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Information Science: The Gramophone and I-Pod Nature Still in Curriculum and Knowledge Domain

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Abstract **- Interdisciplinary Research is most important and valuable research trends now days; where several domains of Science, Management, Technology, Engineering, Interact each other and make a new knowledge cluster. There are so many interdisciplinary subjects emerging day by day such as Nano-Technology, Bio Technology, Environmental Science, Management Science, and VLSI Technology and so on. Like these domain, Information Science is an important domain of interdisciplinary nature. Information Science is combining subject from Science, Technology, Engineering, Management, Humanities and Commerce which has direct and indirect connection with Information Processing and Management. This paper is talks about Information Science; its basic nature, originating field and professionals. Paper also talks about Interdisciplinary research areas of Information Science which are also practiced in other domain.**
Keywords: **Information Science, Information, Knowledge, Knowledge Management, IT, Interdisciplinary Science, Science, Technology, Information Systems, Research, Academics**

I.INTRODUCTION

Information Science is an important interdisciplinary domain of computing with Information Technology, Computer Science, Management Science, Information Studies, Cognitive Science and some other domain which are directly and indirectly related with Information and Technology [06, 09]. Basically Information Science deals with the subject and domain which are helps in Information activities such as collection, selection, organization, processing, management and dissemination of information or similar facet such as knowledge or document. Information Science was initially practiced in the Information Foundations such as Information Centre, Documentation Centre, Data Centre, Information Analysis Centre, and so on. However, now days Information Science is practiced in other organization such as Business Firm, E-Governance i.e. Government and Public Administration sector and so on [03, 12].

II.OBJECTIVES

The maim aim and objective of this paper is includes but not limited to as follows.

1. To know basic about Information Science and its characteristics and features;
2. To know about the initial stage and background of Information Science;
3. To know about similar and allied field of Information Science;
4. To draw a contemporary picture on latest Interdisciplinary areas of Information Science;
5. To know each gradients of Information Science, very brief manner with future potentials.

III.INFORMATION SCIENCE: THE GRAMOPHONE *NATURE*

Information Science is an interdisciplinary knowledge cluster which is close with Information Technology, Computer Science, Library Science, and Documentation Science and so on. Information Science initially practiced by the information professionals and academically practiced in the Library Science department [10, 14]. Virtually, the advancement of IT and Computing changes the entire set of Information Science practice in the initially practice [*in the Library Science department]*. Hence Library Science is treated as initial origin of Information Science. The advancement of information processing and management place 'Information Science' as a separate field of study and practice. Initially Information Science may deals with so many tools such as cataloguing, classification, indexing, abstracting and other knowledge organization tools. Hence Library Science may be treated as Gramophone of Information Science and also equivalent till date as modern Information Science still deals with older and manual KO tools with computing based systems for information activities [16].

