THE ROLE OF INFORMATION TECHNOLOGY IN ORGANIZATION

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Abstract
Advancement in Technology has brought huge opportunities, challenges for managers from all professional fields. In present competitive economic scenario due to globalization, organizations who fail to upgrade themselves technologically are at unlikely risk of lagging behind both in term of competitively & productivity. Change is natural and the term "Change or perish" coined by Abrahamson, (2000) has become a new corporate mantra in the corporate world. The present study focus on the introduction of technologies & their effect on organizations. The study emphasizes light on implications of technology, reasons for introducing technology and impact of technology on organizations.
Index Terms— Technological Innovations, Organization, New Technologies, Personnel.

1. INTRODUCTION

Organizations exist to achieve goals. These goals are broken down into tasks as the basis for jobs. Classical organization theory evolved during the first half of this century. It represents the merger of scientific management, bureaucratic theory, and administrative theory. Information technology (IT) has become a vital and integral part of every business plan. From multi-national corporations to small businesses that own a single computer, IT plays a role. Along with the complexity of this technology increasing at a fast pace, the rate of change is also galloping fast.Development of modern computer systems is the most complex human activity so far under taken by organizations.

Its application is also highly complex and beneficial for firms of all kinds. Though fast changes are taking place due to technology, still technologies are significant contributor to the unstable and competitive market.The reasons for the ubiquitous use of computer technology in business can best be seen by looking at how it has changed the business world.

Frederick Taylor (1917) developed scientific management theory (often called "Taylorism") . His theory is based on four principles: 1) find the one "best way" to perform each task,2) match each worker to each task, 3) supervise workers, and for motivation use reward/punishment 4) management task is to plan & control. While Taylor's scientific management theory proved successful in the simple industrialized companies at the turn of the century, it has not faired well in modern companies. Information technology systems are used by organizations to perform various tasks.For some IT provide basic processing of transactions, while others help customers, client to interact with the organization through various technologies.

The term ''information technology systems in an organization '' is composed of four distinct parts which include: an organization, information in an organization, and information technology and information technology systems in an organization New technologies, new machineries at the place of work have created

golden opportunities of employment for the people in the organizations. There is the complete change in the organizational structure, design & workforce which led to enhanced productivity. But the major change with the emergence of new technology is the formation of trade union. During 1813-1913 there was a major increase in worker's wages which was considered to be next organizational impact (Dawsen, 2007. p7). Because the extent to which collective and individual productivity in organizations seems to depend on the effective and appropriate use of technology by members, the impacts of new technology on people in organizations have held long and abiding interest for researchers (Stam & Stanton, 2010, p.24).

The main aim of this paper is to examine some of the key literature regarding implications of technology on the organization, reasons for introducing new technology. These literature hints at the importance of various organizational factors which are responsible to promote innovations within the organizations. Next we focus upon various technological barriers to technology changes. Further we highlight impact of technology on organizations. Finally, we summarize and discuss the issues arising from our study and, provide some general conclusions on the state of the field which is followed by indicating some gaps for potential future study at the end. For this purpose secondary source of information was gathered from the vast expanse of literature related to the topic present and the internet sites as EBSCO, SCOPUS, EMERALD others.

2. TECHNOLOGY AND ORGANIZATION

The relationship between manpower levels and technology is less obvious in non-manufacturing industries, where the output is less substantial (Dawson, 2007. p29).

The link between technology and organization was first given by Joan Woodward in mid 1960s. She performs a research which was focused on production technology. She viewed organizational structure from a technological perspective.

Due to increase in technological complexity Woodward realized that the number of management levels increased. Woodward (1965) classified organization technology into three categories- unit or small batch technology i.e . units are custom made and work is non routine; large batch or mass production technology- where production is on large level ; continuous process technology- highly controlled & continuous processing technology.

2.1 Information technology Impact on organization

Flow of Information: Information is a very important resource for all organizations because it effect both external & internal environment External With the flow of Information in an organization it can flow in all the direction which can include upward, downward, outward & horizontal flow of information.

Transaction processing: transaction process system (TPS) is a system that processes day to day based operational activities that occur within an organization. TPS play the vital role for any organization. TPS will update any transaction process and store that information in a database.

Decision support: A decision support system (DSS) is a highly flexible and interactive IT system that collects, organizes and analyzes business data to facilitate quality business. A DSS works with AI to help the worker create information through (OLAP) online analytical process that further help in decision making.

Executive support: An executive information system (EIS) is an interactive management information system (MIS) combined with decision support systems and artificial intelligence for helping managers identify and address problems and opportunities. It allows managers to view information from different perspective. Yet it also provides managers with the flexibility to easily create more

Data Management: With the help of database software, an organization stores, modify, retrieve all its relevant data on a database. Its a systematic approach for creating and managing databases. The DBMS provides users with a systematic way to create, retrieve, update and manage data.

Communication: Information technology plays an important role in the development of communication technology. Services like electronic mail make communication fast & easy. Communication is a great tool in business develops, with advanced communication tools, em **III.**

2.2 Effect of Technology

Organizations today are integrating new technologies to be on upper edge over others in order to increase productivity. With the advancement & help of technology there is a increase in all the area of management which is useful in decision making and analysis. IT play important r role in conducting financial analysis in the organization.. Although, there are several implications of technology, some of the implications where organizations can be influenced are

- Business strategy – Reducing Time & distance hence enabling E-commerce

- Organization Culture - encouraging the free flow of information

- Management Processes - providing support to DSS

- Work – Changing the work style of professional.

- The workplace - allowing work from home and on the move.

Effect of technology can be seen in Digital India. A campaign launched by the Government of India to ensure that Government services are made easily available to all citizens of India electronically by improving online infrastructure, increasing Internet connectivity & making India digitally empowered.

