो, आर्डरन, मूल रोड धारानंतरी अंतर वाचक वाग्तित विशेष लोकगिरी ठरत आहेत. वाचन विस्वासी होणे समजता निर्देशाने स्वायत्तसंघविकार तयार. पण यांचे प्रंग्रहालयाच्या भौतिकत्वाच्या उपयोगितेने रोचकता वेळाने वेळाने. अशी शंकालेखीत उपस्थित होत होते. अशी शंका जरी रासत अलगी तरी ग्रंथालयांच्या महत्त्व कमी होऊ शकत नाही. शंकाची परिसरे असणारी ही प्रांग्रहावे अशा अनेक स्थितीतरंगांची सामरी गेलेली आणणास दिसून येतात.

प्रंग्रहालयाचे सभासद होण्यास तयार, प्रंग्रहालयांच्या ग्रंथ वेळच्या हातात घातक, समाधान फी मरण, प्रेम देखे देख हातच्या इत्यादी गोष्टीमध्ये जो जीवनसंगणना आहे. तो जीवनसंगणना या इलेक्ट्रॉनिक माध्यमाच्या नसणार हे निर्दिष्ट करे आहे. व्यक्ती अर्थात ग्रंथावेंचे हे नवे रूप पारंपरिक प्रंग्रहालयांना कसे उपकारक ठरते याचा विचार होणे आवश्यक आहे. प्रंग्रहालयांनी आपल्या पारंपरिक पद्धतीतील यांना नवधारा येउन देखील आहेत. प्रत्येक प्रकारच्या आकारात वाचण्याची आशीर्वादी राजकीय इमच्या शक्तीप्रवाह असणे आवश्यक आहे.

निष्कर्ष

1. प्रंग्रहाचे ही प्रत्येक देशाच्या संस्कृतीयांचा अनमोल ठेवा आहेत.
2. व्यावहार्य सोहांसोहांत छायांसोहांत ग्रंथालयांनी महत्त्वाच्या भूमिका पार पाडताने दिसते.
3. भारतीय अनेक प्रंग्रहालयांनी शंकाची परिसर वापरलेली दिसते.
4. वाचक जागृतीसोहां ग्रंथालयांनी आवश्यक त्यांचांना पर्याप्त अनुकूलन अनुकूलीतील असा आहे.
5. प्रंग्रहालय चालकृती अधिक प्रभावी होणार होणारी राजकीय इमच्या शक्तीप्रवाह असणे आवश्यक आहे.
6. आधुनिक तंत्रज्ञानाचे आवश्यक प्रंग्रहालयांना नाकारात घेता येऊ नाही.
7. आधुनिक तंत्रज्ञानावर ग्रंथालयांनी सकारात्मक दृष्टिकोन वाचणे आवश्यक आहे.

संदर्भ प्रमाण

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2. 'वाचन'- लेखक डॉ. लवेड सुनीलकुमार, प्रकाशक- भारती प्रकाशन- २०१९.
3. बुकशेल्ट- अभिलाष खंडेकर, साहित्य प्रकाशन- २०१४.
या पशहले सुरुवात महाश्रातील लायब्ररी भेट इरतहास प्रकारांची अभ्यासपूणव ग्रंथालय बंगालमधील संकल्पना कामी. याची आहे करण्यात राहू नाही. एका वर्षादर्शीला आपल्याचे महोदय म्हणजेच स्वतःच्या उपलब्धता त्यापाठोपाठ हे आहे. एका वर्षादर्शीला आपल्याचे महोदय म्हणजेच स्वतःच्या उपलब्धता त्यापाठोपाठ हे आहे. विधान अंतरांत नोंद घेतल्यानुसार शवचार सरकारी – ग्रंथालयातून वरचष्मा जागा नाशिक, १८२७ साली सुरू झालेले ग्रंथालय ही सुरूवातीची बातचीत आहे.

भारतीय नवाचिक तक्षाशालांचे ग्रंथालय हे सर्व जगात प्रसिद्ध होते. अनेक प्राक्तनसंस्थानांच्या ग्रंथालयांचा विवेक ला नवाचिक अंतरांत नोंद घेतल्यानुसार शवचार सरकारी – ग्रंथालयातून वरचष्मा जागा नाशिक, १८२७ साली सुरू झालेले ग्रंथालय ही सुरूवातीची बातचीत आहे.

महाराष्ट्रातील ग्रंथालये

पारंपरिक ग्रंथालयांमध्ये देशीय काही एक समाजवादीच्या परवर्धनाच्या असे, त्यामुळे नवाचिक महाराष्ट्रातील ग्रंथालयांमध्ये सुरूवात झाली. १८२८ पासून महाराष्ट्रात ग्रंथालयाचा कायम केला असे, अनेक ग्रंथालयांमध्ये सुरूवात झाली. १८२८ साली रत्नागिरी येथे व्यासपाठ झाले. त्याचा भरोसेमार्फत अनेक ग्रंथालयांमध्ये सुरूवात झाली. १८२८ साली रत्नागिरी येथे व्यासपाठ झाले. त्याचा भरोसेमार्फत अनेक ग्रंथालयांमध्ये सुरूवात झाली.
चूंकी, उदाहरणार्थ, सांस्कृतिक ग्रंथालयांचा वाचनालय असता, त्यासाठी विद्यार्थ्यांना शिक्षणाचा एकमेकासाठी सर्वसंगत असता. विद्यार्थ्यांनी ग्रंथालयात संगणक, सामाजिक अनुदान व तंत्रज्ञानाची वाचनक्षमता वाढविली.
Digital Library (Digital Library) is a managed collection of digital objects. 1995 saw the Association of Research Libraries launch its paperless libraries, which were digital objects treated as long-term stable resources and appropriate processes were applied to ensure their quality and survivability. The digital objects are made available in a cohesive manner supported by services. The digital sources are created or collected according to principles of collection development.

1. Digital Library is a managed collection of digital objects.
2. The digital sources are created or collected according to principles of collection development.
3. The digital objects are made available in a cohesive manner supported by services necessary to allow users to retrieve and exploit the resources just as they would any other library material.
4. The digital objects are treated as long-term stable resources and appropriate processes are applied to them to ensure their quality and survivability.

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Designing Technological Innovation and Best Practices in Academic Libraries (Special Issue No.117)  

**Special Issue Theme : Future Academic Libraries**

**Abstract**

This paper discusses the role of library cataloging in the context of technological innovation and best practices in academic libraries. It highlights the importance of cataloging as a core service and examines the challenges and opportunities presented by digital transformation.

1. **Library Cataloging**

   1. **Physical Objects**
      - Designing cataloging processes to accommodate digital content.
      - Integrating metadata into catalog records.
   2. **E-Resources**
      - Evaluating access and use of e-books and journals.
      - Managing licensed content and ensuring compliance with copyright laws.

2. **Technological Innovation**

   - Implementing advanced cataloging systems.
   - Utilizing data interoperability and linked data protocols.
   - Enhancing user experience through intuitive search interfaces.

3. **Best Practices**

   - Conducting regular training and workshops for catalogers.
   - Establishing collaborative networks for knowledge sharing.
   - Monitoring industry standards and adapting them accordingly.

**Conclusion**

The integration of technological innovation with best practices in library cataloging is crucial for the future of academic libraries. By embracing new technologies and adhering to best practices, libraries can effectively serve their patrons and contribute to the broader scholarly ecosystem.

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**References**


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**Keywords**

- Cataloging
- Technological Innovation
- Best Practices

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*Image Attached*
Special Issue Theme: Future Academic Libraries
Designing Technological Innovation and Best Practices in Academic Libraries (Special Issue No. 117)

3. **Digital Public Library**
   - **Internet Archive**
   - **Digital Public Library of America**

4. **Internet Archive**
   - **World Digital Library**
   - **Million Book Project**
   - **Project Gutenberg**
   - **Digital Public Library of America**
   - **Internet Archive**
   - **Digital Library of India: C-DAC, New Delhi**
   - **National Digital Library in India: Ministry of IT**

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**Abstract**

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शिजीटल ग्रंथालय शनर्ममती व त्याचा परिणामकारक उपयोग यासाठी ग्रंथपाल, वापरकर्ता तसेच समाज यांच्यामध्ये जागरूकता निर्माण करणे आवश्यक आहे. सर्वोच्च सर्व घटकांना त्याबाबत प्रशिक्षण देणे आवश्यक आहे. शिजीटल भारतमध्ये शिजीटल ग्रंथालयांच्या योगदान अपेक्षित आहे.

संदर्भ

प्रयागलयामध्ये मोबाईलचा उपयोग

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प्रस्तावना —

ग्रंथालय साहित्य आणि सेवा मोबाईल उपकरणाचा उपलब्ध करून देणे ग्रंथालयासाठी आवश्यक बनले असलेले २०१८ च्या रिसर्च संबंधी अंदाजांनी केलेले योगदान ह्यांनी प्राथमिक साहित्य प्रयोगालयाच्या शिष्यांना दर्शविले. याचा उपयोग वाचकांना पारंपरिक विभागानुसार मोबाईल डिविज्युएशन मालकीच्या संसाधनात दिला विधान आहे. ग्रंथालयांनी मोबाईल अंकसंख्यानुसार वापरक्रमात मोबाईल लोकसंख्येची साहित्य आणि सेवा प्रदान करण्यासी संधी आहे. आणि वास्तवात त्यांचा समावेश करणे विकास आणि संसाधन स्वयंसेवकांना स्वतंत्रपणे सहभागीता दिली. ग्रंथालयांना ग्रंथालयासाठी उपकरणांचा प्रदान करणे, विभागाच्या सांगणार्या मोबाईल संपत्ती आणि विशेष विद्यापीठासाठी अभ्यासात योगदान दिले. तयाऱो ग्रंथालय सात कार्यालयांसाठी प्रदान करणे, मोबाईल अंकसंख्यानुसार वापरक्रमात मोबाईल अंकसंख्याच्या जाहीरात आणि संसाधनांची संस्थापना व मालकी आवश्यक बनले.

साहित्य संमीत —

मोबाईल उपकरणांमध्ये ग्रंथालयासाठी साहित्याचे भाग, विद्यापीठासाठी प्रदान करणारे मोबाईल वेबसाइट्स आणि संग्रहालयांच्या मूल्यांकन, ग्रंथपालक संस्थांनी निर्देशित केले. माष्टर्स लिब्रेरीसाठी ग्रंथपालक संस्थांनी प्रवक्रमात आतापर्यंत ग्रंथालयांनी मोबाईल सदस्यांनी संबंधित केलेल्या प्रकरणांचा उपयोग आहे. ग्रंथालयांनी मोबाईल आणि विभागांनी विशेष विद्यापीठांना संपत्ती दिली. ग्रंथालयांनी मोबाईल उपकरणांमध्ये अभ्यासांनी संथित कार्यालयांना संदर्भात अभ्यासाचे वापर करून देणे आवश्यक. ग्रंथपालक संस्थांनी ग्रंथालयांनी मोबाईल अंकसंख्याच्या जाहीरात आणि संसाधनांची संस्थापना आवश्यक बनले. तयाऱो ग्रंथालय देखील, मोबाईल अंकसंख्याला विभागात वापर करून देणे आवश्यक बनले.
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Social Media: A Platform for Knowledge and Information

Smita Patole

Social media is a platform that has become an essential tool for knowledge and information sharing. It is widely used in various fields such as education, business, and entertainment. In the current scenario, social media is not only a means of communication but also a source of information. It has transformed the way people access and exchange knowledge.

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शिक्षणामये सोशल मीडियाची भूमिका -

शाळा, कॉलेज, ऑफिस, आणि घर या सर्व ठिकाणी वापरले जाणारे माध्यम म्हणजे फोन. सोशल मीडियाचा सर्वाधिक वापरमुळे स्मार्टफोनाने अधिक आहे. फोनच्या माध्यमानुसार सोशल मीडियाचा वापर करून आपल्याला काही शिकता वेळेन, काही नवीन गोष्टी माहिती करून घेता येतील. शिक्षणामये सोशल मीडियाचा वापर करून शिक्षण अधिक चांगल्या पठताना देता येते.

- माहितीचा जलद प्रसार करण्यासाठी सोशल मीडिया उपयुक्त ठरते. परीक्षा, विषयांच्या नोट्स, तसेच इतर माहिती प्रसारित करण्यासाठी सोशल मीडिया एक जलद माध्यम म्हणून कार्य करते.
- सोशल मीडियाचा वापर सोसाइटीमध्ये शिक्षण हि संकल्पना सहज रूढ होणार आहे. आपल्याकडून लेखन, संगणना, संगणकीय संवेदी, कामकाजाच्या वेळेने सोशल मीडिया म्हणजे फोन प्रदर्शना नवीन गोष्टीत व्यक्तींना वापराले जाते.
- सोशल मीडियाचे शिक्षक विविधांत संवादाच्या वाढ होतं शकते.
- सोशल मीडियाच्या वापरमुळे सोशल मीडियाच्या वापर करून समताशी मूल्यांची अनुपातांना स्वतंत्रता देते, जसे की फोनच्या माध्यमातून सोशल मीडियाच्या वापराने आपल्याला शिकणाऱ्यांना सांगणारे माहिती करता येते. जाणारे माध्यम म्हणजे फोन, तसेच इतर माहिती प्रवाहाच्या विधानातून जाणारे माध्यम म्हणजे Facebook, व्हाट्सएप आणि इतर वेबसाइट्स.
- सोशल मीडियाच्या वापरमुळे शिक्षकांनी शिकणाऱ्यांना माहिती देते, जसे की फोनच्या माध्यमातून सोशल मीडियाच्या वापराने आपल्याला शिकणाऱ्यांना सांगणारे माहिती करता येते. जाणारे माध्यम म्हणजे फोन, तसेच इतर माहिती प्रवाहाच्या विधानातून जाणारे माहिती प्रवाहाच्या विधानातून जाणारे माहिती करता येते.
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1. 

2. Twitter – विद्यार्थ्यांचे संवेदनाचा कार्यक्रम सोपा मार्ग आणि शिक्षणाच्या क्रियाकलापांमध्ये संबंध असलेल्या विषयांच्या फोटोबुक्स भूमिका योजना असेल. तर Twitter हे वापरण्यासाठी एक उत्तम साधन आहे. विद्यार्थ्यांनी प्रस्तुत किंवा टिप्पण्यांचा टिव्हि करून शेअर करतात किंवा विद्यार्थ्यांचा संवेदनाच्या पूर्ण करण्यासाठी लिंक टिव्हि करून शेअर करतात. आणंदे पालक व्यक्त आहे आणि ते लाभाने माणूसांना मात्र आपण इंटरनेट, तर हे त्यांच्या करण्यासाठी म्हणून अद्वितीय असते. तुम्ही पालकांनी या "संदेश अंदाज" डेटाच्या उपलब्धतेनुसार, तुम्ही त्यांना रिअल-टाइममध्ये खासगीत तंत्रीत देखील देऊ शकता. विद्यार्थ्यांना त्यांच्या संबंधात गोष्टीला सांगणार अनुसार देण्यासाठी त्यांना न्सव्हशिओंबद्दल प्रकाशित ब्लॉग सारांि वसरते.

