EDUCATIONAL QUEST: An Internatioanl Journal of Education and Applied Social Sciences

Citation: Educational Quest 5(3): December, 2014: Page 211-216

DOI No. 10.5958/2230-7311.2014.00017.8

Information Science: A Potential interdisciplinary field with Historical Perspectives and Future Potentials

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Abstract

Information Science is one of the important term in this new millennium. Information Science is applicable in so many sector and domain and departments. As Information Science is a mainly deal with information activities; such as collection, selection, organization, processing, management and dissemination and thus it is needed each and every where; directly and indirectly. Information Science is most interdisciplinary field and combines with so many other domain and discipline for better information processing and management. Virtually, the perception on Information Science differs generation wise or according to the age. Today Information Science is treated as most important domain of Applied Science but earlier it is also treated as domain of Social Science and describes various characteristics of this domain with changing scenario. Information Science and various perceptions on this domain is also illustrated in this paper in brief manner.

Keywords: Information, Information Science, Informatics, Knowledge Management, Documentation, Document Management, Interdisciplinary Subjects, Academic Domain, Universities

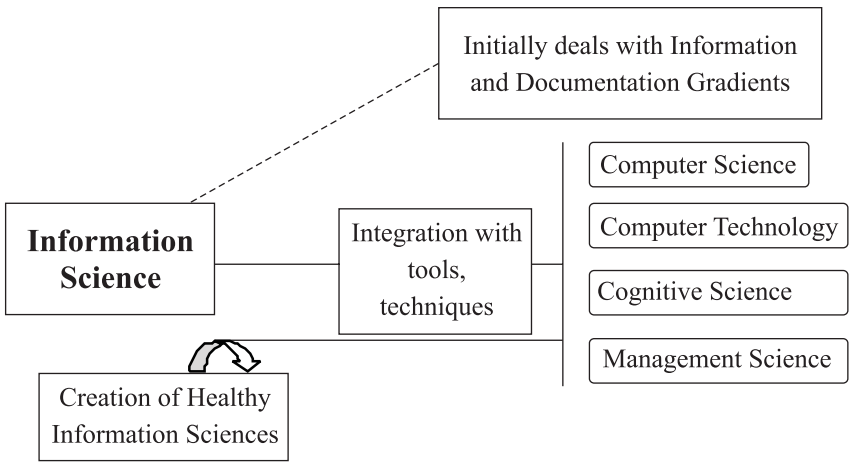

Figure 1. Information Science its basic features and modern to traditional Knowledge Gradients

Introduction

Information Science is an important Applied Science domain dedicated to information solution beside technological solutions to several organizations, institution, departments and so on. Information Science is a broad field and combines with so many fields such as Computer Science, Information Technology, Information Studies, Cognitive Science, Management Science e and so on[01, 05, 08]. Initially, Information Science treated as domain of humanities and Applied Arts as that time it was only deals with Information Studies and Documentation rather than Computational aspects and Engineering ingredients. Information Science is an important domain for solution to the organization, institutions, academics, Governments and other stakeholders. Information Science expert once called as Social Scientist and today called as Applied Scientist due to emerging interaction of Cloud Computing, Green Computing, Usability Engineering, HCI in the field of Information Science. Information Science is today synonymous uses for IT, Information Studies and computing solution depending upon nature.

Objective

- The main aim and objective of this study is includes but not limited to as follows:-
- To know basic about Information Science and its characteristics;
- To know basic and fundamentals of Information Science and historical background;
- To know nature of science, humanities, engineering and technologies in the field of Information Science;
- To know latest technologies of Information Science;
- To know about the future possibilities and potentials of Information Science at a glance.