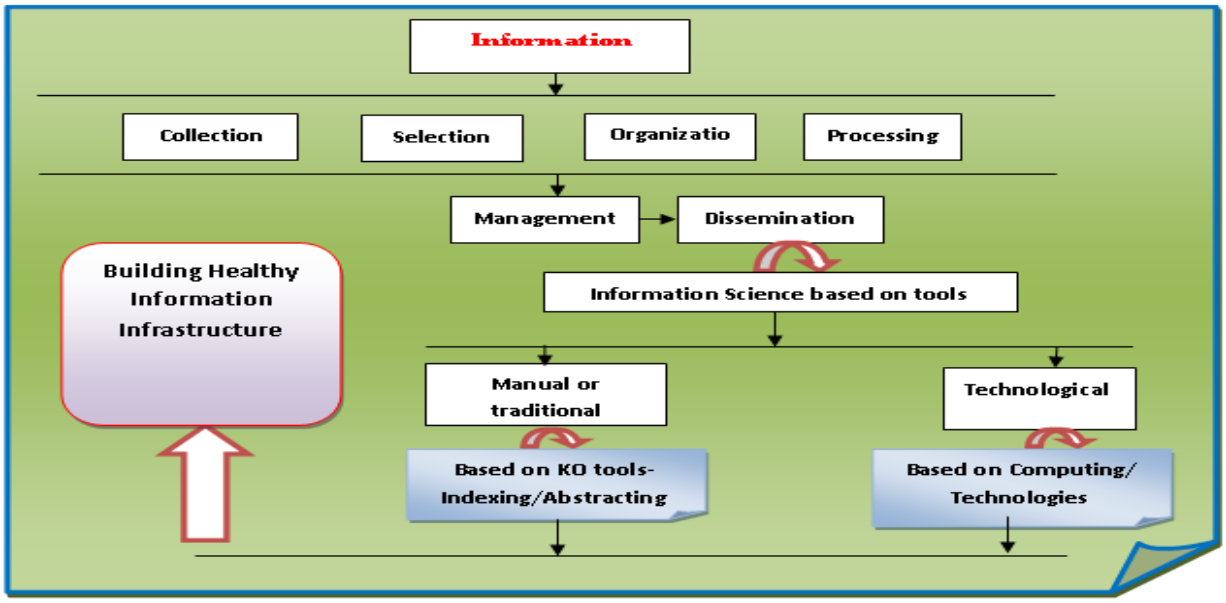

Fig. 1Basic Features of Information Science at a glance with core types

IV.INFORMATION SCIENCE: *THE I-POD NATURE*

The development of tools and technologies *[mainly computing technology, information technology, electronics and communication engineering, mechanical engineering]* changes the entire look of Information Science; and keep Information Science as an advance field of study. Hence, the subjects deal with some other domain such as Communication Science, Management Science, Cognitive Science and Psychology and so on[18, 22]. This way Information Science come to as an Applied Science domain from the Humanities and Social Science domain. Thus, this symptom changing interdisciplinary nature may be treated as transition of Gramophone to I Pod stage as far as Information Science is concerned. Information Science now deals with following aspects and practiced with I-pod nature; where as earlier Information Science which is practiced in Library Science schools and grow as new field also presented in the figure.

Information Science practiced in the Library Schools and core topics and areas	*Information Science practiced and emerged after development of its Full-fledged manner*
Information Architecture Information Society Knowledge Organization Documentation Knowledge Management Management Information Systems	In addition to aspects of left side— Cloud Computing Green Information Systems Usability Engineering Human Computer Interaction Web Systems Computer Systems Social Media

Fig. 2 Depicted left side- the Gramophone nature and right side the IPod nature of Information Science gradients

V.COMPUTER SCIENCE KNOWLEDGE COMMUNITY AND INFORMATION SCIENCE

Information Science, after 1970's and mainly 1980 does rapidly interact with Information Technology and Computing Engineering. The departmental communication, *[as earlier Information Science only practiced in Information Foundation and establishment]* need Networking Technology. Similarly for Information storage and timely availability, Storage Technology; mainly *Database Technology* plays an important role [21, 24]. Storing raw data, full-fledged document, image, scan copy, E-Repository purely depends on such Technology. Presenting information and knowledge with interactive and advancement of Information Dissemination today purely depends on *Multimedia Systems*. In conventional Information Science practice i.e. Information Foundation too; Multimedia may be applied for better information delivery and knowledge sharing.

Courses	Brief Description
BSc/MSc-Information Science	Offers only around 10 institututes with both manual and digital Information Systems Building with focus of Information
BSc/MSc-Information Technology	Offers numerous schools and university departments with focus on IT system building, software development
BTech/MTech-Information Technology	Offers numerous engineering colleges with schools and university departments with focus on IT system building, software development
BTech/MTech-Computer Sciences	Offers numerous engineering colleges with schools and university departments with focus on Computer Designing, Development IT system building, software development
BSc/MSc-LIS or BLIS/MLIS	Offers near about 300 institutes with focus on Information Systems designing of Information Foundation and deals with less computational gradients
BSc/MSc-Communication Studies	Offers around 100 educational institutes with focus on manual and digital communication
BCA/MCA	Offers numerous engineering colleges with schools and university departments with focus on IT system building, software development
BBA/MBA-Information Systems	Offers numerous business colleges with schools and university departments with focus on IT system building, MIS development.
MSc-Information Systems	Offers numerous business colleges with schools and university departments with focus on IT system building, MIS development