3. व्हाट्सएप – शिक्षक आणि विद्यार्थ्यांमध्ये प्रकाशित करण्यासाठी व्हाट्सएप त्यांच्या करण्यासाठी उत्तम साधन आहे आणि विद्यार्थ्यांनी त्याच्या एक संवेदनाचा कमी करेला आहे. त्यांनी व्हाट्सएपने त्यांना एक उत्तम साधन म्हणून करून शेअर करता आहे. त्यांनी व्हाट्सएपने त्यांच्यासाठी शिक्षणाच्या क्रियाकलापांच्या संवेदनाचा रूपांतर करून शेअर करता आहे.

4. YOUTUBE – अनलाइन शिक्षणाचे साधन म्हणून व्हिडिओआधून भावाच्या असलेला दिसून येतो. YouTube व्हिडिओभांवर सौंदर्य घोषावर नर्म आणि व्हिडिओसॉर्सत शिक्षणक शेषभागात आणि शिक्षणाचा उद्देश्यवातील एक नवीन क्षेत्र आहे. त्यांनी त्यांच्या शिक्षणाच्या संवेदनाच्या भाषेत व्हिडिओ आणि इव्हेंट्सच्या संयोजनात व्हिडिओदार्शनाचा उपयोग करून प्रकाशित करून शेअर करता आहे. त्यांनी व्हिडिओदार्शनाचा उपयोग व्हिडिओच्या भाषेत व्हिडिओक आहे आणि संतोषाच्या असाइनमेंट म्हणून शिक्षणाच्या संवेदनाचा रूपांतर करून शेअर करता आहे.

5. Whatsapp – WhatsApp शिक्षक आणि विद्यार्थ्यांनी एक उत्तम साधन आहे. ती टेलीफोनवर असलेली एक उत्तम साधन आहे आणि त्यांनी त्यांच्या शिक्षणाच्या संवेदनाचा रूपांतर करून शेअर करता आहे. त्यांनी त्यांच्यांना एक उत्तम साधन आहे आणि त्यांनी त्यांच्यांना शिक्षणाच्या संवेदनाचा रूपांतर करून शेअर करता आहे. त्यांनी त्यांच्या शिक्षणाच्या संवेदनाचा रूपांतर करून शेअर करता आहे.

6. कॉलेजच्या वेबसाइट – कॉलेजच्या वेबसाइटमध्ये अनेक भाषांच्या करण्यासाठी वेबसाइट्स, आणि त्यांनी त्यांच्यांना एक उत्तम साधन आहे आणि त्यांनी त्यांच्यांना शिक्षणाच्या संवेदनाचा रूपांतर करून शेअर करता आहे. त्यांनी त्यांच्यांना शिक्षणाच्या संवेदनाचा रूपांतर करून शेअर करता आहे.

समारोप -

अप्रैल 2023 ते 2024 आपूर्ती आधी माहात्म्यांनी आपूर्तीसाठी उपलब्ध करत आहेत आणि त्यांनी त्यांच्यांना शिक्षणाच्या संवेदनाचा रूपांतर करून शेअर करता आहे. त्यांनी त्यांच्यांना शिक्षणाच्या संवेदनाचा रूपांतर करून शेअर करता आहे.
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संदर्भ -

1. सारांश -
आधुनिक काळातील ग्रंथालय हे माहिती तंत्रज्ञान आणि माहिती व्यवसायाच्या रूपातील प्रगती मुळे बदलत्या स्वरूपात सामरे येत आहेत. त्यामुळे, हवरत ग्रंथालयाच्या चळिळी संवधषन यांच्यासाठी ग्रंथालयाची इमारत हायब्रीड लायब्ररी असे होऊ लागले. ग्रंथालयांमध्ये फक्त पुस्तकांची देवघेव न होता माहिती आणि ज्ञानाची देवार्घेवार् सुरू झाली आहे. ग्रंथालयाच्या वेबसाइटी  व वेबपेज व कार्यरत बांधकामातील व्यवस्थापन हे माहिती आणि ज्ञानाच्या देवांना सुरू झालेले आहे. हवरत ग्रंथालय, माहिती आणि ज्ञानाची देवांना सुरू झालेले आहे. हवरत ग्रंथालय, माहिती आणि ज्ञानाची देवांना सुरू झालेले आहे. हवरत ग्रंथालय, माहिती आणि ज्ञानाची देवांना सुरू झालेले आहे. हवरत ग्रंथालय, माहिती आणि ज्ञानाची देवांना सुरू झालेले आहे.

2. हवरत ग्रंथालय:
1990 च्या दशकाच्या सुरुवातीला हवरत ग्रंथालयाचा मैत्रीकेंद्र प्रारंभ झाला आहे. हवरत ग्रंथालयांनी माहिती आणि ज्ञानाची देवांना सुरू झालेले आहे. हवरत ग्रंथालयांनी माहिती आणि ज्ञानाची देवांना सुरू झालेले आहे. हवरत ग्रंथालयांनी माहिती आणि ज्ञानाची देवांना सुरू झालेले आहे. हवरत ग्रंथालयांनी माहिती आणि ज्ञानाची देवांना सुरू झालेले आहे. हवरत ग्रंथालयांनी माहिती आणि ज्ञानाची देवांना सुरू झालेले आहे.
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2.0 हरित ग्रंथालयाची व्याख्या:-
1. “हरित ग्रंथालय म्हणजे पर्यावरण आणि समुदायाचे रक्षण करण्याच्या हेतूने बनविलेले ग्रंथालय होय”.
2. ऑनलाईन डिस्क्लाइन ऑफ लायब्ररी अँड इन्फोमेशन सायन्स नुसार “हरित ग्रंथालय म्हणजे नैसर्गिक पर्यावरणाच्या गुणवत्ता वाढवण्यासाठी, नैसर्गिक वांछित काही पयािरणांची कमी करणे, उत्पादनाची वाढवणे, तत्त्वज्ञान या सिण बाबी ग्रंथालयात उपयुक्त ठरतात. हवरत ग्रंथालय वनमाण करण्यासाठी अनेक एन.जी.ओ. आजवमतीस कायणरत आहेत."

3.0 हरित ग्रंथालयाची विविध मानके (प्रकार):- या हरित ग्रंथालये मानकन करणार् या विविध आंतरराष्ट्रीय संस्था असून त्या वेगवेगळ्या प्रकारांमध्ये प्रकाशित केली आहेत.

❖ 1.भारतीय हरित इमारत पशरषद (Indian Green Building Council IGBC)-
❖ 2.लिडरशिप एनजी ऑंड एन्व्हायनमेंट डिझाईन (Leadership in Energy and Environmental Design (LEED-India))
❖ 3.एनजी स्टार (Energy Star)-
❖ 4. प्रीन ग्लॉब (Green Globe)
❖ 5.प्रीन सील (Green Seal)

3.1.भारतीय हरित इमारत परिशद (Indian Green Building Council ज्याला IGBC म्हंटले जाते)-
भारतमध्ये हरित इमारतीसाठी आणि हरित इमारत यांच्या वांछित कायणणाऱ्या कायणक्षम पद्धतीने पुन्हा िापरणे होय. भारतात हरीत इमारतीचे प्रबोधन करण्यासाठी परिशद अनेक राज्य सरकार, तंत्र सरकार व ग्रीन बिल्डिंग कॉन्सलिट, अनेक एजन्सी असा माहिती समाधान 398 अनौद्धोक इमारती व 398 अनौद्धोक इमारतीच्या एकांना भाि होय.
IGBC हरित इमारत रेटिंग खालील प्रमाणे: -
खालील सर्व व्यक्तीच्या हरित इमारतीच्या मानकन(रेटिंग) करतात.
IGBC विवेक इमारत,
IGBC हरित विवेक पर,
IGBC विवेक निवासी संसाधनी,
IGBC हरित आर्थिक सेवा,
IGBC हरित शाळा,
IGBC हरित शहर,
IGBC हरित गाव,
IGBC हरित फॅक्टरी इमारत.

मानकांचा दुसरा प्रकार किंवा संस्था
3.2 लिडरशिप एनजी ऑंड एन्व्हायनमेंट डिझाईन (Leadership in Energy and Environmental Design (LEED-India))
ही एक आंतरराष्ट्रीय मान्यताप्राप्त हरित इमारत प्रमाणपत्र प्रणाली आहे. US Green Building Council (US प्रीन बिल्डिंग कॉन्सलिट) ने भारतमध्ये लिडरशिप एनजी ऑंड एन्वायनमेंट डिझाईन(LEED) चा वापर अधिक वेगाने बऱ्याचार्यासाठी LEED
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3.3. Energy Star (Energy Star)

Energy Star is an American Environmental Protection Agency (EPA) program aimed at improving energy efficiency. The Department of Energy (DOE) introduced Energy Star in 1992, and in 2005, the Energy Star program was expanded to include all types of buildings and products. Energy Star marked buildings and products meet strict energy efficiency criteria set by the American National Standards Institute (ANSI) and the US Department of Energy.

The Energy Star program is focused on buildings and products that meet the criteria set by the American National Standards Institute (ANSI) and the US Department of Energy. These criteria are designed to reduce energy consumption and environmental impact. The program includes a wide range of products, from office equipment to household appliances.

3.4. Green Globe (Green Seal)

Green Globe is a US-based environmental management program that provides certification for buildings and products. The program was established in 1989 by the Green Seal Foundation, a non-profit organization that works to promote sustainable building practices.

The Green Globe program is based on the principles of sustainability, and it focuses on reducing the environmental impact of buildings and products. The program includes a comprehensive set of criteria that must be met in order to achieve Green Globe certification.

3.5. Green Seal (Green Seal)

Green Seal is a US-based environmental management program that provides certification for buildings and products. The program was established in 1997 by the US Green Building Council (USGBC), a non-profit organization that works to promote sustainable building practices.

The Green Seal program is based on the principles of sustainability, and it focuses on reducing the environmental impact of buildings and products. The program includes a comprehensive set of criteria that must be met in order to achieve Green Seal certification.

In summary, the Energy Star and Green Globe programs are both designed to promote sustainable building practices and reduce the environmental impact of buildings and products. The Energy Star program is focused on buildings and products that meet strict energy efficiency criteria, while the Green Globe program includes a wide range of products that meet a comprehensive set of sustainability criteria.
4.0 हरित पंथालय इमारत करण्याचा पद्धती:
हरित पंथालय इमारत तयार करण्यासाठी इमारत बांधकाम साहित्य आणि तंत्रज्ञानाचा वापर केला जातो. जसे बांधकामप्रमाणे, स्तूपचर प्रणीत, बाह्य पंथालय, विद्युत, ऊजा व्यवसाय उपकरणे, इंटरनेट, विद्युत, नूतनीकरणक्षम उपकरणे, ग्रामीण आणि आशीर्वादाने घड्याळाचा उपयोग तथा आधुनिक असते.
हरित पंथालय इमारत करण्यासाठी खतोल गोंडी लक्षात धेऊन विकास करणे गरजेचे आहेत.

4.1 बाह्य पूवय किवा स्वरूप:- (पंथालय दर्शनी कसे असावे व त्यात कशाचा वापर करावा हे यात सावितले आहे)

4.1.1. शास्त्रीय लाकडी सामग्री आणि फॉरेस्ट स्टूपचरीय कोन्सिल प्रमाणित लाकडाचा वापर करणे

4.1.2. फायबर रिसिमर्ट साइरिंग साहित्याचा वापर:-

4.2 जलसंरक्षण - (Water Harvesting)

4.2.1. पात्रांच्या पाण्याचे संधारण -

4.2.2. उच्च कार्यक्षमता जलसंरक्षण शैचरिक आणि नंतर

4.3.लाकडी वापर - (कसा असावे व काय साधने ग्रंथालय इमारतीच्या मजल्यासाठी केला जातो)

4.3.1. कॉम्पॅक्ट फ्लोरोसंट बल्ब (CFLs) -

4.3.2. प्रकाश विद्यालय प्रणालीचा वापर:

4.4. साधने -

4.4.1. इंसुलेशन:

4.5.उच्च कार्यक्षमता विस्तरण:

4.6.वायुशंसक प्रणाली - (Ventilation System) -

4.7.सौरऊजा - (Solar Energy) -

4.8.पंथालय इमारत परिसरात वृक्ष लागवड --

या साधनाचा अनुक्रम सर्व उधापोह आणि पुढे पाहणार आहोत.

4.1 बाह्य पूवय किवा स्वरूप:- (पंथालय दर्शनी कसे असावे व त्यात कशाचा वापर करावा हे यात सावितले आहे)

4.1.1. शास्त्रीय लाकडी सामग्री आणि फॉरेस्ट स्टूपचरीय कोन्सिल प्रमाणित लाकडाचा वापर करणे शल्यशास्त्रांमध्ये डेक (Deck) म्हणजे एक लाकडी सपाट पृष्ट्ठभाग होय. जो वेळीच्या काळात सक्षम असतो. त्याचा उपयोग पंथालय इमारतीच्या मजल्यासाठी केला जातो. पण सामाजिकता इमारतीवरील बांधकाम डेकचा उपयोग केला जातो. जे जिस्मापणुने वर उपयोगाची भांगणे जोडले जातात अनेक वाहन धारण करणाऱ्या याचे वर्तनाविक. करणाऱ्या (Recycle) डेक करणे सपाट पुढूमध्ये मिळाले, व्यावसायिक लाभ आणि एंबाकोटल लाभ. व्यवसायिक लाभही निरस्त्रांमध्ये व्यावसायिक पासून बनविले जाते, परंतु कंपॉस्ट लाभ हो अशो सामाजिकता आहे जी लाकडाचे तंत्र, व्यावसायिक आणि बायडिंग एंट याचे मिश्रण आहे. पवनवायुशंक्त आणि सामाजिक उत्पादन अनुमोदन प्रमाणीत केलेल्या लाकडाचा वापर करणे गरजेचे असते. फायदे -

1. हा सामाजिक लाकडाच्या टिकाऊ आहे.

2. किंमतीय बनत होते.

3. इमारतीचा आकारकण वाढतो.
4.1.2 Fiber Sheet Siding: A New Approach:

Fiber sheet siding has been widely adopted for library buildings, primarily for its aesthetic appeal outside the library. By using fiber sheet siding, libraries can enhance their appearance and maintain their integrity. This material is made from a combination of fibers and additives, which makes it resistant to weather, pests, and fire.

- It lasts longer than other materials, making it an efficient choice.
- It is available in various colors and textures, providing flexibility in design.
- Fiber sheet siding is lightweight, making it easy to install and transport.
- It is resistant to water and moisture, keeping the library dry and safe.
- It is recyclable and environmentally friendly.

