Role of Management Information Systems in Virtual Organizations

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Abstract: New age is followed by complicated, dynamic and transitional organizations. In these organizations, available traditional boundaries will be lost, several culture will be integrated and disappeared under the leg of richer b cultures. Many jobs will be redesigned and entering information technology will change structure of organizations. In turbulent world and age of exploding information, organizations are given by grace of organizing and applying information optimally and managing information capital of organization and today developments observed in information technology can rise speed and accuracy of transforming massages in addition to making communication and transforming information they also can play an effective role on decreasing official costs of organization's it leads to organization's productivity also information technology plays a positive role in organizations in the field of pre venting some negative and unnecessary reactions and communications. In this study, some cases such as definitions, dimensions, several organizations and offices, existence philosophy and characteristics of managers in virtual organizations are pointed.

Key words: Virtual, virtual organizations, capital of organization, information technology, dimension

INTRODUCTION

One of the most exciting challenges in modern complicate society is challenge of managing some factors of government and industry which strongly show an interaction to each other. These factors include poverty, air pollution, increasing growth of population, unemployment and etc which all display some problems of critics in several ways and they aren't still studied sufficiently. Organizing and conducting this critic correctly as a necessity are performed by human societies. in this changing society every organization is responsible for making regularity along with exact and in time information is regarded as the basic factor to organize in every side. Meaning of information emphasizes on this belief that valuable things are transformed to a person or an organization therefore as people appeal multiple information resources, volume and speed of information production is ever increasing, it is necessary to make a system which refines, compacts, stores and transforms information for this reason an information system is created for managers to apply called as management information system (Rezaian, 2006) as pointed by in fourth period of man civilization third wave in recent decade so interesting changes have emerged in organization then some structures are forming non-existence previously. many transformations and in fact main infrastructure of all changes is making coordinated computer systems followed by introducing software and hardware in addition to complex communication instruments through the world (Portal of Management Papers, 2009).

Definitions: Management information system includes three components: management, information and system. However a system that prepares information and data about environmental and time information and changes it to definable and changeable information in order to make decision is called management information system (Momeni, 2003):

- Designing systems
- Receiving information in these systems and making decisions in order to plan, perform and control systems
- Systems to achieve organization's goals
- Information including regulation and selection environment and time information in order to make decision
- Basic meaning of management information system)
- Management information system is a formal system which provides necessary reports about manager's decisions in several levels of organization (Rezaian, 2006)

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- Management information system denotes to a part of system that relates to making decisions and management
- Organization's management information system is a collection of tasks and performances embodied in operations responsible for organization information

MATERIALS AND METHODS

Procedures in information systems: During recent years applying information systems in business has been increasingly increased.

Electronic commerce and business: Through 1990-2000, Electronic commerce and business systems were developed based on internet and under web institutions, operations of Electronic commerce and electronic business on internet, extranet and other webs. Strategic support and end user: through 1980 and 1990, direct transformation systems of end user were supported based on direct reaction to productivity and end user; collaborating information system's work groups of top managers; necessary information for top management. knowledge-based expert advices are based on knowledge for end users, strategic information systems, strategic products and services to achieve competitive advantages. supporting decision: through 1970 and 1980 supporting systems of making decision, necessary and active supports of management making-decision process were developed management reporting: 1960-1970 refers to developing management information systems, management reports from predetermined information to support decision. Information processing: through 1950 and 1960 electronic systems of processing information, processing exchanges, keeping histories, traditional applications of accounting were developed up to 1960T role of many information systems such as exchange processing, filing, accounting and other applications of Data Electronic Process (EDP) was simple, then other role was added as the meaning of Management Information Systems (MIS). This new centralized role was development of new applications in business where end users supported a policy with management predetermined reports. These reports provide information needed for managers to make decision. In 1970, it was determined that these predetermined information products produced by management information systems were insufficient to meet needs of managerial decisions. Therefore, meaning of support systems was resulted from making decision (DSS). This new role of information systems includes presenting immediate and active supports for management end users in order to make decision. This support may be completely dependent on unique style of manager's making decision imposed by several instruments in real world from 1980 several new roles were created for information systems: first fast development of sub-computer's processing power when application software packages caused to make a direct interaction with end users. Now end users could apply their accounting resources to support their job requirements. second, it was clear that organization's top manager didn't use reports of management information systems and abilities of analytical modeling of making decision support systems. So meaning of top Manager's Information Systems (EIS) were developed. These management information systems were created in order to meet needs of organization's top managers. third is removing obstacles of making and applying Artificial Intelligence (AI) texts in business information systems. Today information systems can serve as end users and present advices in special fields. A new and important role of information systems in 1980 was introduced and was continued to 1990. This meaning is strategic role of information systems that are sometimes called as Strategic Information Systems (SIS). in this regard information technology as a necessary component of business processes, products and services helps firm to get competitive managements in the world markets. Finally, that fast growth of internet, extranet and other interconnected world webs caused to change abilities of business information systems basically in 1990 and started in the early of 21st century. Internet-based and under web organizations in addition to business world systems and electronic commerce have changed to a common role in operations and management of organizations and present business.

