Impact of Information Technology to Improve Iranian Organizational Performance
(Case Study of Mazandaran General Governorship)

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ABSTRACT
Organizations compete in a stressful, unpredictable, complex and rapidly changing environment for more profit, maintain market, and generally, for their survival and growth, and to achieve these goals they should have the ability to rapidly react to threats and existing opportunities in such a dynamic environments. In this study, after the precise definition of information technology, productivity and Impact of Information Technology to Improve Iranian Organizational Performance (case study of Mazandaran General Governorship); at the end we have referred to the analysis of the statistics obtained from the personnel of the Mazandaran General Governorship. On the basis of the obtained results, the information technology plays a very extensive and valuable role on the productivity of the organization, and this role can be thus observed in the service-giving of the organization, potential of the organization, profitable investment in the organization, etc.

Keywords: Information technology; organizational technology; human resource; information technology development, environmental factors; office automation.

1. INTRODUCTION
Today, information technology in all parts of the organizations, including human and financial resources, has been strongly influenced and this has resulted that organizational managers are taken a comprehensive and scientific view toward the available resources (human and financial) [1]. However evidence indicates that the success rate of technology applications was not very satisfactory, because the success of technology application depends a lot on the context in which it is used. Because of these reasons, previous studies result can’t be applied in new context with complete confidence, generally, to full utilization of new information technology, modern information system should be utilized. Since the fate of organizations tied to information technology everyday more than the past therefore it is evident that identifying the impact of IT has become increasingly important in such a situation. Information technology permits increasing productivity and efficiency, greater control domain and reduce the number of experts so that the need of technical expert is reduce in an organization. Therefore considering the cases mentioned above, in the present study we are sought to gain knowledge of Impact of Information Technology to Improve Iranian Organizational (case study of Mazandaran General Governorship) to provide required information in this field.

2. THE CONCEPT OF INFORMATION TECHNOLOGY
Management technology and scientific, technological and engineering mechanisms which are used for working with information, data processing and telecommunication and the field of electronic data processing, telecommunications, computer network and combine it all in one system, applicable software and related hardware equipment, and their interaction with human and machines is the meaning of information technology [2]. Therefore, with the above definitions in the way of information technology concept, it can be stated that information technology provides better and wider access to information and develop human resources through saving time and money and leads manpower to do useful activities, reduce costs, gain and analyzed data and reduce inappropriate supervision and management costs, increase operations, increase users satisfaction, cost effectiveness, integrate simple and fast programs, achieving efficient and fix profits by spending lower costs and material resources and rapid disseminations of information [3]. The components of information technology: contain input, output, communication, storage and information processing tools can be cited.

3. INFORMATION TECHNOLOGY AND THE IMPROVEMENT OF LIVING
Information technology has been very effective and efficient in improving the human life an increasing the level of life, including those that can be found below:

A. Speed of matters
Today, we are informed about world situations with a click, right at that moment, once it takes several days, but now information technology provides possibilities to meet this need in a second. Today, due to information technology, many of the matters that much of our time...
allocated to are performed in the possible least time. On the other hand, IT makes many of the arranged and analytical activities possible, faster and simpler through organizing take so that humans are able to use their time better. But perhaps the most important aspect of matters speed which reinforces the IT is data processing. Because today, tasks to information technology those calculation may have possible that without today's modern computers they seemed almost impossible due to time constraints.

B. Increase information and human knowledge level

Information technology makes the exchange of information simple with a click by creating an efficient and secure capacity for exchange of information. Today any kind of information that we require is available in IT to help us meet our needs.

C. Remove the various mechanisms and mediators

Many matters around us now needs to pass the different stage for being performed, which is not affordable in terms of cost and time and therefore, if they are removed, tasks will be done faster easier and more efficient cost. Information technology provided the elimination of many of these human steps, so, all of these improvements and accelerations in all dimensions can be due to information technology [2].

