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Chief Information Officers [CIO] as Network, Database and Web based Systems Administrator: Changing Role and Changing Perceptions

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ABSTRACT

Information is the valuable entity and most important gradients for several development activities which include societal, economical, political, and educational and so on. Information professionals are those who handle information and information activities including collection, selection, organization, processing and management and ultimately dissemination. Chief Information Officer/ CIO are apex delegates in an organization and institutions for information activities and overall Information Administration. Chief Information Officer/ CIO today work as information professional and side by side technology professionals as they need to do so many technological and managerial tasks too. This paper talks about Chief Information Officer/ CIO; including their traditional role and technological role; especially Network Administrator, Web Administrator, Database Manager and overall System Manager who handle complete Information Administration of the concerned organization and sister organizations in some cases.

Keywords: Computing, Informatics, Information Science, Chief Information Officer, CIO, Information Manager, Technology Management, Network Administrator, Web Administrator, Information Professionals .

I. INTRODUCTION

Chief Information Officer/ CIO are mainly responsible for information activities and mainly information processing and management. Chief Information Officer is traditionally deemed as information professionals and responsible for information dissemination too for its client or user. Chief Information Officer is the apex level of information professionals and stay on same chair and grade of some other of the organization; such as Chief Technology Officer, Chief Operation Officer, and Chief Financial Officer and so on [Paul, PK.et.el.2012a, b; and www.libsci.sc.edu/bob/istchron/iscnet/ischron.html]. CEO or Chief Executive Officer is responsible for collection and selection of information and document of an organization and keep it with general and computational documentation procedure and use depending upon need of the organization and institution. Chief Information Officer is also responsible for overall technological solution and management. Information Transfer Cycle and Technology Transfer Cycle both important task of today's Chief Information Officer. Today Chief Information Officer's are required on the basis of skill and sound knowledge in the field of Network Administration, Web Administration, System Administrator and Overall Information Administrator of an organization [Paul, PK.et.el. 2012a, c].

II. OBJECTIVES

The main aim and objective of paper includes and not limited to as follows:-

- To learn basic about Information Activities and basic Information Job;
- To know about Information Professional and their basic job and some nomenclature of Information Professionals;
- To know basic about Chief Information Officer and their importance and role in today's age;
- To know about changing technological role and importance of Chief Information Officer;
- To find out more and more Techno-Management role among today's Chief Information Officer.

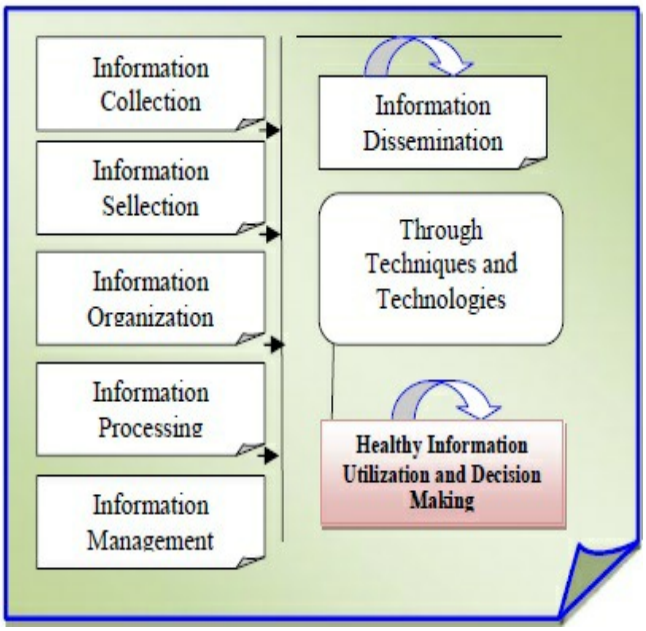

Fig: 1-Depicted surrounding of Information activities of CIO's

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III. CHIEF INFORMATION OFFICER: BASICS

Chief Information Officers are the professional who performs so many information activities. He/she helps by providing information to the institutions and delegates and officers. Chief Information Officer is responsible for complete information solution of the organization and thus they are responsible for communication among the departments of an organization and also perform role as an information collection, selection and organization and managing and keep such huge information with special manual technique or technologies powered by database, networks, web technology, communication technology and so on. The advancement of Information Science field changes the overall information infrastructure and system building procedure [Cohen, E. B. (2004, 2006) Paul, PK (2012h, k),]. Today Business Analytical tools and Business Intelligence Systems play an important role for sophisticated information management.