4.2 Water Harvesting

Water harvesting is an essential component of library design, especially in arid regions. Libraries can collect and utilize water from various sources, including rainwater, greywater, and blackwater.

- Rainwater harvesting systems can collect rainwater for use in landscaping and irrigation.
- Greywater can be collected from sinks and showers and used for flushing toilets and irrigation.
- Blackwater can be collected from wastewater and treated for reuse in irrigation.

By implementing these strategies, libraries can reduce their water usage and become more sustainable.
4.2.2. Efficient Sanitation: A critical need for water conservation in academic libraries involves designing and implementing technological innovations and best practices. The academic library will develop water-saving strategies, focusing on reducing water usage in daily operations. These strategies include:

1. **Low Flow Water Fixtures**: Utilizing low-flow water fixtures can significantly reduce water consumption. These fixtures are designed to reduce water flow rates without compromising performance.

2. **Leak Detection and Repair**: Regular monitoring and proactive leak detection can help in minimizing water wastage. Immediate repairs of identified leaks are crucial to prevent further water loss.

3. **Rainwater Harvesting**: Implementing rainwater harvesting systems can provide an alternative water source for non-potable uses such as toilet flushing and cleaning.

4. **Wastewater Reuse**: Implementing systems for wastewater treatment and reuse can reduce the overall water consumption, making it a sustainable practice.

4.3. Case Study: Compact Fluorescent Lamps (CFLs)

4.3.1. **Compact Fluorescent Lamps (CFLs)**: The compact fluorescent lamps (CFLs) are energy-efficient lighting alternatives. These lamps use less energy compared to traditional incandescent bulbs, thereby reducing electricity costs and greenhouse gas emissions. The library has already started replacing incandescent bulbs with CFLs. This move has not only reduced electricity consumption but also improved the overall efficiency of the lighting system.

4.4. Conclusion

Efficient sanitation and water conservation are essential in academic libraries. Implementing technological innovations and best practices can significantly reduce water and energy consumption, making academic libraries more sustainable and efficient.
4.3.2 \textbf{प्रकाश नियंत्रण प्रणालीचा वापर:-}

शारीरिक कार्य किंवा परिस्थितीसाठी दिलेल्या जागेत प्रकाशाचा स्तर आणि गुणवत्तेचे नियमन करण्याची क्षमता प्रकाश नियंत्रण प्रणाली मध्ये आहे. योग्य प्रकाश नियंत्रण करणे आवश्यक त्या ठिकाणी प्रकाशाचा वापर करून ऊजेची बचत करण्यास मदत होते. \textit{खैर, तीखे, बाहरी म्हणजेच प्रकाश नियंत्रण प्रणाली मोठा प्रमाणात वापर करता येउ शकतो. प्रकाश नियंत्रण प्रणाली जेथे आवश्यक असेल तेथे कुटूक, किळून, लाईट, वेंड करणे, ऊजेची बचत करणे. हरितग्रंथालय आणि ऊजासंरक्षण कार्यक्रमाचे अनुपालन करण्यासाठी प्रकाश नियंत्रण प्रणाली कार्य करते. प्रकाश नियंत्रण प्रणालीचा वापर स्मार्ट लाइटिंग टेम अंतर्गत केला जातो.}

\textbf{फायदे:—}

1. प्रकाश नियंत्रण प्रणाली योग्य प्रमाणात प्रकाश स्थापित करते.
2. प्रकाश नियंत्रण प्रणाली उजेची बचत करते.
3. दिवरे लवकर खराब होत नाहीत.
4.4. साधने-  
4.4.1. इंसुलेशन-

इंसुलेशन हे इमारतीत हिवाळ्यामध्ये गरम आणि उन्हाळ्यात थंड वातावरण ठेवते. खरं तर हे हरित ग्रंथालयासाठी इतके छान काम करते की बरेच लोक आता या गोष्टीला मान्यता देतात. ग्रंथालयामध्ये इंसुलेशन प्रणालीचा वापर केल्यास इंसुलेशन गरम आणि थंड करणार्या उपकरणांच्या चांगली आणि अधिक कार्यक्षमतेप्रमाणे कार्य करण्याचे मदत करते. ग्रंथालयाला हे एक स्वस्थ आणि ध्यानीसक वातावरण देण्याचे मदत करते.

फायदे-  
1. ऊर्जा कार्यक्षमतेच सुधारणा होते.  
2. इमारतीचे आवाची बाह्यता.  
3. पर्यावरण संरक्षणाचे मदत होते.

4.5. उच्च कार्यक्षमता खिडक्या:-  

ग्रंथालयासाठी खिडक्या खूप मोठी भूमिका बजावतात. उच्च कार्यक्षम खिडक्या ग्रंथालय इमारतीसाठी नैसर्गिक सूर्यकाशी उद्भवरत, कावच आणि सौंदर्य आणतात. त्यांची नैसर्गिक तंत्रज्ञानाने आधारित उच्च कार्यक्षमतेने नैसर्गिक सूर्यकाशीकरणाचा संचालन केलेला उंच बाह्य कार्यक्षमता होत नाहीत तर ग्रंथालयासाठी अधिक सौंदर्य करतात. उच्च कार्यक्षमतेने ते आंतरराष्ट्रीय असरजाल्या सूर्यकाशीलाभाचा आत्मवाणी भागाचे संरक्षण करतात. सिगरेट पंंद्रे खिडक्या-दुहेरी मॉन्ने खिडक्यांमध्ये बदलता पाहिजे, कारण सर्व वातावरणांमध्ये ते अधिक तंत्रज्ञानाने ओढते. ऊर्जा प्रभाती नैसर्गिक कार्यक्षमतेही एक हरित ग्रंथालयासाठी उत्तम सुधारणा होऊ शकते.

फायदे-  
1. ऊर्जा आणि पैशाची बचत.  
2. ग्रंथालयामध्ये आवाची बाह्यता.  
3. उत्तम कार्यक्षम योजनेचा बाह्य.  
4. ग्रंथालयामध्ये सौंदर्य बाह्यता.  
5. इमारतीसाठी हवा खिडती राहते.
4.6. **Ventilation System**

Ventilation systems are crucial in academic libraries for ensuring a comfortable and pleasant environment for readers and staff. The air quality inside the library is directly related to the health and well-being of those who use it. A well-ventilated library not only provides a healthier environment but also helps in reducing the risk of indoor air pollution. The primary function of a ventilation system is to maintain a controlled and optimal indoor air quality by removing stale air and introducing fresh air.

**Benefits of a Ventilation System**

1. Improved air quality: Fresh air is essential for maintaining good health and well-being in a library setting.
2. Energy savings: By ensuring adequate ventilation, energy consumption can be reduced as the system helps in maintaining a comfortable indoor environment.
3. Reduced sick building syndrome: Ensuring proper ventilation can help in reducing symptoms associated with sick building syndrome.

4.7. **Solar Energy**

Solar energy is a sustainable and renewable source of power that is increasingly being utilized in the context of green technology. Libraries are excellent candidates for solar energy installations due to their large roof areas and continuous energy demand.

Solar panels convert sunlight into electrical energy, which can be used to power various systems within the building. This not only reduces the dependency on fossil fuels but also contributes to the overall sustainability of the library.

The integration of solar energy into academic libraries can also help in creating a more sustainable educational environment, promoting environmental education, and demonstrating the practical application of sustainable technologies. The use of solar energy can also be seen as a part of the commitment to reducing carbon footprints and promoting energy-efficient practices.
Special Issue Theme: Future Academic Libraries: Designing Technological Innovation and Best Practices in Academic Libraries (Special Issue No.117) Feb. 2023


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| 1    | फायदे:  
(1) पयािरणात Co2, S02 उत्सजणन कमी करून पयािरणावर होणारा परिणाम कमी करता येतो.  
(2) ऊजेणी बचत होते.  
(3) पशाची बचत होते.  
(4) एक सुरुसंजित गुंतवणुक होते.  
(5) पयािरण संवधन होते.  
(6) कोण्याशी प्रकारे प्रदूिण होत नाही.  
(7) मुखलक प्रमाणात वीज वापरत येते.  

4.8. ग्रंथालय इमारत परिसरात वृक्ष लागवड-  
प्रकाशसंबंधित वृक्ष कावनन डाय ऑक्साइड्स शोपन पेतेला आणि वृक्ष औपचार केलेल्या भागात पयािरण स्वच्छ व चांगले राहते. आमिसांनी प्रभाव सदर हवेशी जात असते. प्रातःयाचा समुद्र शास्त्र संवधन विकास करण्यासाठी ग्रंथालयाच्या परिसरात वृक्ष लागवडाचे क्षेत्र वाढविलेल्या गरजेचे आहे. उद्योगशाली पृष्ठभंडारी संवधन करण्यासाठी ग्रंथालय इमारतीने परिसरात वृक्ष लागवड करणे हे मुख्यता महत्त्वाचे आहे.  

5.0 हरित ग्रंथालयाची ग्रंथपाली भूमिका:-  
(1) सोशल मीडिया सारख्या विविध ऑनलाईन साधनांचा वापर ग्रंथपालने हरित ग्रंथालयाच्या हालचालात आग्रहातो.  
(2) ग्रंथालयाला इको ग्रंथालय प्रणाली अंगणात काम केले गेलेल्या आणि वातावरणात काम करण्यासाठी इच्छुक लोकांना मुख्यत्वात राहते.  
(3) ग्रंथपालनाच्या हरित ग्रंथालयाच्या साधन आणि तंत्रज्ञानसाठी प्रतीक्षित केले गेलेल्या आणि तंत्रज्ञानसाठी प्रतीक्षित केले गेलेल्या.  
(4) इको ग्रंथालयाच्या प्रणाली, सेवाची व कार्यक्रमस्वरूप हरित ग्रंथालयाची उपस्थितीत ग्रंथपालनाच्या हालचालात आणि तंत्रज्ञानसाठी प्रतीक्षित केले गेलेल्या.  
(5) ग्रंथालयाच्या साधनाच्या सामग्री(लकडी फार्म) चा वापर करणे गरजेचे आहे.  
(6) सौर पॅनेल चा वापर करणे गरजेचे आहे.  
(7) स्टीलच्या जािी जास्तीत जास्त बांबूंचा वापर करणे गरजेचे आहे.  
(8) कागद आणि जागतिक कागद साधनांची ई-सूचक व ई-जनरलचा वापर करणे गरजेचे आहे.  

6.0 भारतातील काही हरित ग्रंथालये-  
1. Anna library Chennai.  
2. Prema library Laddak.  
3. National library of India, Kolkata.  
4. Karnataka University library.  
5. YCMOU University library.  
6. Mumbai University library.
7. समारोप:

रिवाजांतील देश आहे आणि तो सर्व श्रेणीत विकसित कीलता हवा. पर्यावरण संरक्षणात हर्षित इमारतीतील तांबे महत्त्वाच्या भूमिका आहे. ग्रंथालय आणि ग्रंथपाल यांना समाजातील संसाधनांचे प्रयोग गरणे काही समयात उपलब्ध होते. संसाधनों की पर्यावरणातील अनुप्रेषण अशा हर्षित ग्रंथालयाची निर्माण हवेम अत्यंत आवश्यक आहे. यससाठी ग्रंथालयांना काही महत्त्वाच्या निर्णय घेणे आवश्यक आहे. त्यास व्यिस्थापन, प्राध्यापक व इतर घटक यांनी सहकाय गरजेचे आहे. अनेक राष्ट्रीय-आंतरराष्ट्रीय संस्थांत हर्षित ग्रंथालयासाठी मदत करत आहेत. काही भारतीय ग्रंथालय अशा संस्थांची मदत घेऊन हर्षित ग्रंथालय बनवण्याचा प्रयत्न करून पर्यावरण चतुर्वृत्त भाग घेऊन आहेत.

संदर्भसूची-

प्रश्नातस्वनात :

नेतृत्वाधीन अपघट्टी असलेल्या तीन संस्था मानवी आपघट्टी असलेल्या अशा प्रकारच्या आपघट्टीमुळे पर्यावरण संसर्गाने दर्शविळेली महत्त्वपूर्ण प्रकारांत ते संसाधन जिवितांतीच्या प्रचंड हानी होतात. यासाठी आपघट्टी व्यवस्थापन महत्त्वाच्याच आहे त्याच्या माध्यमातून यथावत्त प्रकारात आपघट्टीमुळे व्यवस्थापन संपर्क महत्त्वाच्याचे आहे मानवी-मानवीचा व्यवस्थापन असते. विद्यापीठांत यांनी सार्वजनिक प्रकारात आपघट्टीसंपर्क महत्त्वाच्याच तीन संसर्गांसह या साधनांसह सूचना संग्रहण कीर्त्याच्या संरक्षणासाठी व्यवस्थेचे दृष्टीकोष येत. आपघट्टीमुळे व्यवस्थापन महत्त्वाचे आहे असते. प्राथमिक व्यवस्थापन प्रकारात आपघट्टी, वाद्य आपघट्टीमुळे व्यवस्थापन करणे महत्त्वाचे आहे. याची वाजबता आपघट्टीच्या वारसा अवश्यक आहे.

अभ्यासाची उद्देश्ये :-

1. आपघट्टीच्या प्रकारातील अभ्यास करणे.
2. आपघट्टीपूर्वीच्या वारसाच्या अभ्यास करणे.
3. आपघट्टीकारीच्या अभ्यास करणे.

गृहीताने:

1. ग्रंथालयातील आपघट्टी व्यवस्थापनाची गरज असते.

अभ्यास पद्धती:-

प्रस्तुत अभ्यासाची प्राथमिक व दुरुपयुक्त साधनसमावेशांच्या वापरास संरक्षणात आलेली प्राथमिक साधनसाधनाची माहिती या प्रकारातून उपलब्ध आहे. प्रत्येक वाचकाने त्यावरील माहितीच्या प्रवर्तनासाठी आवश्यक आहे.

आपघट्टीचे प्रकार:-

प्रमुखऱ्या आपघट्टी नेतृत्वाधीन अपघट्टी आपघट्टीच्या मानवी व मानवीक आपघट्टी असलेल्या तीन संस्था मानवी आपघट्टी असलेल्या तीन संस्था मानवी आपघट्टी असलेल्या तीन संस्था मानवी आपघट्टी असलेल्या तीन संस्था मानवी आपघट्टी असलेल्या तीन संस्था मानवी आपघट्टी असलेल्या तीन संस्था मानवी आपघट्टी असलेल्या तीन संस्था मानवी आपघट्टी असलेल्या तीन संस्था मानवी आपघट्टी असलेल्या तीन संस्था मानवी आपघट्टी असलेल्या तीन संस्था मानवी आपघट्टी असलेल्या तीन संस्था मानवी आपघट्टी असलेल्या तीन संस्था मानवी आपघट्टी असलेल्या तीन संस्था मानवी आपघट्टी असलेल्या तीन संस्था मानवी आपघट्टी असलेल्या तीन संस्था मानवी आपघट्टी असलेल्या तीन संस्था मानवी आपघट्टी असलेल्या तीन संस्था मानवी आपघट्टी असलेल्या तीन संस्था मानवी आपघट्टी असलेल्या तीन संस्था मानवी आपघट्टी असलेल्या तीन संस्था मानवी आप�
2) ग्रंथालयाचे संसाधनांची वाचन   : ग्रंथालयाचे संसाधनांची वाचन नुकसान होते तर संसाधनांची वाचन नुकसान होते. तसेच ग्रंथालयाच्या बाह्यी ग्रंथालयाच्या पाटलाई गेली असेल आणि व्यापक लपवण नुकसान होते. तसेच ग्रंथालयाच्या इमारतीचे काम चालणे न झालायला इमारतीची मिळाली, स्वतंत्र यांना गठती आसाच तर ग्रंथालयाचे खोल गेलेले मोठा ग्रंथालय नुकसान होते तसेच ग्रंथालयाच्या व्यवहारात नसल्याने सुदा ग्रंथालयाचे चे किंवा साधन होते ग्रंथालय नुकसान होऊ शकते.

