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## IMPACTS & IMPLEMENTS OF GREENING THE LIBRARIES

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### ABSTRACT:

Green innovations are becoming increasingly important for DataCentres like Libraries, Companies and Societies. As Green innovation is expected to ensure both environmental and economical sustainability and economical sustainability and economically profitable. Libraries act as a match less channel to educate and disseminate the Green concepts to the Community., Libraries can convey their skilful green message and educate the society by adopting Green Information Technology enabled Green concepts in Library Digitisation. Green Library should focus upon recover, renewable, biogradableendurable, supportable materials and resources. The aim of this study to discuss on various factors and practices in greening the Libraries and focus on the Impacts & Implications for sustainable development. Greening of Library is pervasive with several components such as Green business, Greenoperation, Green Practices.

### Keywords:

Green Information Technology, sustainable development of Green Library, GreenIndicators, Impacts and Implementations of Green Innovation in Libraries.

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### INTRODUCTION:

The traditional Libraries Practices mainly influenced by cataloguing classification and indexing reference services. Information services are available only in print and maintenance the physical Library was a challenging task & costly affair involving man power. To remove these barriers Information Technology enter into the Library services and eliminated the weakness of the traditional Libraries to the maximum level. Because of the resources development of data bases and their integration for sharing ,OPAC and web OPAC development preservation of the rare documents in the form with hyperlinks. In this research , the author explains the impacts and Implements of Greening the Library by adopting the Green concepts with Green Design & Green Indicators. It is observed that Libraries are nowadays moving towards the modernization due to its many benefits including the cutting down of costs. Libraries are now educate the users in search for the information using Modern tools and technologies. Libraries are constantly facing challenges due to technology acceptance and are forced to adopt it providing the better services .In this paper ,the author try to emphasis how the implementation of Green environment can be implement in the Library and how it focus on the following aspects .,

1. Energy Saving,
2. The effects of resource usage
3. Increasing natural environment exposure
4. Environment load reduction
5. Sustainable of global development with respect to the friendly Library.

The above factors explain the impacts and analysis the Implementation the concept of Green at Modern Libraries.

### LITERATURE REVIEW:

Using the natural environment in replacing the usage of resources can give you a contribution towards the Green environment in Libraries

.WONG (2016) Mentioned that the strategies of the Library building play an important role on how can natural environment exposure be increased.

**Milda & Kikas** (2009) explained that more air ventilation can be created with the open windows and indirectly more fresh air flow inside the building and hence a healthy environment can be produced. Libraries need to have preservation environmental conditions. According to the Green design, (**Lindess, Reilly, Herzog** 2012), the mechanical systems in Libraries environmental are designed to maintain the desired environmental conditions, usually cause a high cost both in monetary and energy conservation. By changing the system into HVAC, not maintain, Librarians are really to implement with the operating schedule of the system. To focus on constant air volume contribution ranking system to main temperature and relative humidity conditions in collection areas when preservation is a priority. Library disposes of its redundant Information Technology equipment and funding with care, All print cartridges are recycled. In related to the paperwaste one of the way to convert services online so that use of paper can be reduced as far as possible.

**Palilonis** (2012), the empty cartridges can be returned to the selected company that use it for the business purpose. This practice will be prevent from landfilling and save the materials. This can be applied in Library services also as, to adopt the Green practices.

**Chodhury** (26) indicates that environment costs of production and distribution of electronic resources are negligible compared to print resources. The amount of CO<sub>2</sub> generated by the production and distribution of print resources. According to the Green Design, Going paperless is not necessary in Green concept, the use of Green Information Technology in use becomes the part of the organisations like Libraries constantly updated in the new contexts.

#### **RESEARCH METHODOLOGY:**

For this research methods to report an investigation of green operations initiatives and environmental decision making is necessary. It includes the origin of Green designs, and ideas, decision making processes as well as the development, applications and evaluation of systems thinking environmental approach by the following research questions.

What are the Green indicators to take green initiatives in Libraries?

1. Where do Green solutions come in Libraries ?
2. How does the structural approach on Green Libraries?
3. What are the impacts & Implementation on Greening the Libraries?