RESULTS AND DISCUSSION

Fictions of management job: In viewpoint of Mintzburg four fictions compromised in management job play important roles in designing and applying computer-based information systems.

First fiction: Manager is regular and valuable planning. Fact: Several studies show that managers work continually and their activities include properties of abstract, diversity and non-repetition. They are increasingly functionalist and hate mental activities. Second fiction: effective manager isn't responsible for regular duties (good manager pre-coordinates everything accurately and then waits to enjoy results of their efforts and sometimes responses unpredicted events); Fact: in addition to investigating exceptional

cases, manager is responsible for doing regular duties such as religious ceremonies, processing potential information and making relationship between organization and environment. Third fiction top managers need abstract information provided by management information system in the best way fact. Managers like oral medias such as telephone and face to face meetings and prevent writing as possible.

Fourth fiction: Management is science and profession or at least changes to science and profession fast fact. Manager's plans include providing job timing table, information process, making decisions and etc. To describe these plans terminology of judgment and evidence are used. And managers rarely found them merely as the labels for their ignorance (Rezaian, 2002).

Structure of management information systems: Management information systems include several secondary systems and structuring these secondary components have two vertical and horizontal dimensions. In vertical dimension information system has hierarchical structure and relates to several problems of organization's several hierarchies. In this level of researcher, system depends on high volume of data processing and data of real world events is gathered from this level. In tactic level management information systems depends on relatively short-time decisions such as product timing table. In contrast to operations in which many activities are done by computer automatically this stage of work relates to direct cooperation of human force by human. Strategic level relates to more general decisions such as designing, compiling and developing products of other firms and less depends on formal information of information band and more depends on external information resources (Anvari Rostami).

Feasible reasons of management information systems: Primary efforts in systems of "electronic data processing" was concentrated on repetitive and expanded works of accounting stocks, providing inventories and investigating employee's salaries. So, managers accepted costs to apply systems. Therefore, new application of high-output computer systems and using complicated models in decisions can't be considered as a merely analytical decision based on cost factors. For example imagine a seller who gets an exact estimation about unsold products in factory by telephone and promise buyer to receive it in determined time. This system is now possible and has approved much value to keep present customers and attract new customers. Meanwhile cost this "strong output system" is high and doesn't decrease

other tangible costs. But its advantages for organization are considerable. it doesn't mean denying this fact that all organizations having strong ability and output system are more successful. But it explains that in many cases explaining information rationally is difficult. Goals of management information systems and expected results should be pre determined and defined. In many cases what is called management information systems is never management information systems, but is mentioned by this comprehensive title and can be called as information system (Rezaian, 2006).

Characteristics of strategic information system: Present information systems aren't limited to performing routine official performance of data processing but plays important role and effective influence on organization's competitive ability. This subject emerges more tangible and critical for commercial activities in which concentrated information operations are done. Strategic information system concentrates on some operations which previously play important role on critical success factors of organization. Some examples include:

- High distribution of goods to retainers in order to make a report from customers and study previous orders to estimate suggestions of new orders and analyze demand samples
- A financial services firm analyses previous data related to customers to make proportionate marketing method with new services
- A charity keeps files of financial grants to their customers in order to increase communications with them

A model of computer-based information systems: Managers make decisions using information to solve organizational problems because good decision is one for which ninety percent is information and 10% is intuitive data. Information is presented by information processor orally and in written. Computer part of processor includes all application systems based on computer or accounting information system, management information system, making decision support system, virtual office and knowledge-based systems that all give information to solve problem (Rezaian, 2006).

Problems of management information system: There are many evidences of numerous statistics in England or the USA which often use developed computers where management information system is less successful relating to providing management needed information there are some determined reasons in this regard including:

- Lack of applying management in designing
- Disproportionate or little emphasis on computer system
- Ignoring low application level of data processing in private section
- Lack of management computer knowledge
- Management's insufficient acknowledgment of information experts for needed real information and solving organizational problems
- Lack of top manager's support

A management information system should be designed to success regarding organization work and methodology nsuch as technical methods and factors (Momeni, 2003)

Virtual organizations: You may ask why our workplace should be certainly an official building? Usually there are the same answers. For example because you are there with other colleagues and do for sell or services or we can ask your questions of your colleagues.

