

Eco Friendly Information Services for Better Societies: Trends and Possibilities

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ABSTRACT

Information is one of the valuable assets these days for several reasons. Information is needed in almost all the organizations and institutions regardless of type. Initially Information Service was mainly provided by the information foundation such as information centre, documentation centre, data centre, libraries, information kiosk with short range services and long range services. Though, later on the need of information create a separate information zone in other organization and hence, in general information foundation and organizational information unit computing is a major tool and thus the question of eco-friendly computing services are evolved ; and later on and most recently Green Information Services. This paper talks about Green and Eco-friendly Information Services and need of such services including strategy and policy to offer such services.

Keywords: Green computing, green technology, eco-friendly services, carbon emission, green house gas, CFC, global warming, information services, information services, e-waste, eco-documentation

Information Service is one of the major activities of information unit irrespective of type and establishment^[10,12]. Information Service depending upon range is classified as two types- short range services; where user can get desired information and data within a short time or manual; whereas in second type, i.e. Long range services user basically gets the information few days later after the application or demand, that means not immediately^[04,17]. Hence providing such information services as well as conventional information services and computational information services, depends on standby computers with offline database and online, in case of internet based computer services. Thus in such cases; computer and other electronic gadgets like- hardware, software, and networking devices are uses and causes environmental hazards many ways. Most of these equipments are built by the harmful

chemical and tools like lead and toxic material so against environment many ways. Thus there is a need to introduce Information services with Green Technology support^[18,20].

OBJECTIVE

The main aim and objective of this paper is includes but not limited to as follows:

- ❖ To learn basic about the Green Information Services and its features and characteristics in brief manner;
- ❖ To know about the need and requirement of Green Information Services towards energy management and healthy environment;
- ❖ To know about the essential requirement to bringing Green Information Services in general and organizational information unit;
- ❖ To know about the Green Information Science and its possible causes and subject to offer such domain;
- ❖ To learn about the main challenges and issues to Green Informatics and Management.

GREEN INFORMATION SERVICES: FUNDAMENTAL AND BASE

Providing Green Information Services needs several things; but before going to reach advance topic let know about Green Information Services. Green Information Services is actually integration of Green technology and Green Computing in the information services and similar services such as Documentation Services, internet services, reference services and so on. Hence, combination of Information Science *[which is mainly responsible for Information Services and Processing; manually and computationally]* and Green Computing lead the development of the concept of Green Information Services and Sciences^[22,25]. The Details is depicted in Fig. 1.

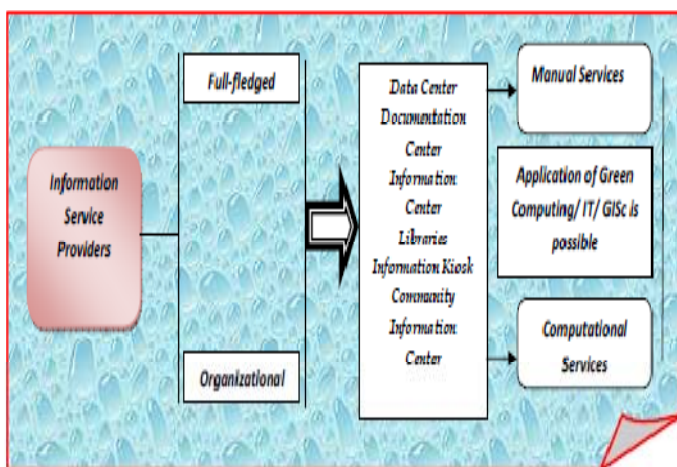


Fig. 1: Depicted Green Information Services and its fundamentals in brief manner

Implementing Green Information Services are possible with keep in mind some factor and arrangement. In Green Information Services enable information unit, Information Services with computationally need to offer with the computer build with less harmful chemical and material such as lead, needs less energy

and with inbuilt resistance for power management. Cloud Computing based Information Service is another example of Green Information Services; where one single data unit from remote place provides computing, software and hardware services to the information unit and there is no need of in-house computing facilities. Hence by utilization of some computers information services may be possible to offer. Hence virtualized information service may promote eco-friendly information management and services many ways^[09,16].

GREEN INFORMATION SERVICES AND REQUIREMENT

Green Information Services needs several arrangement and facilities to offer Green and eco-friendly, power consumed information services like:

- ❖ Out of several Electronic devices, computers are responsible for creation of environmental population many ways hence during purchasing of computers *[and allied devices such as server; networking system such as switch, router; data management]* and tools. It is essential to get only such product which are ‘Energy Star’ related and which are much more power management based^[10,12].
- ❖ In conventional computer and information unit, it is easily possible to use centralized computing unit which may save power management, need of several computers, and will releases only very minimum chemical. Use of cloud computing may also another good alternative in which one data centre may save so many organization and thus, this way Energy Management and Eco Friendly Information Management is possible.
- ❖ Uses of computers are needed only during requirement and rest of the time, ‘switch off’ or in ‘log out’ mode. This will lead Eco friendly approach towards Knowledge Management in Information unit powered by the computers and others tools^{[11,12] [3]}.
- ❖ Recycling of computer and other electronic devices such as servers, router, switch, utilities, software which are power consuming and releases higher harmful chemical and toxic material. Hence use of E-Waste management and recycling engineering may lead an information unit which is powered by the Eco Friendly approach^[13,14].
- ❖ Use of some tools which are less environmental policy and pollution based such as use of flat monitor instead of cathode ray tube, use of LCD and LED may lead less energy. Hence this is may be applied in the information and knowledge management. Use of SD-RAM is another important tool instead of Hard disk as this is much more power consuming than SPRAM.