4. INFORMATION TECHNOLOGY AND MODERN ORGANIZATIONS

Most public and private organizations laid their activities on the form of digital economy and based on the use of digital technologies, this type of economy entitled as the internet economy, also called the web and new economy.

This new type of digital infrastructure economy provides necessary capacity for collaboration. Communication, information search and individuals and organizations activities that these capacities include:

- Doing consumers and companies economical exchange digitally.
- Changing the form of products such as books, magazines, radio programs, televisions, movie, electronic games, music CDs, and computer software to the digital form.
- Adding the ability to connect physical goods such as furniture and car to computers.

Using digital technology by organizations and individuals, to access the information stored in different geographical locations, caused increasing collaboration and communications among them. Also individuals (stuff or human resources) can easily connect their computers to the internet, or connect their organizations internet to their partner’s internet that this type of networks is called Extranet. but today what we should note are complexities unpredictable stress in the external environment of the organizations so these organizations require capabilities to rapid response against these complexities and tensions for survive and develop themselves and achieve to their goals.

Therefore, organizations must identify environmental factors that influence organizational activities such as social, physical, political, economical, legal factors political factors because these factors can cause pressure on the organization, these stress are generally classified to three categories including market pressures, information technology pressures, and social pressures and are as follows:

A. Market pressures

Market pressures resulting from global economy, intense competition, natural changes in the labor force and customers. Remote and advanced contact network such as the internet has facilitated the move toward a global economy. Regional agreements such as the North American free trend agreements and creation of a unified European market with a single currency (Euro), has an important contribution in increasing world trend. Labor cost is other pressure on active companies and organizations. These costs are variable in different countries. For Example, in developed countries, labor costs is more expensive than developing countries because many benefits are spent on workers health care and consequently many sources dependent on workforce prefer to exchange their manufacturing activities to countries where labor costs are significantly lower. With diverse workforce specially in developing countries, waste of labor is difficult.

Today , the number of single parent women, the minorities and disabled people who work in all situation is growing. Therefore, IT facilitates loss of workforce in terms of the traditional labors and allows people to work remotely and even work from home. Cultures and expectations of customers are increased by increasing the people’s knowledge about the availability and quality of products and service. Customers can find exact information about products and same service and even compare goods prices of different competitors and buy the desired products by entering the electronic sales, thus, these market pressures force organizations to increase efforts to attract and retain customers.

B. Technology pressures

The second type of pressures on the organizations is technology pressures because it contains technological innovation, outdated technology and high volume of information. Since the used technology is rapidly modified and updated and newer technology come to the market every day and service options are changing, the volume of information that is on internet freely and increase over two times every year are created at one hand and on the other hand created pressures for organization because managers must be able to access, navigate an utilize the massive volume of data and use them in decision making, otherwise organizations are experiencing stagnations and backwardness.

C. Social pressures

Social responsibility, legality and legality elimination of the governments, spending money for social program and ethical concerns are some of the social pressures whose details are as follows: the social responsibility that effects on organizations is information gap between the organizations that have internet access and communications networks and those which do not have access. Also,
government laws on security affairs, health, environmental control and developing equal commercial opportunities are the other social pressures in the business. These laws enhance costs production and organization service and makes their competition harder with the industries of other countries that haven’t such restrictions [4].

5. THE CONCEPT OF PRODUCTIVITY

In relation with the concept of productivity many definitions are presented and even concepts such as efficiency and effectiveness have mentioned which brief definitions about them are offered.

- Efficiency: it is related to the performance of work properly in an organization. it means the decisions which are taken to reduce costs, increase productivity and improve the quality of products. [5]
- Effectiveness: the extent of organizational behavior agreement with the organizational expectation, that is, profitability and costs reduction and productivity improvement which are the expectations and organizational goals. Also organizational behavior (employee) must be consistent with these expectations and act [6].

