Management Science and its Emerging and Interaction with Information Science (IS): A Conceptual Study

Prantosh Kr. Pau1 [1], Dipak Chatterjee [2] and K.S. Shivraj [3]

[1] FBAS, , Indian Institute of Engineering Science and Technology [IIEST], Shibpur West Bengal, India,

[2] Principal, IEM, Saltlake, West Bengal, India

[3] University Librarian, KL University, Andhra Pradesh, India
E-mail:prantoshkpaul@gmail.com, dipchat@rediffmail.com

Abstract - Management Science today is considered as an important knowledge domain. It is also considered as an important and unavoidable tool in almost all types of organizations, enterprises and academic institutions. Owing to advanced tools it is also applied in many subjects or research domains. This paper mainly describes the traditional and emerging areas of Management Science. We describe the traditional and unique management areas where it is applicable such as Information Science and its related field.

Keywords: Information Science, Management, Management Studies, Information Management, SWOT Analysis, Strategic Management, POSDCORB.

I.INTRODUCTION

Management Science has brilliant applications in a wide range of information activities like information collection, selection, organization and management. Information Science is a subject of all subjects. This is an interdisciplinary science combining mainly computer science, information technology , management science and psychology   .The technique and approaches where management science is applicable include data management , reference and information service , internet science of the emerging area of management like MBO , MBE, staffing and so on .The application of management into the information field has created some of the new subjects like Information Management , Information Science & Management , Knowledge Management.

II.OBJECTIVES

 The main objective of this study is

- To know the fundamentals of Management and Management Science.

- To know the various dimensions of information science in relation to management science.

- To explore the working areas of Information Science where management techniques and principles are applicable.

- To identify the tools of information science which have a bearing on management science such as Information Centre, Systems, Networks and its subsystems.

III.METHODOLOGY

To conduct this research work various methods and techniques have been considered and used. We analyzed literature in the field of information science and management science integrating each other. We consulted journals and other resources in the field and also investigated the University Curricula of Indian universities on information science. To know the latest interests of management science we also looked into the curriculum of MBA in Indian Universities. To find out the courses we considered UGC's link as our main link.

Before going for the discussion of advanced topics let us discuss some fundamental issues.

Information: An information consists of data that have been retrieved, processed or otherwise used for informative or inference purposes, argument or as a basis for forecasting or decision making. The way in which the data of a message are structured is crucial for their effect as information.

Management: Management in all business and organizational activities is the act of getting people together to accomplish the desired goals and objectives using available resources efficiently and effectively. Management comprises of planning, organizing, staffing, leading, directing, and controlling an organization (a group of one or more people or entities) or an effort for the purpose of accomplishing a goal.

    Resourcing means the deployment and manipulation of human resources, financial resources, technological resources and natural resources [15].

A.Information Working Area

 There are several working areas in the field of information like Information centre, Information Systems, Information Networks, Data Networks. However some traditional Information working areas are Library, Archives and the like.

b.information science
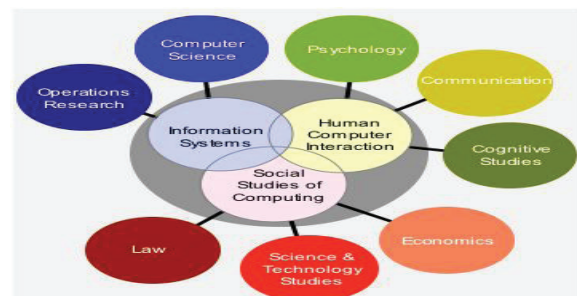
Information Science is a discipline which is mainly centered round information and for its many activities it takes helps of several technologies, tools and principles. Information science is closely connected with computing and technology based subjects like Computer Science, Information Technology, Management Science, Sociology, Engineering Fundamentals and Psychology. Fundamentally Information Science takes help of other subjects for complete Information Transfer Cycle. The following picture will help us to know the exact position of Information Science in the domain of knowledge. According to *Broko, renown Information Scientist.* Information Science is an interdisciplinary science that investigates the properties and behavior of information and the forces that govern the flow and use of information, and the technique, both manual and mechanical, of processing information for optimal storage, retrieval and dissemination.

IV. MANAGEMENT APPLICATIONS IN THE TRADITIONAL AREAS OF INFORMATION SCIENCE

Traditionally management science is applicable in almost all types of organizations. In libraries and information centers also this is effectively applicable. In almost all the working areas of traditional information science, management science is applicable with great success: The following is an enumeration of some of these areas:

- The basic principle of management that is POSDCORB is applicable in all the working areas of Information Science.

- The principle of planning is required for planning of information systems and networks and its subsystems, for its establishment, development, extension.

- Organization and direction is another key term used for better information system organization and proper direction.

- To buy traditional collection such as book, documents and other non conventional collections such as internet application, software, hardware, computer budget and budgetary control play an important role.

- Delegation and decentralization of power is practiced in almost all types of organizations.

- For cost benefit analysis and human resource development like manpower planning, job analysis, job description, selection, recruitment.

- Presently information is considered as a commodity so that for proper marketing of information product and services management is essential.

