Information, Technology and their Application to the Society: Ultimate Foundation of Information Science

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Abstract - **Information is most valuable entity in today's age and needed in all most all the organizations and institutions, sectors, and domain and among the common people for its several benefits. Information Science is the main and ultimate domain which has very strong connection with information and ultimate utilization of information. Information is needed in so many sectors such as Government, Mass Communication, Business, Education, Social Development, and Population and so on. Information Science is indirectly responsible by fulfillment of such requirement to the concerned community. However, in today's age technology plays an important role for better information activities. Today's Information Science becomes an important Applied Science which has great concentration with the contemporary technologies apart from conventional information and knowledge gradients. This paper talks about information and technologies and their conventional role in several sector and domain. Paper also illustrates the healthy and sophisticated technologies in the Information Science too.**

Keywords: **Information Science, Knowledge, Social Development, Digital Divide, Information Literacy, Information Divide, Information Development, Academics, Information Systems**

I. INTRODUCTION

Information is treated as most valuable facet these days and needed for so many purposes and organization. Information is needed for ultimate development of the organizations and institutions of almost all type of organization whether private or Government, Small or Large, profit making or non profit making [02, 05]. Government is the largest stakeholder of information; each and every day several information are creating by several Government activities; virtually apart from largest generator of information, Government is also highest user of the information and similar gradients such as data or knowledge. Building sophisticated information infrastructure is many ways needed for sophisticated development and Information Science hence here play an important role for healthy information and knowledge practice. Virtually, the information is increasing day-by-day and the size is also getting triples each year and thus for healthy information management is provided by the contemporary Information Science and Technological practice [03, 08].

II. OBJECTIVES OF THE STUDY

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

1. To know basic about information and knowledge and its basic features;

2. To know basic about information requirement in several sector, domain, institutions and organizations;

3. To know about the Information Science and its root and basic and educational aspects;

4. To learn about the Information Science and its characteristics and emerging technological look;

5. To learn about contemporary technologies and Engineering fundamentals for healthy information and technological interaction;

6. To learn about the possible courses; which lies on interaction between information-people and technologies.
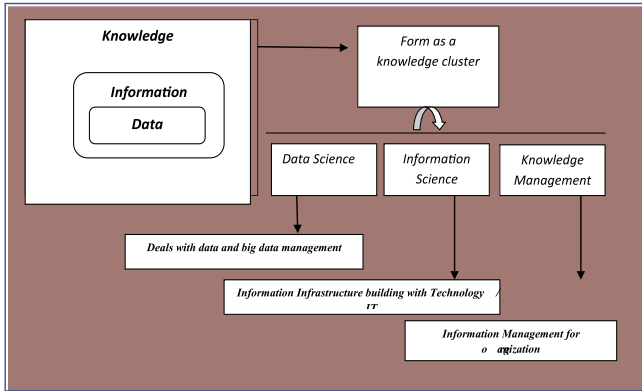
Fig.1 Depicted related domain of
Information Science with their main activities

II. Information Science: Root

Information Science is an important and advance domain of Applied Science which is responsible for information collection, selection, organization, processing, management and dissemination. Information Science is an advance knowledge cluster responsible for the information solution to wide range of uses and people like-Healthcare and Medicine, Education and Training, Government Sector, Politics and so on. in each sector, role of information is only possible with the help of better information practice and here Information Science play an important role as today it is combines with so many domain and departments such as Computer Science, Information Technology, Cognitive Science, Management Science and so on apart from fundamentals of Information and Knowledge Management, Information Studies [04, 08, 10].

Earlier, Information Science only practiced in the related departments such as Library Science, Mass Communication, and Communication Science and so on. Even earlier in the some departments, Information Science offers as Bachelor/ Masters programmes. Information Science gradually developed after the advancement of the computing and IT and several technologies become integrated part of Information Science such as Database Technologies, Networking Technologies, Multimedia Technologies, and Communication Technologies and so on. These technologies are uses in several information activities such as Information Processing and Management. Todays intelligent information systems become possible with the advancement of Information Science with healthy technological interaction and integration [07, 15].

III. Information and Society

Information has importance in social development in so many perspectives; organizations are the part of society and almost all the organization sectors such as Business, Education, Healthcare, Government, Population, and Mass Communication are the important stakeholder of information. Virtually, the organizational development many ways responsible by healthy information practice and ultimately sector-wise development is helpful for the complete societal development [05, 08, 09].
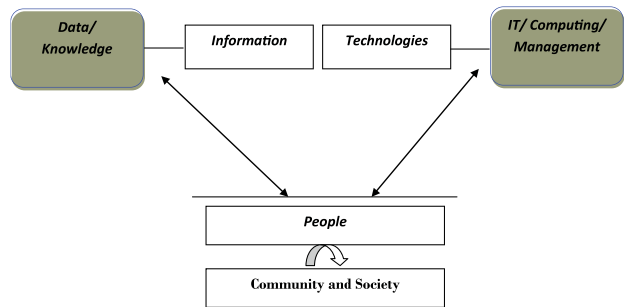

Fig. 2 Depicted Information Science and its interaction with other domain

Apart from sector and domain specific information infrastructure building, Information Science is also play an important role for complete information development to the community to by the community information system building and community information centre. The up gradation and utilization of information in society will be helpful in healthy information society building; in which several organizations and institutions and people are truly dependent Information Science play an important role for heavy and sophisticated information society building by organizational information system and community information sector development. Ultimately, the economic development also depends on better information practice. The emerging concepts such as knowledge economy, information development, information divide, and digital divide are important gift of Information Science [05, 09, 12]. Thus, in several ways Information Science is helpful for direct community and societal development through information input and technological support and beside sector-wise development.