According to the definition and concept of productivity, each of social group including a group of employees, consumers, governments, nations, engineers, scientists, economists, managers, have different perspective and attitude toward productivity and for each of these classes productivity has a specific concept and application that include:

- Productivity from the employees and agent viewpoint.
- Productivity from the government viewpoint.
- Productivity from the nation’s viewpoint.
- Productivity from the engineer viewpoint.
- Productivity from the scientist’s viewpoint.
- Productivity from the manager’s viewpoint.
- Productivity from the economist’s viewpoint.
- Productivity from the philosopher’s viewpoint.

Factors increasing productivity in organizations are divided into two categories, internal factors (employees) and external factors that explaining each division doesn’t fit in this study.

6. INFORMATION TECHNOLOGY AND ORGANIZATIONS PRODUCTIVITY

Quality and effectiveness of the organizations or in other words, organization productivity over than human resources factors, efficient management, in this era it also includes technology and information technology.

Information technology and telecommunications tools are tools that combined data, equipment, personnel, methods of problems solving in management, planning, controlling and integrating the activities of organizations.

In other words, IT contains all hardware, software and data applications in produce, storage, process and transfer data electronically and also related service to retain these resources actively and available for productivity. Undoubtedly, the most important role of IT in organizations is to eliminate barriers easily, immediately and inexpensively and raising the importance of communications. Information technology eliminate the organizations internal barriers, barriers between organizations and their environments, and makes organizations more efficient, effectiveness and competitive in practice. Also, within the organization the use of information technology means that individual and teams that work in different sections, levels and places can easily communicate and exchange information electronically [6]. Several research have been conducted in relation to the topic of this study that some of them include: Shaukat and zafarallah (2009) on a research entitled the effect of IT of organizational performance, with investigating the index of quality performance and Pakistan’s banking and manufacturing companies reached to the conclusion that it has a positive effect on organizational performance but this effectiveness was more on banking sectors that on the productive sectors [7].

In other research; Ghorbani & SedaghatSangani (2011), the role of information technology on organizational efficiency in the municipality of Mashhad, they reached the conclusion that each of the five section of information processing systems, management information system, office automation system, local network and home networks have an important impact of organizational effectiveness because it is based on information technology. Thus, using information technology has an important role on organizational effectiveness (Mashhad municipality) [8].

According to a new study conducting on 502 IT managers in the US 53% said that less than half of their employees done their daily tasks remotely and from home. According to this survey, 22 percent of these managers have mentioned that current methods for doing organizational tasks remotely resulted to drowse company’s activities and lack of the appropriate profitability. Based on the research, 15 percent of managers reported that because of the prevalence of influenza type A and other seasonal disease, they provided the possibilities for their employees to work from home, this study which was conducted with Cisco's cooperation, shows that organizations still didn't fully believe the employees remote activities and try to pursue most of the functions within the organization. In response to the question: why the remote system has not been provided to all employees, 38% of these managers announced that they do not see any need for this work and said public access to the work system from inside the house couldn't be correct. Among these, among the managers who provide the possibility for doing the activities inside the home for their employees, 62% noted that employees have greater effectiveness and efficiency by doing duties remotely. Among these 57% of
the managers reported the increase in employee’s satisfaction and 42% consider this issue as a factor for the reduction of organizational costs. Study of strategic development of IT in different countries showed that countries primarily need a vision and a theoretical foundation for developing their IT strategy, although, in many cases these vision and theoretical foundations in strategic plans of under studies countries has not been emphasized but is implicitly referred to.

7. INFORMATION TECHNOLOGY OF MAZANDARAN PROVINCE

Strategic document of IT (vision) is the 1st step toward the development of IT, path of movement and future guide of province in this scope and visions, missions and strategic are needed to prevent the overt ime service in developing IT and placed all the authorities efforts in a unit. Therefore, the strategic document of information technology of Mazandaran province is an extensive project in which by investigation of the present status a comprehensive plan for IT developments in the province is presented. In this plan, mission, visions, strategies, policies, operational plan and programs of IT and communication in province are determined, especially in executive programs, various project in the areas of human resources, hardware, infrastructure, software, and application programs, financial resources, addresses, users and training will be provided.