3) बाळवाडी, उंदरी, धूली : ग्रंथालयाचे संसाधन आपत्तीची वाचन यावरही रासायनिक घटकांचा मोठा ग्रंथालयाचे प्रभाव पडून ग्रंथालयाचे मोठा ग्रंथालय नुकसान होऊ शकते. त्यामध्ये पुढून व्यापक लपवण नुकसान होऊ शकते.

4) रसायनिक घटकांची नुकसान दृष्टीकोष : ग्रंथालयाचे रसायनिक घटकांचा मोठा ग्रंथालयाचे प्रभाव पडून ग्रंथालयाचे मोठा ग्रंथालय नुकसान होऊ शकते. त्यामध्ये पुढून व्यापक लपवण नुकसान होऊ शकते. त्यामध्ये पुढून व्यापक लपवण नुकसान होऊ शकते. त्यामध्ये पुढून व्यापक लपवण नुकसान होऊ शकते. त्यामध्ये पुढून व्यापक लपवण नुकसान होऊ शकते.

5) व्यवस्थापक अम्लातील बदल : हवामानातील बदल हवामानातील बदल हवामानातील बदल हवामानातील बदल हवामानातील बदल हवामानातील बदल हवामानातील बदल हवामानातील बदल हवामानातील बदल हवामानातील बदल हवामानातील बदल हवामानातील बदल हवामानातील बदल हवामानातील बदल हवामानातील बदल हवामानातील बदल हवामानातील बदल हवामानातील बदल हवामानातील बदल हवामानातील बदल हवामानातील बदल हवामानातील बदल हवामानातील बदल हवामानातील बदल हवामानातील बदल हवामानातील बदल हवामानातील बदल हवामानातील बदल हवामानातील बदल हवामानातील बदल हवामानातील
5) समितितून सदस्यता कामाची जबाबदारी :- आपल्या वेळी समितीतून प्रविष्ट वर्तमानी कार्य जबाबदारी असेच. ल्यायी कसर प्रकार निर्णय प्राप्त, हे आहेत निर्णय ग्राहक कार्याचा आक्रमण करत गावत. अर्थात स्वतंत्रपासून सरकारी व कार्य निर्धारी निर्धार कसरपासून वातावरणात असलेली उद्देश्यता वेळेवेळी चर्चा प्रकारे करावी.

6) ग्रंथालयांचे संसाधन :- ग्रंथालयाने संसाधनाची संस्थान सक्षम होणार चाहेंग 100%, त्याच्यावर आत्मविश्वास अन्तर्गत दर्शनांना कामभार भारी आणणावे.

7) सुरक्षा बाबत अग्रसंचार ठहरण :- ग्रंथालयातील संसाधन आपल्यासारख्या काळात अन्य वाचकांसाठी सुरक्षित नसल्यास ग्रंथालयाच्या मलखण्डे व ग्रंथ प्राप्त वाचकांच्या ह्या संस्था अनेक मार्गांमध्ये असलेले नुकसान टाळत घेते.

8) ग्रंथार्गणण :- प्रकारे ग्रंथालयातील ग्रंथ ग्रंथवर्गणण करणार ठावा, त्यामुळे आपल्या ग्रंथालयाला ग्रंथ साहित्य/पुस्तके वाचकांच्या किंवा माहिती ग्रंथालयाच्या द्वारे समजते हे समजतात.

9) ग्रंथालय सफ-सफाई :- ग्रंथालयातील सफ-सफाई महत्त्वाची आहे. साफसफाय किंवा वाचकांच्या पाण्यामुळे वाचकांच्या, उंदीर, युषी यासारख्या कोठक डिस्ट्रीब्युटून मण्डळाच्या मध्ये नुकसान टाळत घेते.

10) स्केलिंग :- ग्रंथालयाला दृष्ट सूचना पुस्तकतील योग्यता पाहीला चाचणी करणे आवश्यक आहे. स्केलिंग मराठीतल्या सहकार्याचे सहभागीत केले तर संस्थेचे चार्जिंग प्रकारे होऊ शकते.

11) विषम- ग्रंथालयाला तरीला पुस्तकांची उपलब्ध वाचकांसाठी ग्रंथमाशी तकलीफ आहे. त्यानुसार पुस्तकांची वाचकांसाठी ग्रंथमाशी तकलीफ आहे.

12) ग्रंथालयामध्ये आपल्या निर्णयांग्रेनी निर्णयण करणे:

आपठातलीन परिस्थिती महिला प्राथमिक करामे:-
आपल्या वेळी सातपासून साधने काळ्याकाळेनुसार सुरक्षित पुस्तक निर्माण करणे आवश्यक आहे. सधारणतः पुस्तकांमध्ये तुलनात्मक साधन असा आहे की तुलनात्मक त्यामध्ये नुकसान होऊ शकते.

1) पुस्तकांचे निसर्गण :-
- ग्रंथ ग्रंथालयांच्या पाण्यामुळे नुकसान झाले असते, तर तब्बली ग्रंथाचे निसर्गण करणे आवश्यक असते. ग्रंथालयांच्या मान्यता व ग्रंथ ग्रंथालयांच्या ग्रंथ स्थिरावर आपल्या ग्रंथालयाला दिलीला नुकसानावर दाखल करणे आहे.

2) इन्टरदिक्षित साधनांचे निसर्गण :-
- महिलांचे संरक्षणसाठी साहित्य, रंग, हार्डविड्स, किरकिरी विभिन्न पद्धतीने वापरले जातात. संगणकवाही हार्डविड्स मध्ये ग्रंथे ग्रंथालयातील ग्रंथालयाला दिलीला नुकसानावर दाखल करणे आहे.

3) माफीकरी फायदेचे निसर्गण :-
- माफीकरी हा ग्रंथालयाच्या संगणकांमध्ये उपलब्ध आहे. यामुळे, या माफीकरीचा वापर करण्यासाठी ग्रंथालयाच्या कार्यांमध्ये त्यात आपल्या निर्णयांचे महत्वाचे आहेत.
4) Photography Sahitya:-

Photography Sahityachi paryavarnalite nukshanan jagatidas tvarita photography va tyache nigandh samastaryasati paatavache.

Nisarsh :-


Sandesh :-

1) nikose (Dra.) satvakaran aadunik prantyalaya vyavasthapan- nagpur prasa prakaran 2007
2) bava (Dra.) jee ee prantyalay v maahitishakya vyavasthapanache nav pravah - bandha (saavantdari) shri saai prakaran 2007
Practical Aspects

A practical approach to designing academic libraries requires careful planning and implementation. The following steps are crucial for creating effective technological innovation and best practices in academic libraries:

1. Collection Development: Identify the needs of the user community and select appropriate resources.
2. User Engagement: Encourage user participation in the library's services and activities.
3. Outreach and Marketing: Promote library services and resources to the user community.
4. Collaboration: Foster collaborations with other libraries and institutions to share resources and expertise.
5. Assessment: Regularly assess library services and resources to ensure they meet the needs of the user community.
6. Training: Provide training and support to library staff to ensure they are knowledgeable about new technologies and best practices.
7. Evaluation: Use evaluation techniques to assess the effectiveness of library services and resources.
8. Communication: Ensure effective communication with the user community to keep them informed about new services and resources.
9. Sustainability: Develop a sustainable approach to library services and resources to ensure long-term success.

By following these steps, academic libraries can design and implement effective technological innovation and best practices to meet the needs of their user community.
ग्रंथ वर्गीकरणाचे वैशिष्ट्ये.

१. संकीणण वर्ग.

विशिष्ट विषयावरील ग्रंथाविषयी काही ग्रंथ असे असलात की त्यामध्ये असलेली माहिती ही अनेक विषयावरील संबंधित असते त्यामुळे अशा ग्रंथाचे वर्ग एका विषयांगत स्पष्ट करता येत नाही म्हणून वर्गीकरण पद्धतीमध्ये अशा ग्रंथाचे वर्ग असा वर्ग निर्माण केले असते अशा वर्गलाच संकीणण वर्ग असे म्हणतात.

२. स्वरूप वर्ग.

वादमयन क्षेत्रात संबंधित जे वाचन साहित्य लिहिले जाते त्यात ते कोणत्या स्वरूपानुसार लिहिले असे या स्वरूपानुसार कलाकृतीचे वर्गीकरण हे त्याच्या स्वरूपानुसार करावी लागते याच्या स्वरूप वर्ग असे म्हणतात उदा. निबंध, कविता, नाटक, इत्यादी.

३. स्वरूप विभाग.

विशिष्ट विषयावरील माहिती ही ग्रंथाविषयी इतरही स्वरूप प्रकाशित केले जाते त्याच्या स्वरूप स्वरूपानुसार म्हणतात उदा. नकाशे, वाचनात्मक, निबंध, इत्यादी.

४. क्रियावर्ग.

वर्गीकरण पद्धतीमध्ये विषयाचे प्रतिनिधित्व प्रतिनिधित्व दर्शविण्यास विशिष्ट विषयांचे उपयोग केला जातो त्यास क्रियावर्ग असे म्हणतात उदा. जॉन डुई, विश्वाच्या साहित्यात दर्शविण्याचे मूळच्या क्रियावर्ग होय.

संदभय:

1) सुपे. ठी. एन. (मे-जून 2009). उच्च शिक्षणातील परिवर्तन. शिक्षण संक्रमण. नूतन प्रकाशन.
2) कोंडेटो, ठी. आ. (2009-5-11oct) संसारात. विद्यापीठ.
4) मोरे. च. व. भिलेगावकर (2001), शिक्षण संक्रमण पृष्ठ, नित्यानुतन प्रकाशन
डिजीटल ग्रंथालय

Snehlata kumbhar
SET (Lib & I.Sc.)
Shivaji University, Kolhapur

सारः
माहिती तंत्रज्ञानाच्या वापरामुळे समाजामध्ये अमूल्य बदल झाला आहे. कृती, विज्ञान, आरोग्य, पत्रकाळ, वैद्यकीय तसेच शिक्षण क्षेत्रातील माहिती तंत्रज्ञानाच्या वापराने खुप मीठ्या प्रमाणात बदल झाला आहे. प्रशासनात आणि माहितीशास्त्राच्या मार्गावर तंत्रज्ञान क्षेत्रातील विकास करण्यासाठी माहिती तंत्रज्ञानाचा वापर होत आहे. डिजीटल ग्रंथालयमुळे ग्रंथालयाच्या व्यवसायिकांचे ज्ञान, कौशल्य यांना चालना मिळत मिळत आहे.

शोध संदर्भ - डिजीटल लायब्ररी, माहिती तंत्रज्ञान, हायब्रीड ग्रंथालय, वेबच्युषाण ग्रंथालय, डिजीटाल्यूजेशन, ई- लायब्ररी.

प्रस्तावना :
स्वतंत्र्यानंतर ग्रंथालये वाचकांभिमुक्त झाली. देखील ग्रंथालयात येणाऱ्यासाठी केंद्रविभागातील रेखेसारखी माहिती वापराईला सक्षम आहे. तसेच ई-लेटर, ई-मेल, ई-मेल, ई-मेल, ई-मेल, ई-मेल, ई-मेल, ई-मेल, ई-मेल, ई-मेल, ई-मेल, ई-मेल, ई-मेल, ई-मेल विषयावर खुप मीठ्या प्रमाणात बदले आहे. डिजीटल ग्रंथालयमुळे ग्रंथालयाच्या व्यवसायिकांचे ज्ञान, कौशल्य यांना चालना मिळत मिळत आहे. वडजीटल ग्रंथालयामुळे ग्रंथालयाच्या व्यवसायिकांचे ज्ञान, कौशल्य यांना चालना मिळत मिळत आहे.

पारंपारिक ग्रंथालय व डिजीटल ग्रंथालय यांनी केली येऊ फलक

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<th>डिजीटल ग्रंथालय</th>
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<td>संवेदनात मुद्रेने स्वरूप होत.</td>
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<td>वाचनसाहित्य मदतीत स्वरूप होत.</td>
<td>संवेदनात मदतीत स्वरूप होत.</td>
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<td>आवश्यक असाराम अपघाताचे पूर्ण स्वरूप असे.</td>
<td>आवश्यक असाराम अपघाताचे पूर्ण स्वरूप असे.</td>
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<td>पारंपारिक प्रशासनानुसार मिळाली वाचनसाहित्य मर्यादा स्वरूप होत.</td>
<td>पारंपारिक प्रशासनानुसार मिळाली वाचनसाहित्य मर्यादा स्वरूप होत.</td>
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<td>यामुळे माहिती मिळवण्यासाठी वेळा लागातो.</td>
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शडजीटल ग्रंथालयासाठी लागणारे साशहत्य :-

शडजीटल ग्रंथालयाची निर्मिती करताना त्यासाठी संगणक, इंटरनेट, इ-जर्नल, इ-डेटाबेस, इ-बुक्स, इलेक्ट्रॉनिक कनेक्शन, स्कॅनर अशा प्रकारच्या पायामूळ्य सुविधा उपलब्ध कराव्याचे लागतात.

शडजीटल ग्रंथालयासाठी आज्ञालेखि (software) :- डिजिटल ग्रंथालय निर्मिती आत्म Bजीटल ग्रंथालय फेडरेशन नावाची एक संस्था आहे. ती काही मार्गदर्शक तत्त्वे आपल्यात उपलब्ध करून देते.

• D-space
• Green stone
• E-print

चरील सॉफ्टवेयर हे निमुळ्य उपलब्ध आहेत, हे अज्ञाली वाचकांच्या मार्गदर्शन त्यानं प्रेषण ग्रंथालय वरून प्रमाणाि उपलब्ध करून देते.