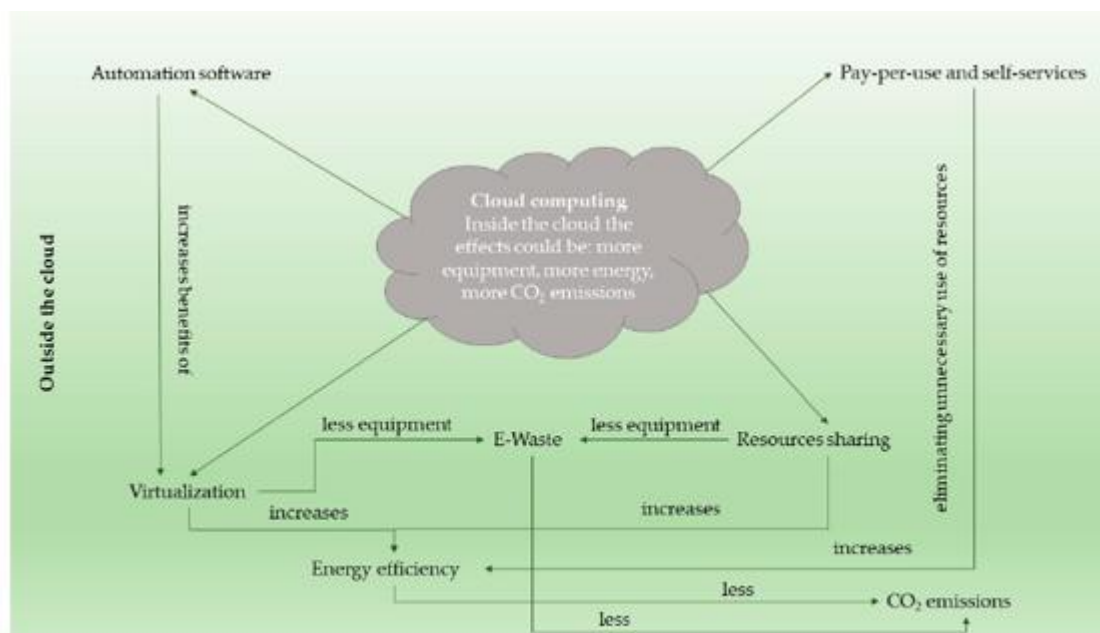
To obtain the results of the research questions, following methods are to implemented.,

- a) To find out the set of the development of Green Practices in Libraries are the main research method. For this,
- b) To focus on Data analysis and an additional case study to examine the issue of environmental decision making to adopt green information Technology in Library. Digitisation.

Main method of focussing Green Practices on Libraries are to reduce the carbon emission. Being a data centre, Libraries suffer a large number of impact, due to the large quantity of usage of, Samsung computers in it. The Green house Emission to be reduced and it is possible to look at a distinct operation activities and eco design being carried out in direct. Electrical & Heat are the main source of environment being responsible for 41% CO<sub>2</sub> emissions in Library Buildings., it should be reduced by turn off the computers while they are not in use. Green manufacturing computers are also necessary for the Green practices in Library usage. Google, Apple, Cisco, HP, Intel, Samsung are the companies already enter into this projects and doing their good works of Green in their manufacturing plants.

By reducing the carbon emission, transportations are also playing an vital role. Carpool and using Bike, & Bicycle are the main sources of reduction of carbon emission in Library Service transportation systems. Apart from this, green supply chain, Eco design, total solution of environmental management and reverse logistics are also can be used in Green practices. LEED (Leadership in Energy & Environmental Design), to asses the green performance of a building consist of sustainability in Building construction. LEED Library-April 2012 IRVING, TEXAS in

USA first central Zero energy Library ., It offers geothermal technology for heating and cooling, solar power energy systems.



The above figure represents the characteristics of **cloud computing** in Greening the Library. By adopting Green Information Technology in the Library digitisation method., on behalf of cloud computing characteristics (Shown in the above figure), definitely gives the less Co2 emission. According to the Gartner Group defines about cloud computing as “A style of computing in which massively scalable and elastic Information Technology enabled capabilities are delivered a service to external customs by using internal Technology.

### CLOUD COMPUTING IN LIBRARY (DATA CENTER) OPERATIONS:

- Most of the Library Computer systems are built on pre-web Technology
- Systems distributed across the Net using pre-web Technology are harder and more costly to integrate.
- Library store and maintain much the same data and thousands of time with Library Data scatter across distributed systems., the Library’s web is in the weekend.
- Libraries run independent system make it difficult to get the Library into their workflow.
- Many systems are used only 10% of their capacity combine systems into cloud environment reduces the carbon footprint, making Library Greener.
- Technology Data and community., each offer some general and some unique in for Library.
- Library system employ several benefits of Green Cloud solution surface.