But the questions is "what will happen and what problems will occur if we don't work or ask our questions in a physical environment? An electronic environment will be created instead of all these facilities and everyone can start his job easily from every point in the world by communication channels such as internet. So you have passed the first step to make virtual organizations (Oxinad Site, 2008). Peter Drucker first thought to emerge virtual organization in the early of 1950 by publishing his book "intra-modern world by presence of thoughtful employees". Next Elvin Toffler developed idea of creating virtual organizations. Several organizations have different approaches on this field and some known organizations such as IBM, General Electric, Microsoft, Niky, Reeboc, Dell and Fax firm in 20th century have selected several forms of virtual organization and have been successful in this way (Resalat Newspaper Site, 2010).

Definitions: Virtual organizations are in fact web organizations which don't have permanent central core (Rezaian, 2002).

Virtual organization is regarded as a temporary network of independent units and organizations which includes manufacturers, customers and competitors. These units are connected and enforced by information technology to profit new chances highly (Portal of Management Papers, 2009).

Virtual organization is a temporary network of other organizations which gather fast to profit final chance that is changed fast. in a virtual organization, organizations

collaborate in cost, skills and getting world markets and every organization plays a role that is the best (Khadivi *et al.*, 2003).

Characteristics of virtual organizations: It is based on information. It is decentralized but serves strongly centralized in technology point:

- Activities of virtual organization concentrate on its unique capabilities
- It is flexible, smart and fast
- Its investments are optimal and its extra expenditures are omitted
- It is creative, dynamic and by a virtual structure based on team work
- General purposes of virtual organization
- Exploding resources present in market in time in order to promote quality and increase product's value
- Employing expert workforce from all classes, expert and nationality
- Making internal administration that is resulted from a clear, powerful environment having common executive principles in addition to heart and real confidence (Tebian Site, 2010)

Dimensions of virtual organization: In gneral virtual organization can be viewed from three angles. First dimension of virtual organization includes a group of people who are expert in their majors for whom their job branches are different and results of their activities lead to presenting services for customers. Second dimension. In these virtual organizations, a group of people with special experts and skills gather together to create a temporary or permanent organization where special services are presented for customers third dimension virtual organization can be a big organization which selects its output among many important operations of other organizations such as production and distribution (Khadivi *et al.*, 2003).

CONCLUSION

Virtual worlds aren't possibly what several firms rely on to advertise but many firms and institutions profit these online worlds in several profitable methods. For example employees in a firm in New-York can go to Shang-hi using virtual worlds or several programs can be performed for employees to encourage them to participate such these projects. Ability of a firm to profit virtual worlds isn't determined (Oxinad Site, 2008) many studies have been conducted to imagine meaning of "internal

virtual deployment" of organization. Virtual organizations shouldn't be regarded as differentiate structures but being virtual can be a strategic property for every organization. Some authorities of virtual organizations explain gradual development in work place and business in industrial age where we can achieve a new rational of virtual organization by applying information technology. Computer powerful convergence, communications technology and emerging information highways cause to form a new model of business. Now it is apparent that virtual organizing without considerable power of information technology and information systems is impossible or it can be said that an "effective internal deployment" can't be structured (Rezaian, 2002).

REFERENCES

Khadivi, A., H. Tafrashi, G. Yousofi and S. Reza, 2003. A Modern View on Organization and Management's Theories in Present World. Andisheh Company, Tehran, Iran, pp: 193-208.

Momeni, H., 2003. Information Resources Management. Ettehad Press, Rabat, Morocco, Pages: 43.

Momeni, H., 2003. Management Information System. Ettehad Press, Rabat, Morocco, pp: 30-42.

Oxinad Site, 2008. Virtual world in business. Oxinad Site, Tehran, Iran. www.oxinad.com/articles.

Portal of Management Papers, 2009. Leadership in Virtual Organizations. Portal of Management Papers, Tehran, Iran. www.bashari.blogfa.com.

Resalat Newspaper Site, 2010. A necessity called virtual organizations. Resalat Newspaper Site, Tehran, Iran. www.resalat-news.com.

Rezaian, A., 2002. Principles of Organization and Management. Samt Publication, Tehran, Iran, Pages: 326.

Rezaian, A., 2006. Management Information System. Samt Press, Tehran, Iran,.

Tebian Site, 2010. Looking at virtual organizations. Tebian Site, Tehran, Iran. www.tebyan-zn.ir.