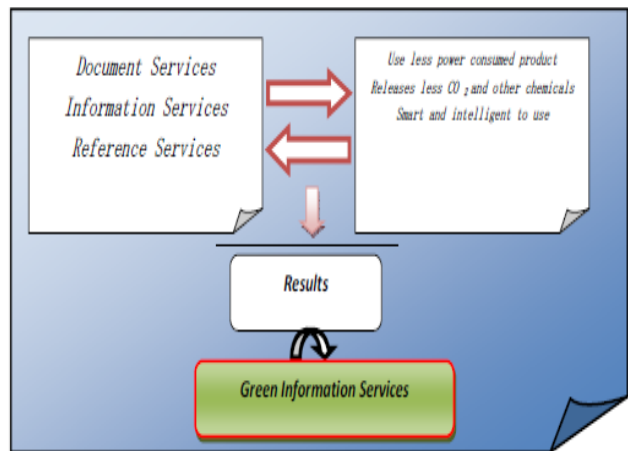


Fig. 2: Depicted Green Information Services and its relation with Green Computing/IT/ GISc

- ❖ Information Architecture which is very simple and cost effective, hence another requirement in Green Information Services. As such architecture leads the maximum output with minimum computer and electronic goods. Here use of wireless system may be employed on such system from Environmental Informatics agenda. Details have depicted in Fig. 2.
- ❖ Information Unit is deals with manual document and documentationist and thus, it is very much essential to follow minimum document as during document preparation power or energy is used.
- ❖ Recycling of document is another alternative to keep eco friendly environment in the information centre^[17].

REQUIREMENT IN ACADEMICS AND PROFESSIONAL APPROACHES

There are several things possible to bring Green and Eco friendly Information Services by the academic and professional approach. Academically it is essential to establish R/D activities for development of awareness of Green Information Services by seminar, conferences, symposium, workshop and other knowledge session^[15,19].

Professionals in technological field such as computer technologist, information technologist, and electronic engineers need to associate each other and essential to build the algorithm which results energy consumed and used by the less harmful chemical. Use of speedy computing services also helps in Eco friendly information management as it helps in reduces computing uses. Networking Engineers and Information Architect are needed to prepare the Information System model which is much more cost effective by less power management^[12,23].

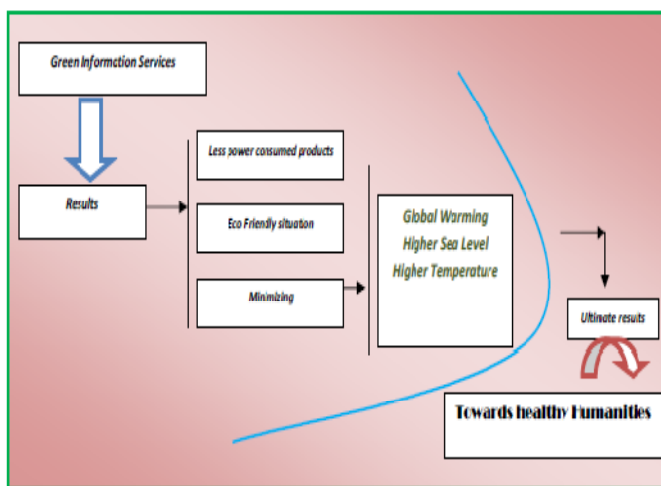


Fig. 3: Depicted Green Information Services and its reason to bring healthy humanities and environment

Academician and Universities may start new academic programme for Green Information Services and for this, in related and allied degree and subjects some Green technologies may be offered; such as UG/PG programme may be Computer Science [BSc/MSc/BTech/MTech], IT [BSc/MSc/BTech/MTech], Information Science [BSc/MSc/MPhil] or as elective or specialization or full-fledged degree programme.

SUGGESTION

- ❖ Adequate awareness on the Green Computing, Green Information Infrastructure and Systems need to be initiated at the university, academic association, and environment level^{[16],[18]}.

- ❖ Implementation and development of the Green Computing in Information Systems require large investments in terms of research and development for product and infrastructure designing^[11].
- ❖ Cloud Computing and Green Computing need to include in the curriculum of respected subjects such as Computer Science, Information Technology, Software Engineering, Information Science and so on^{[5], [7]}.
- ❖ Initial funding among the user and common people may also promote the utilization of Green Computing and Cloud Computing in the Industries, Service Sector and even home.

CONCLUSION

Cloud Computing and Green Computing need to include in the common curriculum of Information Science practice. This both, cloud computing and Green Computing need to include in the common curriculum of Information Science which will promote up-to-date Cloud Information Infrastructure or Green Information Infrastructure for healthy Information and Knowledge Economy (See Fig. 3 showing its role towards Digital Humanities).

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