Fig. 3Depicted Information related programmes in Indian Universities at a glance

Recently, some more new technology, such as *Cloud Computing*, is also among emerging tool in Information Science practice for virtualization of software, hardware, resources, application and packages. *Usability Engineering* and *Human Computer Interaction* are also important Information Science practice field for healthy and sophisticated information display and interface design and development. Building Information System's portal, website, information kiosks need the affiliation of Usability Engineering/ HCI practice. Intelligent Information System is another important IT tool which helps in Information Science practice; mainly in Decision Support System and Information Security building [14].

VI.COMMUNICATION SCIENCE AND INFORMATION SCIENCE: RELATIONSHIP AND DEPENDENCY

Communication Science is also associated with Information Science in many contexts. First of all, Information Science work as communication tool and here Communication between one object to another or in communication of resources, hardware, software through the Cloud Computing indirectly, Communication Science play an important role. The Multimedia System also a part of Communication Science. Apart from these, communication mediums such as Data, Text, Audio and video are also important gradient of Information Science.

Collection of information, storing of information through manual process or with the technology- all are depends on Communication Science [16, 19]. Some important Information Science domains in relation to communication Science are as follows.

a. Information Communication;
b. Voce and Vocal Communication;
c. Social Media and Social Networking;
d. Telecommunication;
e. Online Communication;
f. Offline Communication medium and usage;
g. Information Seeking behavior;
h. Nature of Communication and Information;
i. Resource Sharing;
j. Digital Object Identification;
k. Intelligent Communication;
l. Media Communication;
m. Scientific Communication.

VII.MANAGEMENT AND INFORMATION SCIENCE: INTEGRATION

Management Science is also deals with planning, organizing, staffing, directing, coordinating, reporting and budgeting of any object, institution, resource and so on. Management Science has so many connections with Information Science[09, 21, 25]. There are so many areas where Management Science plays an important for Information Science practice. Information and knowledge

Management is an important areas of such practice. Some interdisciplinary areas are

a. Information Organization and Management;
b. Knowledge Management;
c. Document Management;
d. Internet and Online Research Organization;
e. Knowledge Discovery;
f. SWOT Analysis in Information Systems;
g. Strategic Management;
h. TQM in Information System/ Services;
i. Management Technology and Informatics;
j. Big Data Management.

VIII.INFORMATION SCIENCE AND SOCIAL SCIENCE, HUMANITIES: RELATIONSHIP

Initially Information Science practiced in Library Science schools and Library Science is treated as Social Science and Humanities domain. Through gradually Information Science changes it shape and so many technological interaction such as Database, Networking, Web and Multimedia and so on. But then also, Information Science has a good relationship with Humanities and Social Science aspects. Virtually, today's Information Science comes with the agenda of 'Information-Technology-People' interaction. Hence it is an important Applied Science domain with Humanities nature. Some important topic of such interdisciplinary aspects are

a. Information Society;
b. Information Architecture;
c. Knowledge Economy;
d. Social Media;
e. Social Informatics;
f. Community Computing and so on.

IX.CONCLUSION

Hence, from originated a Social Science and Humanities domain, Information Science come as an important domain of Applied Science [13]. One of the important benefit of Information Science is, Information Science is applicable in general information foundation such as Information Centre, Documentation Centre, Data Centre and so on as well as applicable in modern Information Science practicing organization such as Healthcare, Business, Education, Government activities and so on[16]. Thus, today's Information Science much more interdisciplinary these days and accustom with some other domain and by this way creates some new field such as Medical Information Science, Health Information Science, Chemical Information Science, Quantum Information Science, and Geo Information Science and so on.

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