V. EMERGING MANAGEMENT GRADIENT IN INFORMATION SCIENCE

Fig. 1 The General interdisciplinary areas of IS

Apart from these traditional management applications in information science, today the emerging management techniques have wide applications in several other working areas of information science like

- The traditional decision making theory as well as the computerized decision theory system are widely used in almost all the versatile working areas of information science.
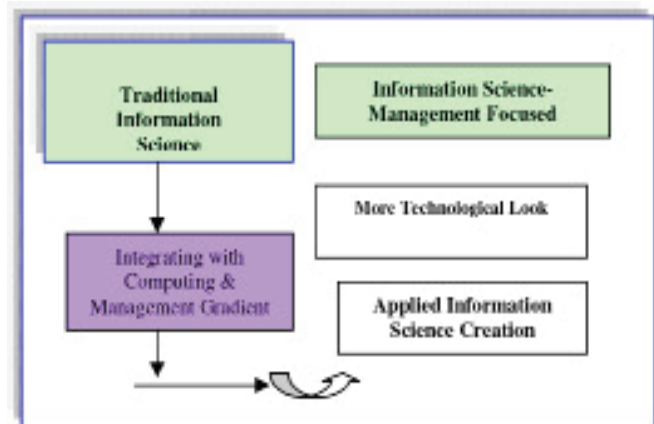

Fig. 2 Traditional Information Science and its increasing nature with management

- Information systems & Networks are constituted of several subsystems and these subsystems may be further subdivided depending upon the need. So for design, development, modification and creation of a new system and subsystem we need proper system study.

- To motivate and create wonderful leadership environment information science takes help of the emerging techniques of management science.

- Total quality management is another term which is also changing the total dimension of information practice.

- The management by objective (MBO) principle for proper management is using collection, human resources, services and user demand.

- The strategic management principle is today useful in almost all working and service areas of information science and informatics.

- The management by objective (MBO) principle for computerized decision making and proper result is widely applicable.

- The various enterprise resource planning (ERP) tools and applications are expected to use wide range of information activities.

VI. MANAGEMENT SCIENCE AND ITS INTEGRATION TO INFORMATION SCIENCE IN INDIAN UNIVERSITIES

Owing to important advancement of interdisciplinary approach in information science the curriculum of this subject is also changing throughout the world. Through the management science sophisticated information delivery and storage is possible. So, Indian universities are also giving priorities in infusing information science with management techniques and managerial skills. As per our scrutiny of syllabi of different

universities we find that the general area of management within information science and its related fields includes

- SWOT Analysis for information centre, systems and other lower and upper areas, information products.

- Staffing for recruitment, motivation, personnel management, training.

- Budget and budgetary control to buy new material, information product, electronics equipment and so on.

- Planning regarding information centers and systems, information and data services.

VII.MANAGEMENT AND INFORMATION SCIENCE: EVOLUTION OF A NEW SUBJECT

Due to incredible advancement of science and technology   traditional information science has undergone a radical change and can be best described as information science and management. The application of management techniques to the information field has opened a new vista of knowledge and has brought many information and management related programmes like-

- Information management.
- Knowledge management.
- Information system & business.
- MIS
- Information Science & Management.

VIII.TECHNO FOCUSED INFORMATION SCIENCE AND ITS WORKING AREA: CONTEMPORARY MANAGEMENT PRINCIPLE

Both emerging management and technological gradients are changing the entire system of information and resource management. Today for information management, information science professionals are using several tangible tools and technologies apart from the non-tangible gradients like MBO, SWOT, TQM, Strategic Management, MBE. The main pillars of today's techno-focused information management are

- Business Intelligence.
- Data Mining and Ware housing.
- Knowledge Based System
- Enterprise Resource Planning (ERP).
- Decision support system.
- Artificial intelligence & Expert System.
- Search Optimization.
- Fuzzy and Boolean based IRS and so on.

IX.LIMITATIONS

Some of the limitations discovered by us during this study include

- It is extremely tough to identify the main curriculum as the information science curricula of most Indian universities were not available in their web sites.

- Identification of actual need of management in information science are still absent.

X.FINDINGS

Some of the findings of this study are
- Management sciences, more specifically advance management practice within information science is increasing day by day.
- Most of the faculty members still hold degree of their respective fields; however in the age of globalization we need dynamic faculty members with the degree and research in management along with original information science degree.
- Still it is tough to identify the emerging areas of information activities where management techniques may be applicable.
- Due to most emerging nature of management science in the information activities and information services many new academic programmes are being launched throughout the world. So in near future it will help create a new type of job opportunities.
- Still in India universities and higher educational institutes are not aware of and interested in offering innovative programme in the field of advance information management. At present only 6 or 7 universities are offering information management and related degree programmes.

XI.CONCLUSION

The role of management is changing day by day. Simultaneously, its application and utilization are also changing. Today it is difficult to identify areas where management science cannot be used.   . The traditional management applications were restricted only to knowledge organization, document organization and actual management. But today advancement of management science has changed the entire morphology of information science. So by now many new subjects like Information & Knowledge Management have emerged. Thanks to some techno-management based interdisciplinary subjects for keeping and forwarding healthy informatics practice. However some other organizations and industries should come forward to compel Indian universities to change the backdated curriculum.

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