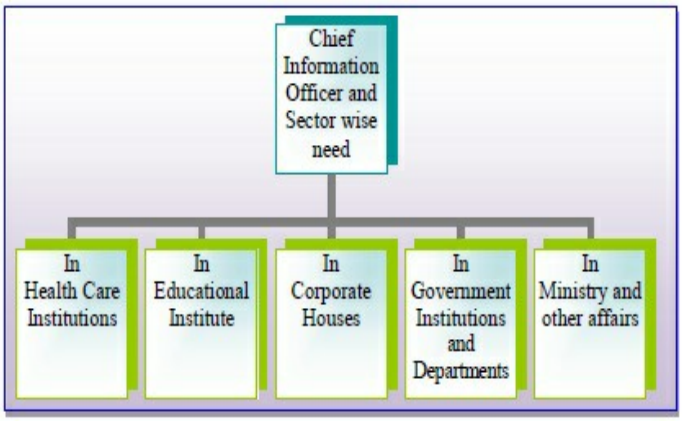

Fig: 2- Depicted need and requirement of QIS in several sectors

IV. CHIEF INFORMATION OFFICER AND NOMENCLATURE

The nomenclature of Chief Information Officer emerged during 1970's-80. Though, the job task and responsibilities changes over the period. Chief Information Officer today bears the same array or category of Chief Operation Officer, Chief Financial Officer, Chief Account Officer, Chief Technology Officer and so on. However, still is some of the organization Information Professionals of apex level are also known as 'Information Manager', Information Officer, Managing Director [Information], Information Administrator, Information Scientist and so on. Though today's Chief Information Officer also known as technology officer or Chief Technology Officer as they perform several technological task of the organizations. Paul, PK (2012l and 2012p) and Saracevic, T. (1975)

V. CIO REQUIREMENT AND PLACE

Chief Information Officer or CIO is needed for several Information Administration, System Administration, Network Administration related job; such as:-

- General information job such as information collection, selection, organization, processing, management and dissemination of information;
- Building general computational information infrastructure by developing general computerization of the organization;
- Building LAN of the organization for development wise information and communication and MAN if organization having multiple campuses or offers in the city;
- Building Global Wireless Networks or WAN is also an important task of today's Chief Information Officer;
- Keeping information dealing machinery save mode and connected properly and practice/ use depending upon need is also an important task of contemporary Chief Information Officer;
- Developing better Information Society for the organization for both manual information sector and computerization Information Sector are also important task of today's Chief Information Officer;
- Troubleshooting, configuration of the setting and network infrastructure and overall system administration is also an important activity of Chief Information Officer, Paul, PK (2012b).Saracevic, T. (1996 and1979a).

VI. CHIEF INFORMATION OFFICER AND IT AND USABILITY ENGINEERING

- Information Design is one of the important activity of any kind of organization and institution for better Information Infrastructure Building and CIO play an important role for better Information Design Practice;

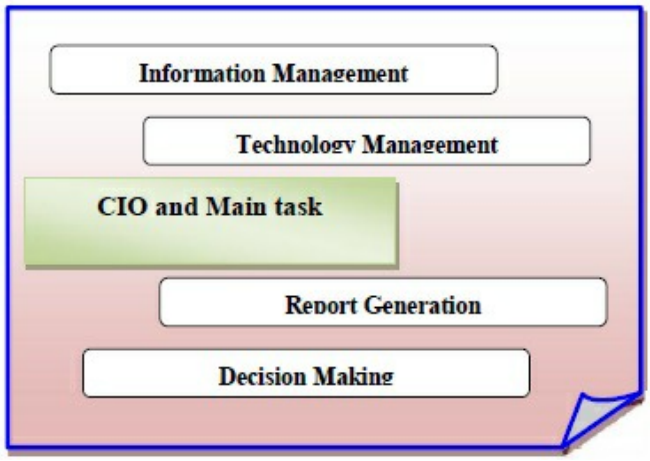

Fig: 3-Depicted general working activities of CIO and similar professionals

- Data is most vital for organization and institution and the large number of Data and their Management requires Database Systems and Proper DBMS and CIO play valuable task for better Data Collection, Manipulation and Management;
- Information Architecture is the root for any kind of Information Activity; proper Information Architecture building is most important and valuable and thus Chief Information Officer play an important for healthy and sophisticated Information Architecture Building;
- Database Creation, Design, Development and re-modeling depending upon need is the main task of today's Chief Information Officer, Wersig, G., & Neveling, U. (1975).;
- Information and Data is increasing day by day; the amount of information is getting triples each year and this domain is called Big Data Management or BDM.