Given the above information necessity for developing IT strategic plan are:

A. The need to direct investment made in the area of information technology in order to achieve province goals.
B. The need to utilize the IT as a strategic tool in order to overcome province existing limitations.
C. The need to create a suitable platform for the development of new technologies in management of the province.
D. Need of the use of IT in order to increase added values and reduce operational costs and service of province.
E. The need for empowerment of human resources and improve organizational culture in province and the need to meet the expectations of IT users and managers of the province public organizations.

Specific strengths and weakness of the province in the development and application of IT can be expressed briefly as:

1) Strengths
   a) The high competent and expertise of It staff to meet the requirements
   b) Users sufficient interests and motivations for the use of IT service and the existence of IT unit in the structure of most province government offices
   c) The motivation and effort of managers and IT exports in province organizations to implementing the systems and provide needed service.
   d) Facilitations in development and integration of mechanized systems in province office.

2) Weakness
   a) Non-integrated applicable programs.
   b) Lack of appropriate exchange information and services electronically via the websites to addressees and clients.
   c) Non-use of the internet with adequate bandwidth by organizations.

8. OFFICE AUTOMATION IN MAZANDARAN GENERAL GOVERNORSHIP

Before addressing the subjects of office automation in Mazandaran General Governorship, we present a brief description of it in a world characterized by its high tech and mass communication, what links our thoughts with this century humanity, is a wide range of hardware and software, the lack of which is as are treat in the remote island, if consider the organization as a small example of a society, one of the major and effective system organizational communication sector is certainly an office automation system. Office automation software system is a mechanism to improve organizational. Productivity which as a new solution can be effective in eliminating digital management challenges. This system, by providing features such as electronic flow of correspondence at the level of organization, easy search of stored information, fast and timely response to client and remove paper from the official correspondence, appropriate control over users, registration and maintenance of optimal information helps to improve communication within the organization. [9]

Poll result is obtained based on a survey from related to the following table and Mazandaran General Governorship administrative staff that directly or indirectly interact with office automation system according to the statics on average productivity and ease of work.
The possibility of doing office work outside the office and in any time by managers and even experts.
Reduction of parallel activities such as high not needed correspondence of registration and retain of records in several locations.
Retaining the operation records in low volume and high security.
Easy reference to correspondence at any time and without the presence of secretarial agent or office.
Produce the required report with numerous diagrams.
The possibility of mechanized persue of work in any place and any time and informed of delay matters.
More control on correspondence and classified information transfer.
Accuracy in doing tasks and records of all the affairs.
Timely tracking of the tasks an task stage.
Ease and speed of affairs circulation.

By use of office automation in the organization in compare to the time when not using the system, was about 85.18% this shows the satisfaction of personal from system that will impact directly on productivity.

9. CONCLUSION

In general, the impact of IT on organizational performance has been widely researched. While the results have been somewhat mixed, it has been proposed that extensive use of an IT can lead to greater net positive benefits for the adopting individual, unit, or organization [10]. For the information technology to be used as a strategic at an organizational level, the detailed planning is required. The plan includes depth study in organizational culture, organizational ability, make the external environment change, extend of management support, organizational information need and ways to meet them [11]. The strategy for applying information technology help IT managers to give them opportunities while IT implementation in order to prevent again and parallel expenditure and delay in major project to develop IT in organizations first detailed developed strategy, timing, tools to access and existing ways must be developed and approved. This research with providing and evaluating according to the present studies (Impact of Information Technology to Improve Iranian Organizational) to improve organizational productivity such as manufacturing and servicing and also provide better quality and reduced costs, therefor, research showed that deployment of IT reduced recessions from internal and external structure of organization and meet the organizational goals (productivity) and this gives the organizations to be survival.

REFERENCES


[9] ”Catalogue Gaman systems Apadana development company”, 2010