When Library systems are deployed as open cloud solutions, the Library community itself can step up to create extensions to their core services and more importantly share them through out the community using cloud solution. Secondly, Library can get out of the business of Technology and focus on collection building, patron services & Innovation. Library can agree to share pools of data for cooperative collection building ,cooperative for preservation and digitisation, can sharing of materials when search engine like GOOGLE, YAHOO, BING can harvest from large data stores it opens the opportunity for the collective to work on search Engine optimise or improvement of Library collections .They are more relevant to search engines thus displayed higher in search Research.

Libraries have unique opportunity with cloud computing to create online information community Network .Many Librarians have its cover the power service link Google Documents to reduce the

effort of working jointly service like these allow them to easily share ongoing work., whenever they want and wherever they want. Europeana is gathering the digitized collections and inform Europe galleries, Library archives and museums. To allow their content to be mashed up into other services and reused .Cloud computing solutions can create new work flows .Service oriented architecture can truly change the future of Libraries. This allow Library to shift the use of Internal technical expertise from main software and servers towards innovative uses of cloud services in their local environment. Cloud computing. Cloud computing can bring several benefits for Library to give them a different future.

Library is a data centre To bring Green in Library into a greener form, Green Technology in Library digitisation is necessary. This can be achieved with the help of cloud computing in digitisation method by adopting Green Information Technology.

Adoptive nature of Green Information Technology in Library digitisation method is the finest way to bring Green In Libraries.Green Information Technology can be optimized (**Gobanda Chowdury**).,recommends the life cycle analysis approach to identify the contribution of Information resources to the Green House Gas emission and build a Green Library , which has the capacity of bringing in Green washing in Libraries. Green Information Technology refers to the initiative of green environmental ,there by reducing energy cost and archival a better development for Information Resource system., which can reduce the time to access and process in digital contents .It helps to access the digitisation format to bring low energy consumption and to reduce the energy consumption in Library services.

### **FINDING THE SOLUTION & IMPLEMENTATION OF GREEN IN LIBRARIES:**

REDUCE,RECYCLE,REUSE are the major things help to use GO GREEN policy in Libraries.

Reduce the carbon emission by the way of using cloud computing help by keeping not only the research data but also all the data analysis interpretation in Library Services. Cloud refers to the transition of local data from one site location behind the firewall to the network space.

Recycle the wastage of the materials by crushing the used books and newspapers in this method and bring to the new form is the best way to bring Green in Libraries.

Reuse tools & Content in the new technology definitely make easy access through cloud computing in user device like E book& I pad.Users cutting back on primary & photo copying will help , cloud refers to the transition of local data from onsite location behind the firewall to the network space.

Mr.Dr.P.k.Sureskumar&Shri.AntooK.D clearly mentioned the following points in their article “Greening the Libraries for Sustainable Development” :for the implementation of Green policy in LiBraries.

1.Recycling concepts should be promoted and practiced and encouraged to timplment the same practices by the unemployed Youth.

2. Green concepts should become the good examples in Libraries attached to the differentorganisations ,Universities and Industries.

3.In India Green concepts are implemented in parnasalas where in the Leaves, thamrapathras were used instead of paper.

4.It isvery necessary to plan Green Libraries which is popular concept in India.That treasure need to be explored and reintroduce in India.

### **CONCLUSION:**

To find Green means to share and disseminate, Green can be by means of Library Information Science Websites,Blogs ,Literaturereviews.First step for finding out the impacts on Green in the Libraries ., Library Information Science might be to each start a Journal Club on going Green., allowing no print copies,no print notes and challenging each other to find solutions.

To Implement Green on Libraries, Library Information Science can explore and promote to the numbers, practice issues where can make a difference (eg) interms of using less papers (e-book,digitisation,mobiles and Tablets).Improving search skills in identifying information resources

on the topic, as well as the initiatives taken by other Libraries. Raising awareness of organisations working on various issues concerning environmental and sustainability Libraries. In India, Dharward University Library in Karnataka, Anna centenary Library in Chennai Tamilnadu are the amongst one. Indian Libraries Association have taken up keen steps and shows the interest into this implementation Green on Libraries. There are wide range of ways to promote the idea of Green Libraries by using Eco friendly recycled materials. Adopting Green Information Technology in Library digitisation is the best way to implement Green on Libraries. Green Technology practices in the Library not only include constructing green Library building but also include Greening existing Library facilities providing Green Library services and implement environmental supportive and sustainability activities with the Libraries. Virtual User Service reducing waste & organise Green events. Impact & Implementation of Greening the Libraries make an important role in Society welfare and reduce the Global warming and bring the earth planet in an environmental friendly manner.

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