

Consideration of Effective Factors of Establishing the Electronic Management (Case Study: Mazandaran Wood and Paper Industries)

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Abstract: Considering the fundamental and key role of information and communications for facilitating the transient process of changing organizations and societies from industrial to informational societies, most of the countries and or organizations have increasingly endeavored to improve their social status and conditions by these technologies and create competitive advantages. As a result, for the purpose of achieving those objectives, organization utilizes electronic devices and methods. What is important is the effective management of electronic activities. Electronic management includes using information technology in organizations and it is affected by various parameters. In this study, The researcher tried to review and define the subject of electronic management & the effective factors for establishing it, such as efforts to attract and maintain talented employees, strengthening suitable work culture to improve operations, creating intelligent networking organizations and developing and distributing knowledge and organizational learning. The a/m objectives were assessed and evaluated by distributing some questionnaires among MWPI'S employees and the results show that in the a/m company, effective measures have been taken for establishment of electronic management. Finally, relevant recommendations were presented.

Key words: Electronic Management • Information technology • Intelligent Networking and organizations
• Organizational Learning

INTRODUCTION

21st century has been named information and learning era, because its basic role depends on information. [1] The most important aspect of this technological era is information. [2] Information technology means using systems, communication networks and computers for processing and managing data in order to obtain, store and sharing the same. [3] Information technology and especially the internet have changed the atmosphere of businesses and products markets and services. Consequently, many organizations and companies are using electronic tools and methods, including electronic businesses in order to be active in the global competitive environment. [4] According to the opinion of many economist, specialist and future predictors during recent years, a revolution similar to the industrial one has occurred which has entered the world into "information era" and as a result many of economical, social and cultural aspects of human life have been changed deeply by information technology. [5]

The present era which is known as information and learning age, includes new mythologies with new methods of utilizing data and knowledge. In the present era, different basis and frames are presented for development resulting from global interactions of technology and releasing information. In such a condition, creativity brings competitive advantages for managers, organization and companies and such a knowledgeable management results in the increase of society's welfare and creates jobs in the light of electronic management and in fact, this trend is also considered in global management. Therefore, by considering the perspective of electronic management, its positive aspect for the future is completely apparent which makes its development inevitable. Consequently, familiarization with electronic management and efforts for its establishment and development is of paramount importance [6]. The electronic product and service delivery is nowadays a necessary part of a business strategy and electronic management must be considered a necessity for the present and future conditions of organizations [7].

The world future insight will benefit from information technology and therefore will be quite different from our world today. Those who will be born in the next century will be called the citizens of information society. A society in which people's social and economical lives will be severely affected by information technology and communication and blends into people's work environment, homes and their leisure times. The quality of lives is affected by communication infra-structures with high capacities and high speed at global level for transformation of writings, voices, documents, images, designs and ... and it will be continuously upgraded and will affect people's information in all dimensions [8]. Expressions such as electronic commerce, electronic state, electronic training, electronic society and ... are familiar for every one and it seems that information technology is one of the tools which can be used for success in today's competitive world provided that it is utilized correctly, precisely and fast. In information technology era, organization have transformed into electronic ones and their personnel's are busy working outside the physical spaces. [4] Additionally, the technological transitions and the unlimited power of internet have made customers closer to organizations more than before. According to one of the managers of Microsoft Co, "Any time you feel like a failure, asks your customers for guidance and uses their cooperation and helps for obtaining your organizational objectives".

The described new environment is a new opportunity for making management skills operative. But there is one question: what is the key of success? [3]

Today, organizational leaders generally guide those teams which are not related to one single working or organizational condition but they are distributed throughout a country or one continent and even throughout the world. Presently, many of their leaders and team members communicate with each other by telephone, post, fax and communication tools such as e-mails, news pages, on-line communication and video conference cells. Organizational thinkers have started talking about "electronics leadership" in response to these extensive changes in communication technologies. They use this expression to refer to those leaders who perform many of their management processes through electronic channels and Medias [9].

In electronic leadership and management, the specific attributes of managers for creating compatibility, fast growth and creative abilities are very important. The internet entails some changes, managers abilities and their learning methods. In order to integrate management and

technology, it is necessary to integrate technology with all organizational systems. In such an atmosphere, electronic managers are expected to [9]:

- Specify their main trade goals clearly. Successful electronic take its steps toward creating a pattern by which to transform managers ideas for gaining income and benefit. They must specify an integrated system in order to integrate all the company's sections and goals. In the present condition, the central concentration of e-commerce is more on the customers and communication with them rather than inter-organizational products and processes. As a result, managers must show a great deal of braveness in making decisions and impose the required changes rapidly in order for the company to grow and survive.
- To endeavour to attract and maintain talented employees. E-commerce is searching to absorb, use and maintain less but better and more suitable work force, therefore managers must impose plans for their appraisal, identifying their talents and abilities and fulfilling their expectations.
- Strengthen suitable work culture for improving the employees' function. Culture of electronic work must lead to organizational improvement and create competitive advantages Cooperation, team work, common values and criteria are very important in performing e-commerce successfully.
- Create an organizational and intelligent network. Electronic managers must promote external unity and integration and distribute the decisions. In addition, they must use innovations, market opportunities, customers and employees in an interactive atmosphere.
- Promote the development and distribution of knowledge and organizational learning's. Electronic managers must encourage initiatives, creativity and learning to be able to access market opportunities and provide the necessary space for improving employees' training skills and their growth. [10]

Electronic Management: This type of management includes using information technology in organizations. Because of knowledge development and technologies in 21st century, electronic management has been recognized by many managers. In many cases, electronic management is performed such that organizations are considered as electronic entities (virtual) and they are managed electronically by a simulation system.