IV. Technological Input

Apart from technologies mention above some more are helpful in Information Science practice, such technologies are Cloud Computing; which is needed for healthy

information, content, software and hardware virtualization, Usability Engineering/ HCI is needed for healthy and sophisticated information unit development and usable interface building for better information transfer cycle by the community information portal, organizational information portal development and so on. Green Computing/ Green IT is uses for healthy and sophisticated Information System building which is eco friendly, deals with less Carbon emission, energy management and so on[20, 21].

Apart from these some more technologies are also playing important role for healthy Information-Technology-People/ Community interaction such as:

• Intelligent Information Systems;

• RDBMS;

• Data Warehousing and Management;

• Big Data Management Practice;

• Open Source Technology;

• Usability Experience Design and so on.

Apart from General Information Science, it is now also available as domain of specific skill/ training like - Medical Information Science, Health Information Science, Geo Information Science, Chemo Information Science and so on. In these entire domains, Information Science has important software and other application or packages and the number in this field is increasing.

V. Information Science with IT/ICT

Information Science and importance in the organization, information foundation and technological sectors so many academic unit and departments are established in this domain. Today a new academic initiative is started on Information Fields; many Information and Technology related schools are combines at one big school and nomenclature as Information Schools [or I-Schools]. Some combining departments are IT, Computer Science and Engineering, Management, Information Studies, Information Science, Mathematical Science, Electronic Science and so on. Today so many association are established on information field; which are mainly established for better interaction between Information-Technology-People/ or community or society; such as organization are I-Schools foundation, USA, Asia Pacific Information Schools, ASIST-USA, and so on [04, 08, 21].
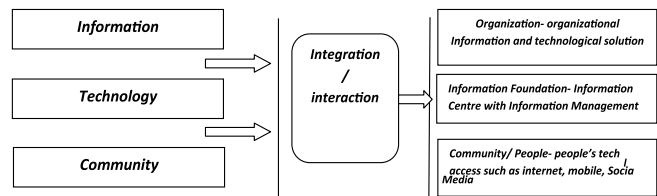

Fig. 3 Showing Information-Community-Technological interaction and its results

As far as India is concerned, Information Science is offered as MSc-Information Science as most popular courses and offered in very few organization and institute among them some are- MCIS, Manipal University, BIT-Mesra, KITM-Buniadpur, DATM-Jalpaiguri, Techno India-Saltlake, Techno India-Hooghly and so on. Though, as like Western Countries, domain specific Information Science [such as Medical Information Science, Health Information Science, Chemo Information Science, Geo Information Science and so on] not at all offered in the Information Schools or Information Science departments or programmes in India. Even Information Science programme is still limited; India has so many universities, engineering colleges, degree colleges and potentiality to start Information Science specialization in other academic degree related to Information Science like-IT, Computer Science and Engineering, Electronics and Communication Engineering.

VI. Findings

1. Information Science is an important domain which is combines with so many important domain and subjects such as Science, Humanities, Commerce, Engineering and Technological Science; directly and indirectly related with information processing and management;

2. Though Information Science is an Applied Science domain but having good concentration among the people or community[05, 18];

3. Information Science many ways responsible for healthy and sophisticated information infrastructure development;

4. Information Science programme still limited than that of its actual requirement.
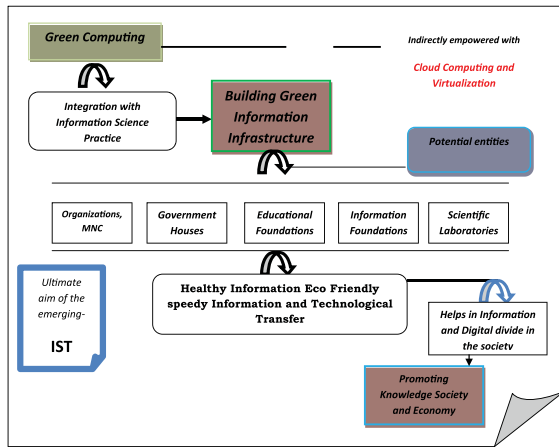
Fig. 4 Showing role of Information Science and Technology as Knowledge Economy builder through Information and Technological Transfer - the ultimate role of Future IST

VII. SUGGESTION

- Information Science practice needs to initiate more strongly in the academics and universities for heavy information infrastructure building;

- Information Science needs to introduce in the academics as full-fledged programme as BSc/MSc/ others or as even specialization of other related programme such as BSc/MSc-IT [Information Science], BTech/MTech-IT[Information Science], BTech/MTech-IT [Information Science] and so on;

- Better Information Science practice is needed by developing community information centre, better social networking utilization and so on.

VIII. CONCLUSION

Education is the ultimate facet for development; today many organization and institutions are purely depends on skill and education and back of formal education is nothing but the information and knowledge [04, 08]. Thus, from educational development to better education practice such as E-Learning, Education Technology utilization; Information Science plays an important and valuable role. Community, Society, organization are purely depends on Information Science practice and ultimately it is possible to build healthy information infrastructure.

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