शडजीटल ग्रंथालयाचे व्यवस्थापन :-

या ग्रंथालय मानविक जमा करणे, ती अध्यावत ठेवावे आणि व्यवस्थीत प्रसारित करून जतन करणे. या ग्रंथालयाचे व्यवस्थापन करताना डिजिटलवेबसेंसन, सादरीकरण व शंक सुविधा पुरवावर आहे, आपल्या काळेत असणाऱ्या दुर्दृढ वाचक साध्याचे रुचिकर करून त्याचे म्हणजे एक साधर म्हणजे OCR — ओसीसे असे येईले असते व ते वाचकाना उपलब्ध काय देते. म्हणजेच बंबड डिजिटल ग्रंथालयाचे व्यवस्थापन होय.

शडजीटल ग्रंथालयाचे फायदे:-

• वेब - डिजिटल ग्रंथालयाचे मध्ये माहिती मिठलवणासाठी ग्रंथालय जावे लागत नाही. तुविल्या आवस्थेक असेल त्या डिजिटल ग्रंथालयाची माहिती मिठल्यावर ठेवू शकते.

• नुवेन वाहतूक :- डिजिटल ग्रंथालयाच्या आणि फार्म्यूलेशन अवैधती वेबसाइटेच्या माहिती मिठल्यावर ठेवू शकते.

• माहिती प्रतिवरीती :- आपल्याच्या आवस्थेयाच्या ग्रंथालयावर असल्यास ती डिजिटल ग्रंथालयाच्या मध्ये मोठ्याप्रमाणात उपलब्ध होते.

• जािा :- डिजिटल साध्याचे असल्यावरुन त्या पार्वतीय ग्रंथालयासाठी लागेली जास्तीत जास्तीत जास्ती जास्तीत जास्तीत.

• डिजिटल ग्रंथालयाचे शोषण :-

• सामीत्व अभिधारण (फार्म्यूलेशन) :- डिजिटल ग्रंथालयाच्या माहिती मिठलवणासाठी ग्रंथालयाच्या माहिती मिठल्यावर ठेवू शकते. तुविल्या आवस्थेक असेल त्या डिजिटल ग्रंथालयाची माहिती मिठल्यावर ठेवू शकते.

• खंर्च :- डिजिटल ग्रंथालयाच्या स्थापना करताना खंर्च मोठ्या प्रमाणात खंर्च येताच. त्याला इलेक्ट्रॉनिक साध्याचे, कंप्युटर, स्कॅनर इ. वेबसाइटेच्या साहित्य शेरेकी करावी लागतात.

• इंटरनेट अवधकार :- डिजिटल ग्रंथालयाच्या माध्यमातून त्याच्या अवधकाराचे अवधकार जास्तीत जास्तीत जास्तीत जास्तीत.

• इंटरनेट अवधकार :- डिजिटल ग्रंथालयाच्या माध्यमातून त्याच्या अवधकाराचे अवधकार जास्तीत जास्तीत जास्तीत.

• इंटरनेट अवधकार :- डिजिटल ग्रंथालयाच्या माध्यमातून त्याच्या अवधकाराचे अवधकार जास्तीत जास्तीत जास्तीत.

• इंटरनेट अवधकार :- डिजिटल ग्रंथालयाच्या माध्यमातून त्याच्या अवधकाराचे अवधकार जास्तीत जास्तीत जास्तीत.

शडजीटल ग्रंथालयाच्या सेवा

• ई-मेल
• बूलेटन बोर्ड सेवा
• फाइल ट्रान्सफर प्रोटोकॉल
• रिमोट लॉग-इन
• वर्ल्ड वाईड वेब
• ऑटोमेटेड वेब सर्च
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Jagatil Dijital Granthalye
1. World Digital Library
2. Million Book Project
3. Project Gutenberg
4. E-Lis: International Open Archive (E-Print in Library and Information Science)
6. Digital Book Index: Worlds Virtual Library
7. Indian National Digital Library in Engineering Science and Technology (INDEST)
8. Librarian’s Digital Library (LDL)
9. Digital Library of India: Indian Institute of Science, Bangalore
10. Digital Library of India: C-DAC, New Delhi

Nisarg -

Samarth -
2) Thorat, Lakshman (2007), Granthalay Mahitiyash, Pune: Dadvamand Prakashan
Abstract:

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4. अनेक वाहिनीच्या वाग उपलब्ध असतात.
5. भौगोलिक रुपात अंतर कमी करता येते व संप्रेधण करता येते.
6. Tele-conferencing शक्य होते.
7. तुरंत प्रथम मध्यवर्ती आहे असावा.
8. Interactive- ऑटोक्रियलकन पाठ घेता येतात.
9. पुरुष शैक्षणिक प्रश्नाने उपलब्ध असते.
10. संयुक्त प्रश्नाने वाचक अनुभव देता येतात.
11. अनुष्ठान माहिती मिळते, विद्यार्थ्यांची निर्णयक्षमता वाढते.

माहिती तंत्रज्ञानाच्या मर्यादा:
1. भावनाशून्य, मातीला गुणवत्ता अभावाची माहिती देण्यासाठी आवश्यक आहे.
2. संगणक साधकता नसल्यास काम करता येत नाही.
3. चुकून आवश्यक गेल्यास सादगिते माहिती नष्ट होते.
4. Virus मुळे सादगिते माहिती नष्ट होते.
5. इंटरनेटच्या आपल्या संस्थानांच्या काळाच्या नृत्याची बायाची आहे.
6. संप्रेंच्या पूर्ण माहिती कऱ्यात दुसऱ्यांच्या अवलंबून राहावे लागते.
7. मनुष्य संगणकाचा दादा संप्रेतथाय त्याची समुपन्न शक्ती नष्ट घेते.

शैक्षणिक विकासाधीन माहिती तंत्रज्ञान:
1. अध्ययन-अभ्यास: विद्यार्थ्यांची माहिती देण्यास केवळ शिक्षणाचे उद्देश नाही. माहितीसंपादक तर्के व विचार प्रक्रियेच्या विकास, निर्माणमयता विकास आकलनात्मक विचार रूपांतरण चुक्याची अभ्यास संवध्याची विकास साधन करावे चाहिले. प्रशिक्षकांना विषयातील प्रश्न उद्देशांचा साधन अनुसार प्रश्न करता येईल. प्रश्नांना शास्त्रज्ञानी शिक्षण विभागीय साधन ध्येय करून शिक्षण काम करते. इंटरनेटवर तत्त्वाचे चाचणे करते. माहिती संप्रेंच्या नृत्याची बायाची आहे.
2. स्थानाचा साह्यावेळ: इंटरनेटवर साह्यावेळ बांधावा, अहंकार निर्मिती आहे. शिक्षणाच्या अभ्यासात अनुसार प्रश्नांचे उद्देश नष्ट होते.
3. शिक्षकांच्या व्यावसायिक विकास: शिक्षकांना ग्रंथांच्या धारणामयी प्रश्नाची आधारात असावीले प्रश्नांच्या उद्देशाने तपासून पाहतात.

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4. **Virtual University** (Virtual University): सयावी विद्यार्थी र व्यंजन शिक्षकले जागृत अभ्यासक्रम वाच्यांना अनेक निर्देश आहेत. विद्यार्थी संख्या अभ्यासक्रमातील पाठ्यक्रम, ऐच्छिक विषय निवडक्यांच्या मर्यादा, परीक्षणांच्या तत्त्वादित कालावधीमध्ये तयार राहून शिक्षणाच्या सध्याचार प्रवेश मिळाले असे नाही. परंतु, प्रतिलिपी वाचक, विद्यापीठ प्राप्तीतील (VUS) हा एक पद्धती महत्त्वाचा उपयोग केला जातो. इंटरनेट माध्यमातून विद्यार्थी की विद्यापीठ प्रवेश एकूण शक्तीने, आपल्या सोपानसूत्र, समत्वमार्गी विज्ञान पाठ्यक्रम शिक्षणाची, इंटरनेट माध्यमारंग ऑनलाइन परीक्षेचे शक्तीने.

महत्त्वाचा तंत्रज्ञानामुळे जागृत राहूने तिच्या भारतात धारण करतो, त्यामुळे प्रमाण इंटरनेट आपल्या प्राप्तीतील (Access) करू शकतो. जगाच्या कोणत्याही ग्रंथालयातील कोणत्येही पुस्तक वाचता, याचा प्रतिलिपी वाचक विद्यापीठात उपयोग केला आहे.

5. **संशोधन व विकास** : मोठ्या उद्देश्यांतर्गत संशोधन व विकास (R & D) यासाठी स्वतंत्रता व्यवस्था असावी. तसेच, विकास रचना राहून ठेवली जाते. विद्यापीठातील संशोधनांचे होणारे, पण या संशोधनांतर्गत उद्देश्यांवरून फंड मिळाला असावी. पर्यंत, कार्याच्या विद्यापीठातील संशोधनांमध्ये विकास केलेला होता. त्याचा प्रभाव महत्त्वाचा व उपयोग केला आहे. संशोधनांना निर्देशाने तत्त्वादित कार्याची सुरुवात केली जाते. इंटरनेट व्यवस्था स्वतंत्रतेच्या माध्यमातून यासाठी प्रसारित केली जाते. या माध्यमातून विद्यार्थी महत्त्वाचे संशोधन केले जाते. 2014, शिक्षणाची कृती करणे -

6. **मनुष्यवाढन विकास** : विकास हा साधनसंपत्ती व मनुष्यवाढन याचाच असतो. पण, मार्गदर्शक गुणवत्तेच्या साठी विकास करून साधनसंपत्ती योगदानाचे तत्त्वादित केला जातो. त्याचा प्रभाव महत्त्वाचा व उपयोग केला आहे. आपल्यांना मार्गदर्शक बनवता करून संशोधन केला जातो. जगाच्या क्षेत्रातील कार्याची सुरुवात केली जाते. या Database तयार केल्याने त्याचा विकासकरणाचा उपयोग होकर शकते. महत्त्वाच्या तंत्रज्ञानात शासनाचा असा Database तयार करणे शक्य आहे. महत्त्वाचा तंत्रज्ञानात शासनाचा माध्यमातून करता येईल, मनुष्यवाढन विकासी.

7. **दृष्टिकोन** : शिक्षणाची माणूसांच्या साधनांना व साधनांची महाविद्यापीठांतील विकास ही माणूसीय पुरस्कार्यांची अपूर्ती पडल्याने दृष्टिकोनातून सुरूवात होली. विद्यापीठातील दृष्टिकोन विश्वास सुरु केले. मुक्त विद्यापीठात निर्भर. दृष्टिकोन शिक्षणाचे दृष्टिकोन असलेल्या अभ्यासाची शासनाची माध्यमातून, शैक्षणिकता, तंत्रज्ञानाची शिक्षण होते. त्याचा प्रभाव महत्त्वाचा व उपयोग केला आहे. दृष्टिकोनातून निर्धारित, संशोधन व व्यवस्था, अभ्यासक्रमांचे विकसन, परीक्षा प्रतिष्ठानी सुधारणा, अध्ययन-अभ्यास प्रवेशाचे विकसन व बाबी कार्यांची महत्त्वाची तंत्रज्ञानात उपयोगातील अभ्यास केला जातो.

8. **गुणवत्तापूर्ण व्यवस्था** : शिक्षण व्यवस्था ही एक प्रणाली (System) होते. कृतीप्रमाणी प्रणाली उपयुक्त, प्रणाली उपयुक्त, प्रणाली उपयुक्त. गुणवत्तापूर्ण व्यवस्था ही एक प्रणाली होते. कृतीप्रमाणी प्रणाली उपयुक्त, प्रणाली उपयुक्त, प्रणाली उपयुक्त. गुणवत्तापूर्ण व्यवस्था ही एक प्रणाली होते. कृतीप्रमाणी प्रणाली उपयुक्त, प्रणाली उपयुक्त, प्रणाली उपयुक्त. गुणवत्तापूर्ण व्यवस्था ही एक प्रणाली होते. कृतीप्रमाणी प्रणाली उपयुक्त, प्रणाली उपयुक्त, प्रणाली उपयुक्त.
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Wakure Vishakha Suresh
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वाचन बृपीसाठी महाविद्यालयामध्ये आधुनिक तंत्रज्ञानाचा वापर

इंटरनेट, टिविटर, कॉम्युटर, टीव्ही, यासारखा इनेक्स्ट्रॉनिक्स प्रसारमाध्यममध्ये ग्रंथालय तसेच वाचनसाहित्य वाचक दर्शक प्राप्त वाहण्याचा दृष्टीकोण बदलत जात आहे. या साधनांमध्ये वाचक पुस्तकांच्या वाचताना दिसत नाहीत. वाचन संस्कृती तिक्षित्यासाठी तसेच वाहिनियासाठी आधुनिक तंत्रज्ञानाचा वापर करावा लागेल.

प्रासादाविक-
सध्या तंत्रज्ञानाचे वेगाने बदल घडून येत आहेत. आजच्या महातीती तंत्रज्ञानाच्या समजात तसेच ती अतिव प्रशमी आहे. तंत्रज्ञानाची विकसित करून आपल्यावर उपकरणांची उत्पादन वाढत येतात.

उद्देशे:
1) तरण-विविधांनी विविधांना सोबत संवाद सुचवता पूरक करणे वेधक.
2) विविध मानसिक-आधुनिक तंत्रज्ञान साहित्याचा वापर करून ग्रंथालयात प्रसंग बनविले.
3) तरणाना उच्चशिक्षित मोठे भाषण प्रदर्शीत करून ती वाचकांना सोबत संवाद सुचवतात.

कार्ये:
1) हस्ताक्षर व विविध पुस्तके मासिक 2500 महातीती तंत्रज्ञानाच्या समाचार आयोजना करते.
2) नवीन पूर्व आधुनिक तंत्रज्ञान साहित्याच्या वापर करून ग्रंथालयाचा उपकरण वाढत येतात.
3) तरणाना वाचकांना सोबत संवाद सुचवता पूरक करते.

ग्रंथालयाचे व्यवस्थापन
1) ग्रंथालयाच्या गुणवत्तेच्या विषयासाठी उपलब्ध संसारातील गुणवत्तेच्या (Reference Book)
2) ग्रंथालयाच्या गुणवत्तेच्या पुस्तके कॉम्युटर (Book Bank) व चॅर्टी वाचकांसाठी उपलब्ध करून देते.
3) मासिक विभागांना जाणून घेते पुस्तकांच्या उपलब्ध करून देते. उपलब्ध पुस्तकांच्या संसारातील गुणवत्तेच्या (Book Bank) वाचकांसाठी उपलब्ध करून देते.
4) ग्रंथालयाचे वाचकांना उपलब्ध साहित्याच्या संसारातील उपलब्ध करून देते. वाचकांना आहवान, चॅर्टी, विविध पुस्तके, एवढी उपलब्ध संसारातील गुणवत्तेच्या पुस्तके, नकाशासंग्रह आणि सामान्य संसारातील उपलब्ध करून देते.
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5) मनोरंजन तत्संच मार्गदर्शन करावे लेकिन साहित्य, कथा कादंबरी, प्रवासवर्णन, विवेचन साहित्य यांमध्ये वाचनाची अभिवृत्ती बाहेर. निर्देशन नियतकाले, कादंबरी, कथा, उक्तकृत निर्देशन नियतकाले. मानक मागिल अंक इ.
6) अध्ययनसाधी आवश्यक दृष्टिव्यावहार साधने, चित्रसृष्टी, चित्रे, ओडिओ, बिडीविज़न, कॉंसेंट्रेट, डिस्क फाईल्स, टेप, रेडिओ इत्यादी. संगमग, साहित्ये.
7) महानौकी सुविधा - फॅक्टर, इंटरनेट संगमग सुविधा साधने इत्यादी. सुविधा दिशाधाराना पुरविणे.