Information Science: Basics

Information Science is an important subject of subjects combines with so many domains for information and technological solution. Information Science is also treated as Informatics in some countries, however among Information Science and Informatics, Information Science is most popular around the world. Information Science is a Science of Sciences which is responsible for information infrastructure building; however broadly it is combines with information collection, selection, organization, processing, management and dissemination with the help of manual tools and computational tools such as Databases, Networking Systems, Multimedia Systems, Communication Systems and so on. Information Science is today treated as important interdisciplinary field with humanities touch [09, 10].

Information Science in History and Documents

Information Science today related with so many terms and technologies for information processing and management such as Cloud Computing, Green Computing, Usability Engineering, Human Computer Interaction Technologies, and AI Technologies and so on. But initially it deals with so many facet and tools such as Bibliometrics, Indexing, Abstracting, Cataloguing, Classification and some concept of Information Economy and so on. Information Science initially mainly deals with information aspects and manual Information Management and thus the nature of these days was also different [11, 12].

During 1950's to 60's, Information Science practitioner works in the periphery of Librarianship or Library Science; but over the year and time the advancement of tools and technologies changes the traditional Information Science and make it is an important Applied Science domain[13, 14]. Information Science greatly influenced by some of the tools and computing devices during 1980's such as-

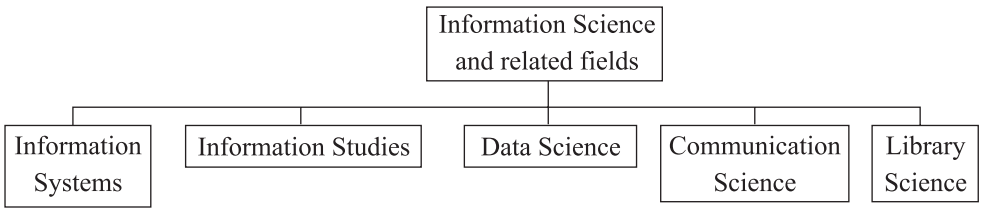

Fig. 2. Information Science it's related and very close fields

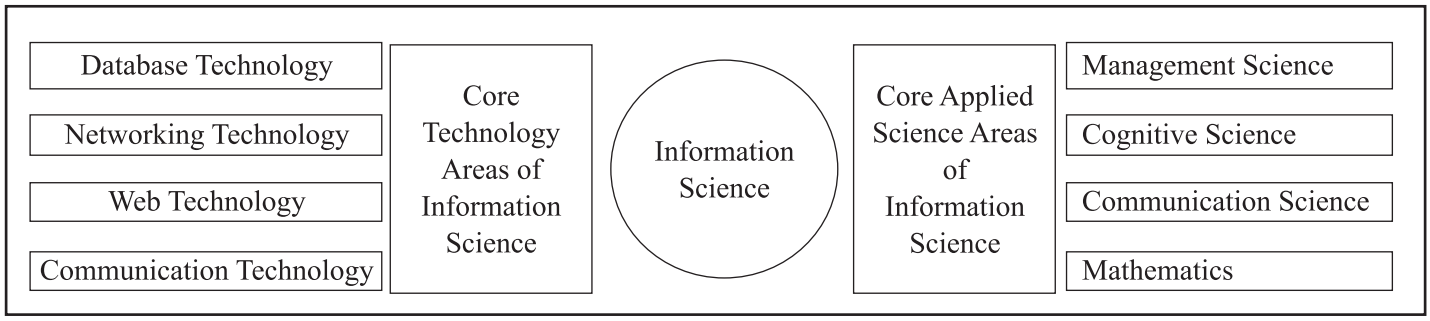

Fig. 3. Information Science and its allied IT and Applied Science domain

- Database Systems;
- Communication Technology;
- Multimedia Technology;
- Networking Technology;
- Image Processing/ Bar Coding Technology and so on.