UCISA's biennial "Top Concerns" report (UCISA, 2011) incorporates a brief review of issues engaging senior IT managers in the UK, USA and Germany. Noted are:
• Funding IT was the top concern in Germany, USA and the UK
• German respondents (to their ZKI survey, the equivalent of "Top Concerns") rated staff.

Development as second priority (the concern was not in the UCISA "top 10" list)
• Use of new technologies and cloud-based services featured in USA (4th) and in UK (=10th)
• Shared services (in the UK) do not feature in the "top 10" and only achieve tenth position in the "emerging concerns" list.

Whilst the UK 'funding IT' issue concerned inadequacy of funds, the USA situation was associated with reducing budgets and increasing revenue from technology-related activity. Despite the continuance of financial challenges in the UK sector it is interesting to note that shared services as a Cost-saving option is not viewed as a high priority strategic consideration in the provision of IT Services. This said, one needs to acknowledge that the survey return may not necessarily represent the broader community practices. On the other hand, in the USA the interest in and uptake of cloud based services is afoot. The German reference to staff development may be an indicator of changing skill sets and associated competency requirements within their sector. Whether there is an associated displacement of services based around traditional skills is not reported. Dealing with Internal approaches to competency requirements are briefly addressed later.

Miller [9] foresaw the key features of the new paradigm as a natural outcome of the information era and the associated "economy of choice":

The new technologies will allow managers to handle more functions and widen their span of control. Fewer levels of management hierarchy will be required, enabling companies to flatten the pyramid of today's management structure. The new information technologies allow decentralization of decision-making without loss of management awareness; thus employees at all levels can be encouraged to be more creative and entrepreneurial. The key responsibility of the CEO will be leadership; to capture the light or energies of the organization -- like a lens -- and focus them on the key strategic objectives.
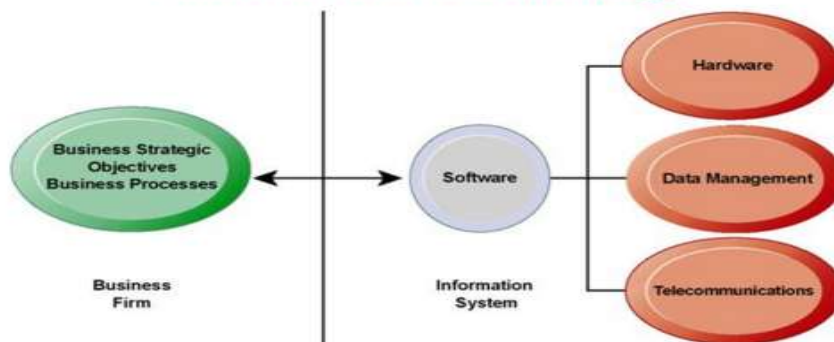
Fig-1 Fig 1-2 Management Information Systems Jane P. Laudon Kenneth C. Laudon Prentice-Hall Inc 10 th edition

2.3 Reasons for Introducing New Technology

Many changes are taken place these days in work environment so to increase the productivity, efficiency, and usefulness new technologies are inventing. But these technologies when introduce in the organization create new challenges in the form of user acceptance so that productivity & performance not get effected. Age, level of technology, resistance to new technology, adaption are some of the few factors which effect individual performance

2.4 Organizational Barriers to Technology Changes

People are extremely important to the success of an organization, they manage, control, coordinate the company, running the tasks, activities and processes. Some authors claim that the company is a living organism, because the dependency and influence of people is very great, and for this reason a special attention should be given to the development of human factors in the company in order to harness the talent of these people in the most various activities of the organization. Managing people means to govern what they do as participants in the organization, and it is precisely through the actions that it is possible to formulate and achieve organizational objectives. Managing people in work contexts means controlling the factors that affect the quality of work and life of the employees, not in the handling of his conduct, but to identify the best conditions for each type of service, the skills needed to be developed, the factors that motivate workers, the resources and the structures necessary for the implementation of the activities. It is possible to use people's participation in the organization as an instrument or tool of problem solving in different situations and different types of groups. The modern managers have the responsibility to introduce and integrate new techniques and skills to handle them to their employees in order to gain high proficiency in the new working styles. They must be supported in bringing change in their career and work-style and be readily accepted in the new system with self esteem.. The change due to a new technology in an organization faces not only financial barriers but also many political

and cultural barriers. Due to insufficient finance or incompetent employees an organization may suppress in the process of innovation. While an organization with good resources of money, time and technical expertise can gain competitive edge

3. CONCLUSIONS

The new organizational paradigm is indeed intertwined with the structure of an organization's information systems. Under the old paradigm, the firm was governed by a relatively rigid functional structure. This separation into distinct and well-defined organizational units economizes on the information and communications requirements across functional units and reduces cost and complexity.

- There is a tradeoff, the old structure is less flexible, less responsive and ultimately results in lower quality.
- Use of IT and the trend towards networking and client-server computing are both a cause and an effect of the organizational transition.

- Lowering the costs of horizontal communications, facilitating teamwork, enabling flexible manufacturing and providing information support for time management and quality control are key enablers on the supply side.
- The new organizational paradigm demands new information systems: nothing can be more devastating for cross-functional teamwork than a rigid information system that inhibits cross-functional information flows.
- Changes in IT change the nature of organizations just as changes in organizational structure drive the development of new technologies.(eriK,93)

So In last I would say that for the interest of an organization & to keep and follow an open communication policy about the forthcoming technological changes in the system. All employees should be informed from the initial stage, all employees should have access to all information about the
Changes an organization intends to bring and the skills that will be required for that. This will tip off the workers and they will know the scenario, but precaution needs to be taken. Those who can get themselves updated with the addition of some more skills should be encouraged to do so.

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