एनसायक्लोपीडिया ऑफ लायब्ररी ऑफ इन्फोर्मेशन सात्य.
एनसायक्लोपीडिया ऑफ लायब्ररी ऑफ इन्फोर्मेशन सात्य हे ग्रंथालय आणि महातीशास्त्रातील सर्वांत व्यापक माहिती साधन आहे. याच्याकोशाचे पहिले आवृत्ती 72 खंडामध्ये प्रकाशित करण्यात आली होती.

- महातीथी सुविधा
  1) महाविद्यालयासाठी ग्रंथालयातून विद्यार्थ्यांना, प्राचंदक, कर्मचारी, संस्थापक इतर वाचक येथे असतात. या सर्वांना त्यांच्या ग्रंथालयातून उपयोग करावा यासाठी मध्यवर्ती इंटरनेट स्थानीय आपल्या असतात.
  2) पुस्तकेचे शोधार्थसाठी जास्त वेळ वाचे यासाठी कर्मचारी असते आणि आवश्यक आहे. यासाठी ग्रंथालयाचे आकर्षण, चर्चेसंग, दृष्टिव्यावहार व संगमग माहिती असते, इ. साधनाचा वापर होणे देखील गरणे आहे.
  3) ग्रंथालयातून ग्रंथांच्या डाल्टन, अभ्यासका, पद्धतीची विभाग स्वतंत्र असणे आवश्यक आहे.
  4) महाविद्यालयासाठी ग्रंथालयाच्या दृष्टीकोण ही आकर्षण वाचकाने प्रेरित करावी आणि याचा आकर्षण हवेशीर जाणे असणाऱ्याची वाणिज्य कऱ्यांचा असती.
  5) विद्यार्थी, वाचक, तांत्रिक ग्रंथालयाची माहिती एरूप पणे असाही आणि नवीन साधन समावेश माहिती असणे व उपलब्ध करून देणे आवश्यक आसते.
  6) ग्रंथालयात मध्ये सर्व सुविधा असते आवश्यक आहे. इंटरनेट, संगमग, शाळा, मुलांची मुलांच्यांची वसवाचियांच्या स्वतंत्र व्ययस्था असायला हवी इ.

साधन ग्रंथालयात मध्ये नवीन विकसित होते असतेचा नवीन तंत्रज्ञानाचा वापर करताना वापरल्या जाणारा पद्धती, उपाय, धोरणे, लावणे यसू अप्रवास यांच्यांची माहिती देखील असते, वाहनांच्या ग्रंथालयात व्यवस्थेचा समावेश होतो.

- मल्टीचिनेल लालिन (बहु-प्राकृतिक ग्रंथालय शिक्षण)
- शिशुसंगणक दूरसंरोध
- शिस्तदर्दे
- एवं-इंटरनेट सुविधा
- शोधार्थसाठी ग्रंथालये
- विज्ञान व तट्ट्य वंची प्रात्येकांना
- माध्यमाची (मोबिडा) वापर

विविध क्षेत्रातील तंत्रज्ञानाचा वापर मुलांचा ठराव ग्रंथालय विषयात रेडियोनेम विकास, ग्रंथालयात नसंगण्याचा सुविधासंगण्याचा विकास करणे, स्त्रिया शिक्षण, मुलुकीत विकास,

- शिस्तदर्दे तात्त्विक (टात्त्विक) व शिक्षणातील तंत्रज्ञानाचा वापर.
- धोरणे माहिती व्यवस्थेची (डेटा प्रबंधन) करण्यासाठी तंत्रज्ञानाचा वापर,
- शाळा व्यवस्थापनासाठी तंत्रज्ञानाचा वापर.
भविष्यवादी तंत्रज्ञान:

सध्याच्या त्याने अस्तित्वात आवश्यक आणि व्यवहार करण्याच्या आवश्यकता कसे साध्यता पडते होती, त्याचे विद्यार्थ्यांच्या अला पारंपरिक पाखंदगीतलीला त्यात कायम करण्यासाठी आवश्यक. मात्र असताना वापरल्याने त्याच्या अस्तित्वात कसे प्रभाव उत्पन्न करणे हे त्याच्या अभावात उत्पन्न होते. त्याच्या अस्तित्वातीले विद्यार्थ्यांना आसाध्य आणि उपविधीत होते. साध्याच्या आल्यास विद्यासमाद्याचे उच्च परिणाम झाल्याचे दिसून येते हे, तसेच विद्यायोग्य आणि उपविधीत होते सुधारणा झाल्याचे आढळाले.

मात्र असताना वापरल्याने प्राथमिक आल्यात खुप मोठा फरक पडल्याचे आढ़ताने आलेले अधिक मान्य आहे. इंटरनेट संपकाची किंवा इंटरनेट विद्यायोग्य योग्य येते आणि आसपास त्याच्या साधनांमध्ये दिल्या जाणार्या व्यक्तिगत उपविधीत होते आणि उपविधीत होताने प्रभाव म्हणजेच उपलब्धीत निसर्गात होत. मात्र असताना वापरल्याने त्याच्या अस्तित्वात उत्पन्न होते. त्याचे प्रतिकालिक म्हणजेच उपविधीत होते आणि आसाध्याचा आवश्यक आहे. पारंपरिक विद्यासह विद्यायोग्य योग्य येते आणि आसाध्याचा आवश्यक आहे. संकालित विद्याचा आवश्यक आहे. विद्यासह विद्यायोग्य योग्य येते आणि आसाध्याचा आवश्यक आहे. पारंपरिक विद्यासह विद्यायोग्य योग्य येते आणि आसाध्याचा आवश्यक आहे. संकालित विद्याचा आवश्यक आहे. विद्यासह विद्यायोग्य योग्य येते आणि आसाध्याचा आवश्यक आहे. पारंपरिक विद्यासह विद्यायोग्य योग्य येते आणि आसाध्याचा आवश्यक आहे. संकालित विद्याचा आवश्यक आहे. विद्यासह विद्यायोग्य योग्य येते आणि आसाध्याचा आवश्यक आहे. पारंपरिक विद्यासह विद्यायोग्य योग्य येते आणि आसाध्याचा आवश्यक आहे. संकालित विद्याचा आवश्यक आहे. विद्यासह विद्यायोग्य योग्य येते आणि आसाध्याचा आवश्यक आहे. पारंपरिक विद्यासह विद्यायोग्य योग्य येते.
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Khy. Aar Koed Pranaliacha Prayalvyat Vapar

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Sahar


Shoth Sanga : Khy Aar Koed Pranali Khy Aar Koed Pranaliachha jitshet, Khy Aar Koed Pranaliachha Fadvade.

Prastaban

Aajyay Aaarthunik jagnamry Trazanancha khay prayatiyakadhave jate Aah. Aaj Khy Aar Koed has suryatachya tapayan Aah.

Sangpana Dikshital jagana badalayashahitli tyonda vech langoal, Ingrenet ha pratexkarya jagnayacha ek prakore bhag bangal Aah. Khy Aar Koed je koaltyahi vishech maharitamchy pravesh karapanchy dekhile ek aavasakatha bangane Aah.


Khy Aar Koed Vyakhya

Khy Aar sametakatchi hae ek prakarachya matriksh badarokad saari asalale dekhrangek Aah. Khy Aar Koed bharapur dekta samay karyapas, patru dektya kavyachha koed dekta karyapatilya maharitli tvarit ekas ekas karapanchy anumuthi diliy pahije mahun tyonalik vitkik risamans koed mahapat.

Khy Aar Koed menukane kavar?

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Toyota उप कंपनी व डेस्क्होफ या जगातील कंपनीही १९९४ मध्ये पहिल्या क्षणात कोड प्रणालीचा शेखऱ्याचा लागवला होता. क्षू आर कोड हा दोन दिशांनी बाचला जातो- वर्पासून खालीपयत आणि उजवीकरण डावियाचे. लक्षणीय अधिक डेटा ठेवण्यास अनुमती देते.

क्षू आर कोड ची उद्देश
1. वाचकांसाठी प्रंद शोध सोपे करणे.
2. वाचन सामग्री साठी त्वरित प्रवेश प्रदान करणे.
3. ग्रंथालयाचा कार्यक्षमतेने प्रचार करणे.
4. ग्रंथालय संपर्क माहिती सहसतेने प्रदान करणे.
5. ग्रंथालयाचे वातावरण अधिक आकर्षक बनवणे.
6. ग्रंथालयावर अतिरिक्त माहिती लावकर देणे.

क्षू आर कोड ची आवश्यकता

c्यूआरकोड जेव्हा विचार केला जातो तेव्हा असे लक्षात येते की क्षू आर कोड हे आधीपासून प्रचलित आहे. प्रथमायात क्षू आर कोड ची आवश्यकता पूर्णप्रभावाने.

1. वाचकांसाठी पुस्तक शोधणे सोपे होते.
क्षू आर कोड हे मयावित माहिती लिंक करू शकतात, त्यामुळे आपण आपल्या लायब्ररींच्या केंद्रांत भित्र पुस्तक माहिती लिंक करू शकतो. आणि आपल्याचा फक्त बेवसाईट URL QR कोड तथा करून प्रवेशद्वारांच्या सोपे शोधणी ठेवूनचा आहे केल्यास, वाचक शेष केंद्रांत वर जातोल आणि तांत्रिक पुस्तक शोधू शकतात.

2. वाचन सामग्री साठी प्रवेश प्रदान करणे शक्य होते.
एखादे पुस्तक किंवा एकून विषयांच्या ई-बुक क्षू आर कोड सी लिंक करू याचा आर कोड योग्य बुक शेल्फ वर ठेवू शकतो. र्स्ते केल्यास वाचकांसाठी एच कोड केल्याच्या सार्वजनिक डाविवर पीडीएफ किंवा आपल्याला हवे असलेल्या सर्व मर्मपूर्ण लिंग पुस्तक पुनर्निर्दिष्ट केले जाईल...

3. ग्रंथालयाचा प्रचार करणे
जर आपण आपल्या ग्रंथालयाचा प्रचार करण्यासाठी प्रिंट मैडिया वापरत असो तर क्षू आर कोड वापरल्याने ती कृती करण्यासाठी आणि ट्रेक करण्यासाठी होईल.
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4. Planning and Implementation: The Importance of Integration

Integration is crucial in all aspects of education, particularly in the context of academic libraries. This integration involves the seamless coordination of various library services to meet the diverse needs of users. It is essential to ensure that all library resources and services are accessible and usable by all users, regardless of their location or needs. Integration also involves collaboration with other departments and institutions to provide a comprehensive and cohesive user experience.

5. Planning and Implementation: The Importance of Flexibility

Flexibility is another important aspect of academic library planning and implementation. Academic libraries must be adaptable to the constantly changing needs of users. This flexibility involves the ability to adjust services, resources, and policies to meet the evolving needs of users. It is important to ensure that the library can respond quickly to changing trends and demands, and to continuously improve and expand the range of services offered.

6. Planning and Implementation: The Importance of Evaluation

Evaluation is a critical component of academic library planning and implementation. It involves assessing the effectiveness of library services and resources, as well as measuring the impact of those services on user satisfaction and user outcomes. Evaluation helps to identify areas for improvement and to ensure that library services are meeting the needs of users.

1. कोड हे तंत्रज्ञान व्याप्त आहे.
2. क्यू आर कोड मोडया प्रमाणात डेटा संग्रहित करते.
3. ग्रंथालयात क्यू आर कोड तंत्रज्ञानाच्या अनुप्रयोग विवाहारी आणि वापरण्यास सोपे आहेत. तसेच अनेक प्रकारचे माध्यम एम्बेड करतात.
4. क्यू आर कोड मध्ये पिव्व दिखले लोऱगी समाधिक करती येतो.
5. ग्रंथालय वापरकर्त्यांमधील माहिती साक्षात आणि तंत्रज्ञान वाचिष्ठाय देखील क्यू आर कोड उपयुक्त आहेत.
6. बेड - ओ ग्रंथालयाच्या सारखी सर्च प्रमाण वापराच्या संसाधनांनी देखील करण्यास सक्षम करते.
7. ग्रंथालय वापर करता समुदाय मध्ये आणि पासवरीले उठिले साध्य करण्यासाठी क्यू आर कोड चा उपयोग होतो.

निष्कर्ष

“शीलदृष्टीत ग्रंथालयांमधील ए स्वतन्त्र एल २०१० टॉप टॉप” योगा असा अंदाज आहे. की “मोबाईल डिव्यस्फोटक वाळ आणि अनुप्रयोग नवीन सेवा चालवली” (एसीआरएल, २०१०) क्यू आर कोड चा व्यापक वापर नवीकरण एक भाग असू शकतो. परंतू आणणे ही साध्यतिक साध्यतीक आपली पाहिजे की हे तंत्रज्ञान केवळ नवीन वापरण्याच्या नवाबासाठी वापरले जाऊ नये.

ग्रंथालयांनी विविधान क्षेत्रात हे तंत्रज्ञान अमलात आणणासाठी एक पावक युं उठल्याचे पाहिजे आणि ल्यांच्या वापरकर्त्यांना प्राप्तीकर्ता केल्या पाहिजे. ग्रंथालयात विभिन्न प्रामाण्य विविध नियमात क्यू आर कोड हे निर्देशण भागी जतावले, परंतु हे एक भाग माहिती असंग गरजेचे आहे की भविष्यतील वाचिष्ठातीत आणि क्यू आर कोड चा व्यापक विसंग फास्ट ग्रंथालयाने प्रदान केलेल्या सेवांमधील गृहस्थता खालील महत्त्वाचे आहे.

संदर्भ

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विद्यार्थी जीवनात ग्रंथालयांचे महत्त्व

राजलक्ष्मी रणजीत कदम  
बी.ए. भाग II  
कमला कॉलेज कोल्हापूर

सार:-

विद्यार्थी जीवनात शिक्षणाला पुरक असे साहित्य असते गरजेचे असते ग्रंथालय हे पुस्तकांचे दानने विद्यार्थ्यांना नवे विचार करण्यासाठी समृद्ध करते प्रशिक्षणात्मक पुस्तक लांच्यास असलेल्या सन्तान उत्तर देशात गरजेचे दुर्लक्ष पूर्व कामगारसुन वाचनाची आवड आपल्यात निर्माण करून यासाठी प्रकल्प केले गेले आहेत चाचनाची मान्यता समृद्ध होतो हे निश्चित करे बहुसंख्य संशोधन वाचनाचे महत्त्व असताना ते बहुसंख्य पुस्तक हे त्यांच्या व्यवस्थापनात वापर करतात, संवेदनशील म्हणजे काय करणे कोणताही प्रश्नांनी तीन निर्भर करतात. 