Chief Information Officer in today's industry and institutions playing valuable role for advance Big Data Management;

- Website is the pillar of any kind of organization and institutions; designing, development of website and similar activities performed by the Chief Information Officer;
- Building and developing Human Computer Interaction is most important task in today's Information System Development and designing. As proper HCI helps in proper Information collection, selection, organization, processing and management of information; thus today's Chief Information Officer is working better for HCI based Information System Development and Designing;
- Usability Engineering is an important domain for better usability and interface designing. Chief Information Officer's for the information foundation and establishment are responsible for designing better and usable web interface, computer interface, search engine interface and so on;
- Today business activities are possible with internet and mobile and thus so many new commercial and business approach emerged like M-Commerce, E-Commerce, Online Marketing and business and so on; thus these are possible with better interface designing and here UED may play an important role for development;
- Building computerization connection and linkages are most important in today's age and Chief Information Officer are playing valuable role in this regard.

VII. FINDINGS

- Chief Information Officer or CIO play important role and act as Information and Technology affairs;
- Apart from Information Foundation, today CIO is recruit in so many organization and MNC's for several activity;
- Business Warehousing, Big Data Management, Data Warehousing and Data Mining are some important technologies for contemporary Chief Information Officer's;
- Network Administrator, Web Administrator, System Administrator are Computational Technologies needed for several Information Activities.

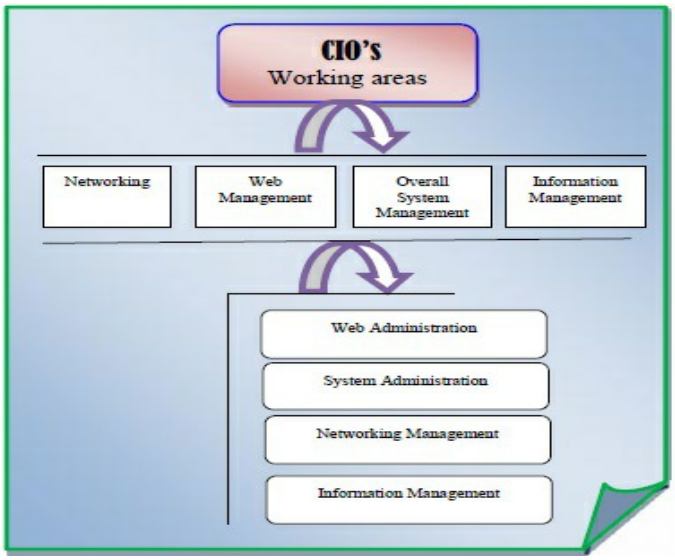

Fig: 4-Depicted main aspects of Information cum Technology Management in today's scenario

VIII. REQUIREMENT IN INFORMATION FOUNDATION

Chief Information Officer in earlier age was only treated as Information Professionals and responsible for so many information activities such as Information collection, selection, organization, processing and management with techniques such as Knowledge Organization tools like indexing , abstracting, classification, cataloguing, ledger management and general documentation management, Paul, PK.et.el. (2012r). However, in today's age Chief Information Officer works with so many tools and technologies in so many Information Foundation such as Information Systems, Information Networks, Information Centre, Libraries, Data Centre and so on. The Technologies uses in Information Foundation:-

- Database Management Systems;
- Networking Technology;
- Communication Technology;
- Web Technology;
- Computing Technology and some more advance technologies and computing techniques.

IX. CONCLUSION

Information is most valuable asset in today's age and among one and organization; directly and indirectly, Martin, S.B. (1998. Paul, PK (2012g). Technologies are today integrated part of Information Activities. Due to requirement information managers are needed in almost all type of organization and institutions regardless of private or Government, Small or Large; however depending upon nature of the organization the general role of the CIO may also change and includes Technology Management and complete Business solution, proper decision making and information infrastructure building.

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