Due to requirement of Information Processing and Management, these technologies become integral part of Information Science curriculum around the world. After 1960's several organization and institute deals with Library Science/ Documentation Science teaching move to introduce Information Science or Information Studies in the departments and thus many organization also changes their department name as 'Library and Information Science' or LIS from 'Library Science'. The first schools in US adopt such line was University of Pittsburgh in 1964 and then more schools are now towards the nomenclature of 'Library and Information Science' term around the world [15, 16]. However, during 1980's and then many schools changes their name to Information Science from 'Library and Information Science' in their academic and research degree programme as well as in the departments [17, 20].

During the last decade of 1990's several academic unit evolved in the Universities around the world. Initially started Information Science Programmes and departments rather than moving from LS/LIS departments.

Ultimately the advancement in Computing and Technologies changes the traditional nature of Information Science and so many emerging concept and technologies become post of Information Science and these are cloud computing, green computing, multimedia information systems, intelligent database systems, usability engineering, Human Computer Interaction Technologies and so on. All these technologies are directly and indirectly related with Information Processing, Management and Dissemination. Today we can see Information Science and its increasing affiliation in so many departments and discipline such as Mechanical Engineering, Computer Engineering, IT, Management Science and so on.

In the beginning of 2000's one tendency has been noted that several information related domain and departments are moving towards into a big academic unit called *Information Schools* or –Schools. These departments are Computer Science, Information Technology, Management Science, Cognitive Science, and Information Studies and so on. Virtually, these subjects are those which are make Information Science. The I-Schools offers so many new programme in Information Field with Technology integration or Technology field with information interaction/ concentration [22, 23].

Information Science: Future Direction

Information Science is changing rapidly in several sense, the following points will be helpful to understand each and every aspects of Information Science as far as future potential is concerned:-

- Apart from conventional aspects of Information Management and Theory such as Information Economics, Information Science is also involving in Information explosion Management through the Cloud Computing and Big Data Management; ultimately these will improve easy Information Transformation and Channel building;

- Information Science is today an important Applied Science domain which we learn from the text but today it has so many biasness in another domain and that results new domain and nomenclature such as Medical Science and Information Science brings Medical Information Science, Chemical Science and Information Science integration mixed as Chemical Information Science, Quantum Information Science results by the integration of Information Science and Quantum Physics [24].
- Ultimately Information Science and its integration and interaction with other domain results some new nomenclature in Information Science departments such as 'Information Science and Technology', 'Information Science and Computing', Information Science and Engineering' and so on.

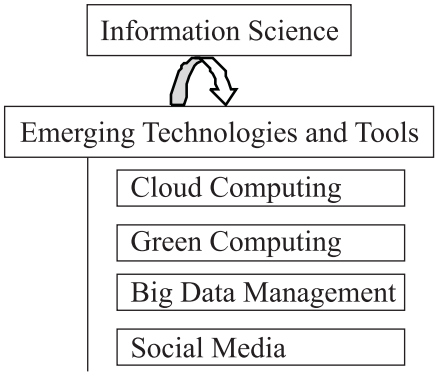

Fig. 4. Depicted some emerging research and practicing field of Information Science

Suggestion

- Information Science need to introduce with keep in mind the facet of interaction among 'Information-Technology-People';
- Information Science programme need to initiated as specialization programme in the other academic programme such as MTech/BTech-IT/CSE [IS], BCA/MCA-IS, BBA/MBA-IS programme and so on;
- Government need to take initiation for building more sophisticated information centric programme.
- Findings:-
- Information Science however an important domain of Applied Science but closely connected with Humanities for several organization and human perception;
- More other domain based programme need to start in academics such as Quantum Information Science, Educational Informatics/ Information Science, Medical Information Science and so on;
- If building of Information School become tough then Information Science based departments may be started by adjustment of adjunct faculty.

Conclusion

Information Science is an important domain for overall development of the society as information is treated as power and needed in so many organization and institutions [25]. Information is become power and thus Information Science is treated as main stakeholder of information infrastructure building in so many organization. The separate nomenclature such as Medical Information Science, Health Information Science, Geo Information Science and other has importance to their respective field and community and thus helpful in their own field[08, 09].

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