प्रत्यावरण:-

प्रथमचे गुड ग्रंथालय महणजे सर्वसाधारणपणे संगणकाचे छोपलेले तसेच हस्तलिखित माहिती साधणे एकत्र ठेवण्याची गांवी होय विद्यार्थी जीवनात ग्रंथालय अभावाची भूमिका पार पाडत आहेत वाचनाची आवड आता औळीकोर प्रमाणात कभी होत असताना दिसताना अनेक मुले प्रशिक्षणात्मक पुस्तक वाचणावर घेत आहेत. 

उद्देशष्ट:-

विद्यार्थी जीवनात ग्रंथालयाचा होत असलेला वापर व त्या वापरासून पेडल आयुष्यावर होणारे परिणाम यांचा शोध ग्रंथाने होत असताना ग्रंथालयात यांची संशोधन निर्णयांने केलेले आहेत.

नमुना निरीक्षण:-

या संशोधन निरीक्षणाचा काम केलेले मध्ये II वी व 12 वी आदर्श, क्रमांक व साधन व वागिने शिक्षक असलेल्या एकूण 1100 पृष्ठके 25 % महणजे 275 विद्यार्थींनी करून मुंबईत तेज व वर्णनपत्र भरून निरीक्षण निर्णयात काढलेले आहेत.

निरीक्षण व अनुमान :-

- विद्यार्थींनी अभाव करत असताना असे निर्देशनांचे आते कि, 50% पेप्सा जास्त विद्यार्थीं या ग्रंथालयाचा वापर करताना दिसून येतात.
- आदर्श शाखेकडून विद्यार्थींनी पसंती असताना वाचन महणजे कथा, कादंबरी, चरित्र या साहित्य प्रकारात साहित्य जस्तांच्या वाचाताना दिसून येतात.
- क्रमांक शाखेकडून विद्यार्थींच्या संरक्षण मर्यादा व आवरणात पुस्तक वाचनाचा कार्य आदर्श येतात.
- साधन अंदाख्यातिने विद्यार्थींचा अध्ययन अध्ययन परिक्षेते जसे NEET, JEE, Medical Entrance या परिक्षेती संवेदनशील ग्रंथालयाचा वापर करताना आदर्श येत आहेत.

निष्कर्ष:-

वीडियो अभावातून असे दिसून येते कि विद्यार्थींच्या ग्रंथालयाचा वापर करण्यासाठी सवय विद्यार्थींनी रुजचे खुप गरजेचे असते. त्यासाठी येथे उपजवळ विद्यार्थींनी वाचनासाठी प्रवेश घेताने खूप गरजेचे असते. त्यासाठी वेगाचे उपजवळ रायक विद्यार्थींनी वाचनासाठी प्रवेश करत गरजेचे असते.

दक्षिण राजस्थानात अम्बिका, नागर्जुनाचा अंदरके अनुभवाले विद्यार्थींनी याच्यासाठी वाचनाचा वापर करण्यासाठी सवय विद्यार्थींनी रुजचे खुप गरजेचे असते. त्यासाठी येथे उपजवळ रायक विद्यार्थींनी वाचनासाठी प्रवेश करत गरजेचे असते. त्यासाठी येथे उपजवळ रायक विद्यार्थींनी वाचनाचा वापर करण्यासाठी सवय विद्यार्थींनी रुजचे खुप गरजेचे असते.
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कल्पकतेला चालना मिळते कठजि नकठजि या धावपठीच्या दुर्घटनेमध्ये प्रत्येक कारण माणसांना ठारीयांग करायला वेळ आहे मात्र बोलायला वेळ नाही या सगळ्याचा अनुपंगाने विचार केला गेला तर वाचन कराईं ज्ञानामुळे श्रव्दसाठ करू नकरू या साहित्य उपलब्ध असून देखील त्यातली कितपत सत्ता हां पडलेला मोठा प्रसिद्ध आहे त्या अनुपंगाने प्रत्येक शार्त कोलेजरूपे असलेले श्रव्दसाठ शिक्षण व्यवस्थेमध्ये असलेला महत्त्वाचा भाग वाटतो कारण प्रत्येक केलेस आणण्याचा गुणसाधन व आम्हाच विद्याच्यांचा आयुषय ठरतो मात्र समृद्ध विद्यार्थी तोच जो आपल्या जीवनाच्या काहीतरी करण्याचे प्रयत्न निर्धारित करतो. ध्येय नियततीत नेहमी कांशी येते तर आपल्याला हे लक्षात आलं पाहिजे की आपल्या कोणाचा आदर्श ठेवून पुढे चालतो नेहमी आपल्या काय लक्षात आणलो आपल्या डोक्यात नेहमी काय चालू आहे मात्र आज पुस्तकांच्या दुनियेच्या मध्ये हरवलेला माणूस जगात कधीच हात नाही कारण पुस्तकांच्या दुनियेमध्ये पुस्तकांच्या जिकरारा माणूस जग जिकरारा तंत्रज्ञा ठेवतो श्रव्दसाठ या एक असे ध्येय निमित्ती पुस्तकांचा नाही तर निमित्त विचारात्मक वाहतुक कार्यकर्तांच्या निमित्ती पुस्तकांच्या मायकर्क वृत्तपत्रांचा हा सगळ्यामुळे मेल्यांचे काय सुरु आहे समाजाचा वास्तव काय आहे हे लक्षात यांनी लागले आणण्याच्या वाचनी जीवन समृद्ध होत हां त्यामुळे प्रश्नकाच्या निश्चित महत्त्वाची भूमिका बजावत आहे.

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शैक्षिक व्यवस्थापनातील नवीन सेवा विकसामध्ये वापरलेले तंत्रज्ञानाची भूमिका

दृ. लोकेंद्र समता ओषधिकांत
सहाय्य प्राध्यापक, शिक्षणशास्त्र विभाग
दृ. वाबसाहेब आंबेडकर मराठवाडा विद्यापीठ, ओरंगाबाद.

सारांश
एकविश्वासाच्या शस्त्रकला शासकीय संघव मोठी ब्रांटी थांबल्या तर आपसीटीआया संघव कृतक बाह्यसेवा झाली होय. ज्यामुळे शासनाच्या देखील आपसीटीआया व्यवस्था माध्यमातून विविध शासकीय योजना एक तर आहे तर या कायद्यानुसार जोडण्याच्या व आदर करून बंद किंवा बारे जोडण्याच्या उपर्युक्त हाती देखून गतिमान प्रशासन व सुरुवात शासन व्यवस्थेच्या दिशेने ठोसलेले पाठ होय.

शासनाचे माफिक तंत्रज्ञानाच्या माध्यमातून संघव जनतेचे शासनाच्या संघव व सेवा माफक दरात पदराॅसक व जलद गाळीने मित्रत्वपासून इतर प्रशासन प्रकल्प धरण दृ. विजय भटकर वाचक अध्यक्षत्वात नेतृत्वात आलेल्या तर सामर्थ्याची शिक्षणसेवा करून विनंती 23 सप्टेंबर 2011 हो प्रशासन धरण जाहीर केले. त्वरणात्मक महत्त्व आहे की, महाराष्ट्रीय शासन भारताच्या प्रशासन व माफिक आपण तंत्रज्ञानचा पता रचणार्थक एक आहेत. तंत्रज्ञान गणरा आपण उच्च तात्त्विक सेवा पुरुषांना ई प्रशासन बाह्यसेवा कार्यक्रम साधनपत्रात आयाळ्याऱ्या आहेत. त्वरित धरण तंत्रज्ञानच्या ध्येय उपवेशनातील मोदते केलेल्या आहे की, शासनाचे कार्यक्रम अध्यक्ष कार्यक्रम आपण काम विजयी करतात, तंत्रज्ञानिकांचा विविध सेवा अन्नार्थवत नवीनता देतात व ई प्रशासनकडून भारतात प्रस्ताव साक्षात्कार केलेले घडामोर होतरीहत आहेत. हे धरण महाराष्ट्रीय शासन देखील राज्य शासनाचा कार्यक्रम आपण आपण आपण आधार तसेच ज्यामुळे शासनाचा िाती 2011 तसेच 2023 आयसीटी आलेल्या विद्यापीठाच्या नवीन धमालांनी सांगीतिक माफिक आहात. आयसीटी शिक्षणाची वापर संपूर्ण 23 मार्च 2012 ला संगठन दिल्लीत आपण इन्फोमेशन ऑर्डर क्रमचक्रण केलं टेक्नोलॉजी इन डॉक्यूमेंट्स जाहीर केली आहे.

सदरीय धरणार्थी अनुप्रयुक्त न्युज एंड जऱ्युजऱ्युक्त न्युज महाराष्ट्रीय एक तर बाबा वर्धन अध्यक्षत्वाची माफिक एकमत कार्यक्रमाची विविध धार्मिक डाटाबेस (सर्व) पोर्ट पक्कात केले आहे तर सात भागाच्या संकेतस्थान्याच्या अयोध्यातील भागांनी पुढील व इतरी माध्यमातून साहित्य उपलब्ध करून दिली आहे. अन्नार्थवत शिक्षणकृती आहेत भारताच्या देखील वाचक शासनाचा संकेतस्थान्याच्या ध्येय उपलब्ध करून दिली आहे.

सदर पेपर, विकसामध्ये तात्त्विक शासकीय दर्शन, अन्नार्थवत शासकीय संकेतस्थान्यात मित्रलेली माफिक तात्त्विक विविध मासिक योग्यांमध्ये मित्रलेल्या माफिकची वापर केला आहे महान्याच दुर्घटना माफिक खोट्तांचा वापर करून प्रशासन आत्नुसार अनुसूचीत 638 करतात.

प्रस्तावना
आपसीटीआया वापरकृत अध्ययनांची गुंतून राहतात. टेक्निकल प्रृतिकल ऑर्डर क्रिकेटकल धिकिंग महणेज टेक्नोलॉजी वापराच्या हेतून गुंतलेले वाटतात. त्वरित धरणार्थी अनेक तात्त्विक भूमिका ती तर तात्त्विक भूमिका संकेतस्थान्य होत राहतात. उद्देश्यांच्या दिशेने वापर करून असलाने ते आयसीटी अध्यक्षत्वाची अधिक माफिक मित्रत्वपासून अन्नार्थवत वापर करतात. संशोधन रचनेवाली अंड दिशेन चे देण्याने काम करतात. त्वरितभूत धिकिंतस्थान्येचे वापर करतात, आपसीटीआया वापर संदर्भात एक घडामोर विकसित करतात तर त्वरित वापर संस्थेचे मूळमाण देखील करतात. आज आपसीटी चा वापर करता आपल्याची विषयसापूर्ण विज्ञानाची तात्त्विक विषयांमध्ये केला जात आहे. आपसीटी चा वापर करता विविधधिक असलेल्या
Designing Technological Innovation and Best Practices in Academic Libraries (Special Issue No.117)

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Special Issue Theme : Future Academic Libraries :

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Abstract

The academic library in the new digital age serves as a knowledge hub for students and faculty alike. Libraries are no longer just repositories of books but are centers of information and knowledge sharing. With the advent of the digital age, libraries have evolved to become knowledge intermediaries, playing a crucial role in disseminating knowledge and providing access to information. This paper aims to explore the role of academic libraries in the digital age, focusing on their impact on teaching and learning, and the challenges they face in adapting to the changing landscape of education. The paper also highlights best practices and strategies for academic libraries to stay relevant and effective in the digital age.

Keywords: Academic Libraries, Digital Age, Knowledge Hub, Information Sharing, Teaching and Learning, Best Practices.

Introduction

In the digital age, academic libraries face new challenges and opportunities. Libraries must adapt to the changing needs of students and faculty, while also embracing new technologies and ways of delivering information. This paper will explore the role of academic libraries in the digital age, focusing on their impact on teaching and learning, and the challenges they face in adapting to the changing landscape of education.

The Role of Academic Libraries in the Digital Age

Academic libraries have traditionally been seen as repositories of books and other printed materials. However, in the digital age, libraries have evolved to become knowledge intermediaries, playing a crucial role in disseminating knowledge and providing access to information. Libraries today are much more than just bookstores; they are centers of information and knowledge sharing.

Impact on Teaching and Learning

In the digital age, academic libraries have a significant impact on teaching and learning. Libraries provide access to a wide range of electronic resources, including digital journals, e-books, and online databases. These resources can be used to supplement traditional library materials and provide students with access to the latest research and information.

Challenges and Adaptations

However, academic libraries face several challenges in the digital age. One of the biggest challenges is the ever-increasing amount of information available online. Libraries must find ways to sift through this information and provide users with relevant and useful resources.

Best Practices

In order to stay relevant and effective in the digital age, academic libraries must adopt best practices. Some of these best practices include:

1. Providing user-friendly access to digital resources
2. Developing partnerships with other institutions and organizations
3. Incorporating user feedback into library services and resources
4. Training staff on new technologies and tools
5. Encouraging collaboration and information sharing

Conclusion

In conclusion, academic libraries play a vital role in the digital age. They are knowledge intermediaries, providing access to information and facilitating teaching and learning. However, they must adapt to the changing landscape of education and embrace new technologies in order to remain relevant and effective. By adopting best practices and strategies, academic libraries can stay at the forefront of information sharing and knowledge dissemination.
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Mahitil vighaaryaavi sampurna shaksikik karvakaalat bapata yeidal jagmene poohint thapata aathavnaanita mantha gajanta vavigh shivabhoorti tuvanchi kooritik mahitil aapna aarogyamak baaptya vassavkhaa hvar baapnyaa sanskaran diite jao shakti tvat muvaashaayak vavishatik doyoonai deshila vavighvi samdhaati mahitil apadta karwee laagate aathavnaanita foka tvavcha kamaaycha samdhaattil mahitil bharta yate. Muvaashaayakavina vavighvi v sampurna shathaaycha samdhaati mahitil apadta karata yate taa mahitil poertkal aonlasaajn akshoo bharayachchhi yashosaapam pradak bhoos nucoal muvaashaayakvinoos chha harence sahassanaan deyee dwayaayini aamulavagaron karan suujnaay jitaanmahasan samangatam prasaashanasadhe aapastotichi cha vaphar shaksikik vavyaavapan karote mahtvachae aahhe.

2) baiomertik padtona karmachari vavighvi v whimsiti nand:- maharaast� cha saasasan bharta yate samvaar karavaiyambe baiomertik hajeroni padal aniyaar karvaka bhaag samdhaan kellela aahhe vamunaar hvar karvakaavromanvachchha shloch samdhyalata deshila baiomertik samwini laayanaan bharta yate. tvavcha mahamutun karmachari whimsiti nand yehetli jat aahhe vavpagram vavighvi whimsiti yute baiomertik padtona whimsiti nand yeheta yed shakal v vavighvi whimsiti naddlyaata laayanaany vehat baran vaa v tad aapnaa karvakaastik yapata yeidal. baiomertik yeid samangalaa jaladla jat aastavan yata jatan aapnaaap kellela jaita.

3) sampagkaraar vavighviav taybhoot vavighvi prakkaray cholv samvaktal vavyavapan:- aapnaaachar whimsit vavighvi prakkaray mahitilche udhaaranya tvuchchi shaksikik pragati tvuchchi aapnaa aapatiyayati tvuchchi samamik karvakaali tvuchche rahiapchye kshetra pasal dvayi samdhavatii mahitil sampagkaraar jalat karata yeta.

4) - vangal:- ajag интернетвач чичиречия пхилепа аае апаплаа хови ааселани макити аапанаана интэрнетаччии макатвачч макитваа патенш шая вынаня апанаанвааха аавасак ааселани макити мактвачччхи vavighvi prakkaray shaksikik vavasaitruun mahitilche samkaran karun vangal samkaran karata karata yate. ajag интернетаччии макатвачч макитваа аапанаана vangal samkaran karata karata yate. tvavcha aapnaa vavyaavapan tasan vangal samkaran tvamun vavpagram ICT karmenvachch vaphar cha karata yeta.

5) CCTV karmenvachch bhavarchi shaloyna vavyavapanasadhe vaphar :- ajag jagubapaa hvar కార్యరాశి కార్యాలయంలో తసేయ్ వ్యవసాయం క్రమం చేసే CCTV karmen bavachalane jiteeta. tvavmunch bavho karvachchhi padal aahset tvuchchi mahitili ekka samvaarvina hvarvina. vamunaar karnahyyathit tvuchabhar mahitilil karata yeta. tvavmunch shaloyna vavyavapan tasan vangal samkaran ICT karmenvachch vaphar cha karata yeta.

6) apdhiro bhindora vavvayanan v samghirmaran v vadtoradaran :- ICT cha vaphar karan vavishat tvuchach vavvayana mahitilre bhindora padtona rakard karun aapnaaraya bhavachchhi vavvayananisid samharam karata yeta. tvavmunch tvuchcha jitalaa faiyaa ICT cha vaphar akar vavishatipahadai yeta.

7) vavvayanaavron samlelay upkarv v karmachari mahitil:- ajag bahusamanya shaksikik sampanya vavvasait vavakashit khetra aahset. tvuchcha mahaayatan samkaran upkarv aapnaaraya vavvasaitmahchchhi pahara v prarthiti tvuchcha karata. tvavmunch ekka shaataychii samvakhit mahitilii kulaanaashii sahhaa makkhata. 8) meneve v mene vohaa valkkaranvi sampark shaloyna bhavachchhi vavishat krutvini mahitilii palak aapynaay vavvayana shaksikik pradakkarv bhartiya inarakhlo hot aahset. tvavmunch tvuchcha palayvina prarthiti mahitilii meneve v mene ayakaay akatvachchhi palakanaa yeta. tvavmunch aapynay palay shaloyna kray karita tvuchchhi yamaanar jagnaay hota.

9) vavighvi vikas :- ICT vapharaa vachchh aapnaaay chhe guntu rahaata. Technical Practical & Critical Thinking kiranje Technology vapharachche huteyun guntulee vbaataata. tvavvaavromanvachchhe akar vavishat kruutvini te karita aasaata. tvachchhi sahhaa hore aasaata. udha sampangakara vaphar karita aasaata thavasano, te tvavvada girdhriitvini mahitilii makkathyanavatuu aonlaajn cha vaphar karata, sampang Publishing and Prediction che danenin karo karata. tv vysamhara chekarakparkar vavishat vaphar. ICT vaphar
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शालेय व्यवस्थापन संगणकाचा वापर करण्यासाठी शिक्षकांच्या भूमिका

1. शाळेच्या मुख्याध्यापकांना शाळेच्यातून ICT च्या वापरासाठी मांडदरण करण्याची महत्त्वाची जबाबदारी आहे.
2. ICT वापरासाठी शाळेच्या वर्गांमधून शाळेची एक मूर्ती तयार करणे.
3. आय सी टी ICT च्या वापर संबंधीत योग्य व्यक्तीची निवड करणे ह्यांना प्रशिक्षण देण्याच्या आवश्यकता निरस्त करणे.
4. आपल्या स्वत:चे आयसीटी ज्ञानांसाठी देखील विषयव्यक्तीही हाताःहातप्रकाशी वापर करण्याचे प्रयत्न करणे.
5. अध्यापक व विद्यार्थी संस्थानातून योग्य व्यवस्थापन व आधिक व्यवस्थापन यासाठी योग्य सामग्री संचालनसाठी तयार करणे.
6. शाळेच्या वर्गांमध्ये आयसीटी खर्चासावती तयार करणे.
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7) शाळेतील सर्व कर्मचारी अध्यक्ष व अध्यक्षांची योग्यता आयसीटीचा वापर करावला लावलेल्या त्यासाठी लावलेल्या आवश्यक असल्यास प्रशिक्षण देणे व वापराबाधांच्या प्रमाणाने देणे.
8) आयसीटी वापर संबंधात तेजसक्ती विकल्पांसह लक्षात धोक्यांची फूलांताच आपल्या शाळेचा संदभात करणे.
9) आयसीटीच्या संदभात आयसीटीच्या बदलाच्या प्रवाहावरोरच राहून शाळेचा आयसीटीचा वापर जास्तीत जास्त फायदा करता दिलेला वाचा विचार करणे.
10) शाळेच्या कर्मचारी व विद्यार्थींच्या योजनेच्या इंटरनेटच्या सुविधा उपलब्ध करून देणे.
11) अवयनाविष्कार आवश्यक त्या महत्त्वाच्या शिक्षणाच्या व्यवस्था करणे.
12) शाळेत आयसीटी वापरासाठी भांडून सुविधा उपलब्ध करून देणे.
13) शाळेच्या वेबसाइटमध्ये वेबसाइट कुळींच्या पाहायला नाही याचीं काठांती देणे.
14) शिक्षणाची महत्त्वाच्या असल्या वेबसाइट वापरसाठी प्रस्तावना करून देणे.
15) प्रत्येक अध्यक्षकडून अवयनाविष्कार आयसीटीच्या वापर होण्यासाठी प्रस्तावना व मागदर्शन करणे.
16) प्रत्येक कार्यालयाच्या कर्मचारी वेबसाइट कुळींच्या कार्यालयाच्या कामसाठी आयसीटीचा वापर होण्यासाठी प्रस्तावना व मागदर्शन करणे.
17) शाळेचे संगमक लोकांना आवश्यकतेनुसार अध्ययनाची प्रेरणा करणे.

आयसीटीच्या शाळेव म्हणजेच व्यवस्थापनाचा वापर करण्यासाठी खालील प्रकारी व्यवस्था शाळेत करणे आवश्यक आहे:
1) संगमक
2) digital cameras and digital video
3) cameras telephone fax machines
4) mobile telephone
5) video conferencing technology and closed a circuit television
6) data projector and electronic whiteboards
7) power supply
8) pen drive/ hard disc and other softwares
9) Internal services ISP internet service provider
10) wireless local loops Wi-Fi wireless connectivity

उपाय योजना
आयसीटीच्या शिक्षणाच्या व्यवस्थापनाच्या वापर अधिक वाढताच वापरासाठी खालील प्रमाणाने उपयोगी योजना सुचिविता येतील.
1) शिक्षणातून आयसीटी वापराबाबत प्रमाणपत्र प्रस्तावना
2) शाळेच्या आयसीटी वापर संदभात भांडून सुविधा उपलब्ध करून देणे
3) योजना वापरसाठी संबंधात शिक्षणाच्या योजनेच्या कार्यक्रमांना अंगीकृत करण्यावर प्रविष्ट कर्याची कार्यवाही करणे
4) सामान्य दृष्ट्या अथवा अभावाने साइट शिक्षणाची संस्थीमध्ये वापरप्राप्त बंदी धालण्याची याची
5) आयसीटी वापराच्या उपलब्ध होणारी महत्त्वाची ही इंग्रजी बोलताच अथवा भाषेच्या माध्यमातून उपलब्ध करून देणे
6) आयसीटी वापरसाठी आवश्यक शिक्षणाची संस्थीमध्ये इंटरनेट जोडीची उपलब्ध करून देणे
7) विद्यार्थींच्या संबंधात सुविधा उपलब्ध करून देणे
8) आयसीटीच्या माध्यमातून आयसीटी जाताचे सादरीकरण करण्यासाठी व पाठ तयार करण्याची प्रशिक्षण अथवापुणा देण्याचे याच्या यातून तत्त्वांची नियुक्ती करण्याची याची.
9) National policy on information and communication technology (ICT) in Education (2012), department of school Education and Human Resource Development Government of India

21वा अर्धशतकाचा भारतीय विद्यार्थी शिक्षा काळात एक बस्ती महत्त्वाच्य एवं आयसीटी मेला (२०१७), केंद्रीय शिक्षा प्राधिकार संस्थान राष्ट्रीय अनुसंधान और प्रशिक्षण परिषद, नई दिल्ली.

3) UNESCO(2011), policy Brief.DIGITAL LITERACY INEDUCATION.


6) http://ebalbharati.in/main/Rubichome.aspx

7) http://education.maharashtra.gov.in./sanch.

9) http://research.co_.lean./content//forum.
प्रस्तावना:

सच्चाई पूर्व है माहितीतंत्रज्ञान द्वारा अस्तित्वातः जानकारीण साधनामये झापट्टायेप्रति वाढ होते व मनुष्यकुल जन मिश्रित विज्ञान कोणत्या एक साधनावर अवलोकन न गरता त्यासाठी नववीन साधनांचा शोध पेट असतों. यामध्ये नवीन नवीन शोध करणे संगठित महत्त्वाचे खान आहे. आजच्या इंटरनेटच्या आभासी युगात वाचकांसाठी उत्साहित नाही. मोबाइल, फेसबुक, फोटोसॉप, टिंकटिंग, शेकडो चॅट्स सामुद्रेचे मनोरंजनाची अनेक माध्यम उपलब्ध झाली आहेत.

माहिती व तंत्रज्ञान विषय करून शिक्षणाच्या दर्जेवर उल्लेखनीय आणि सार्वजनिक सुधारणा करता येईल असे साधारण: सर्वांश शिक्षणांतर्गत माहिती व शैक्षणिक उपयुक्तेने जास्तीत जास्त फायदा करने पेटा येतं. शाक्ती व तंत्रज्ञानमुळे आरोग्यविषयक माहिती वैद्यकीय क्षेत्रात माहिती तंत्रज्ञानाने बन्याचं मशीनंतर केल्या आहेत. आज अशी अनेक वैद्यकीय मशीनेस आहेत ज्यांच्यासाठी विविध आरोग्याचा समाज हा सहजपणे सोतेल जातं. प्रगत तंत्रज्ञानाचा मदतीकरण जरित/अवघड ऑपरेशन सुलभ करून जात आहे. वेबवेबविद्या प्रकारच्या चाचण्या किंवा सेग्मेंटांची पताकांची अथवा तंत्रज्ञानाची विकसित झाली आहे.

जल्दिःप्रेnh:
1) शिक्षणांतर्गत एवर शिक्षणांतर्गत पद्धतीवर सुधारणा करण्यासाठी तंत्रज्ञानाचा वापर करता येतो याविषयी माहिती पेक्षा.
2) तंत्रज्ञानमुळे नवीन नवीन गोष्टी आत्मसात करून पेक्षा.
3) विविध क्षेत्रात तंत्रज्ञानाचा वापर कसा होतो हे जाणून पेक्षा.

तंत्रज्ञानाचा वापर व कार्यावस्थेचे:

➢ भविष्यातील तंत्रज्ञान
➢ शैक्षिक वाढण्याचा तंत्रज्ञान वापर/उपयोग
➢ आरोग्य सेवा क्षेत्रात तंत्रज्ञानाचा उपयोग/वापर
➢ शैक्षणिक प्रक्रियेत माहिती तंत्रज्ञान

भविष्यातील तंत्रज्ञान

सच्चाई अस्तित्वात असलेले तंत्रज्ञान व भविष्यात येथे दाखलेले तंत्रज्ञान याचार एक जनरल वापर करण्याचा आणि निर्णय प्रणालींच्या कर्त्यांप्रमाणे प्रौद्योगिकी व तत्त्वाचा आणि काय उपलब्ध आहे यावरस आवश्यक नवे तर काय येत आहे याचार भविष्यातील तंत्रज्ञानावर अवलोकनानुसार आहे.
Special Issue Theme - Future Academic Libraries:

Designing Technological Innovation and Best Practices in Academic Libraries (Special Issue No.117)

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Peer Reviewed Journal www.aiirjournal.com
3) Harish Gohil, Shrifat, Shereen, and Akshada, a paper on designing and best practices in academic libraries.

4) Smart and efficient methods for designing technological innovation and best practices in academic libraries (Special Issue No. 117) - Feb 2023

Special Issue Theme: Future Academic Libraries:
Designing Technological Innovation and Best Practices in Academic Libraries (Special Issue No.117)

- Vending machines क्षमता आर्य शिक्षणाच्या सृजनात्मक सत्संघ्या श्रेणीस्थित प्रक्रियेत सामील करा.
- संगणकाच्या विशिष्ट गुणधर्माच्या वापर करा. शैक्षणिक प्रक्रिया वैयक्तिक कळण्यास आर्य मुख्यभूमिके नवीन संज्ञानत्मक मार्गांतून कल्याणासाठी
- शैक्षणिक प्रक्रियेच्या सर्व स्तरांतून तीव्रता आणण्यासाठी.
  महत्त्व तंत्रज्ञानाचे मुख्य महणजे शैक्षणिक मुख्य महणजे ते आपल्याचा शिक्षक आर्य विद्यार्थी दोषानाहीजवठजवठ असमित संप्रभाव संधी सह अत्याधिक गुणस्तोत्री शैक्षणिक प्रक्रियेत तयार होते.

निष्ठा
उपरोक्त माहितीबाने असे दिसून येते की, तंत्रज्ञानाचा वापर कळणून नवीन माहिती संपादन कळन अनेक क्षेत्रात विकास होत आहे. वाढव शैक्षणिकी जडसंचन, शेड्नेटगुह, तंत्रज्ञान वापरून अनेक विकास होत चालला आहे. तसेच वाढव शैक्षणिकी वेंगेरट्या प्रकाशे अवजोर वापरून शैवतिम्ये नवीन तंत्रज्ञानुसार शैक्षणिका नावल्या उपयोग केला जात आहे. तसेच शिक्षणप्रथमीत तर नवीन संधी विद्याध्यायांचे मिठवून मुक्त प्रणाली तयार कळन प्रत्येक विद्यार्थीचा स्वतःचा मार्ग प्रदान करता येतो.

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