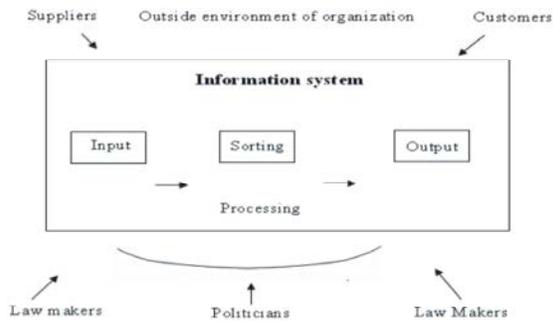


Fig. 1: The role of electronic management inside and outside an organization.

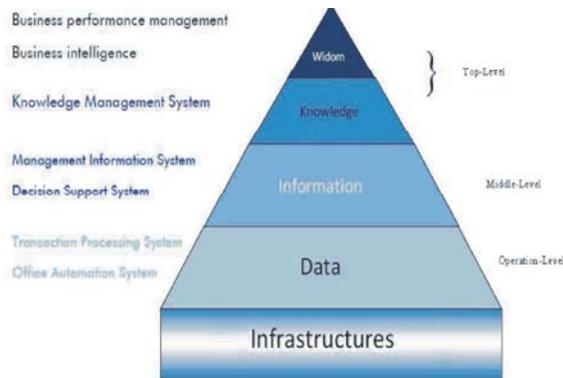


Fig. 2: A comprehensive model for information system in electronic management [11].

As you see in Figure(1), electronic management can process internal and external information of organizations for the purpose of achieving the desired goals in order to be submitted to the managers. [9]. In any organization with electronic management basis, it is a powerful tool to help personnel to understand organizational information and react appropriately to it. In such an organization, information must be provided for the personnel considering their level of intelligence and their required knowledge in an organized manner. In such organizations, the organizational operational information of partial information systems (such as financial, official...) is managed. But at the middle-level managers, organizations require creating functional knowledge which is the ability of organizations to solve complicated problems resulting from encountering new subject matters and must have the capability of analyzing them.

This job is accomplished by enrichment of organizational information and loops of creating knowledge in knowledge management information systems.

At top-level managers, it is necessary to use their insight and knowledge for the organization and they must have the capability of directing the organization. Therefore, by imposing electronic management, organizations can establish the stream of thoughts and goals of their top managers from top-levels to operational levels and reflect the resulting functional efficiencies for the beneficiaries.

• Methods of success in the novel electronic management:

- Acceptability to IT and communications inside the organizations and as a result the necessity of employees or the organization early involvement and participation in the projects and training employees for obtaining knowledge and the related skills. [6]
- Close and high level collaboration between IT spew lists and organizational experts and top managers to belief this matter.
- Information streamlining and informing the personnel of electronic management services with their benefits and advantages and consequently creating a basis for customers demands and added value, reduction the time of information transform and the time – consuming works.
- Using software and hardware equipment and secure communication networks which provides electronic management services with the minimum delay and stoppages and increased security, especially in judicial discussions such as registering appeal requests. [6]

Advantages of Electronic Management:

- Improving the required capabilities for updating organizational knowledge.
- Creating the ability of gathering and registering information with more speed and precision and simultaneously increasing their reliability. [5]
- Improving the communications and upgrading the communicational abilities of organization's personnel.
- Increasing the power of storing and recovering extensive volumes of information.
- Increasing the ability of combining, integrating and concluding the gathered information in a faster manner.
- Increasing the ability of controlling the affairs (in networks covered by this technology).

- Improving the aspects of cooperation and coordination which ultimately results in upgrading the innovation level of organizations.
- Increasing the ability of gathering the thinker's opinions.
- Using organizational resources.
- Integration of organization's information.
- Increasing the speed and precision of managers in making decisions.
- Increasing the speed of organizational operations.
- Effective supervision on lower level managers.
- Commutation in the form of 364*24.
- On-time presentation of information to all levels (with classification of information at different organizational levels).
- Reduction of overhead costs. [6]
- Realizing customers demands for producing new goods and services.
- Online communication with the related parties. [12]
- Increasing managers efficiencies. [11]
- Definition of expertise requirements and behavioral competencies.
- Analyzing the effective roles in making decision for joining organization, such as: salaries and rewards, opportunities for job promotions and utilizing the available skills or learning new ones, job satisfaction (The amount of duties, authorities and independencies in performing the tasks), reputation of organizations, possibility of people participation in organizations and creating attractive work environments.
- Analyzing the competitors activities and reviewing this issue that what do the organization's competitors do in respect of factors which are effective on people's decision making.
- Specifying tools and techniques for absorbing the best personnel to organizations such as organized interviews and Psychological tests.

Absorption, Maintenance and Preservation of Talented Employees:

Because job environments change, human resources management (HRM) must necessarily change as well. Since responding to changes is essential, the decisions for human resources management must also change. Future is unpredictable and it is difficult to determine what will happen. For this reason, having flexibility and obtaining enough knowledge for responding to these uncertainties are important issues. Whereas human resources managers maintain their relationships with technological developments, it is necessary to combine the subjects which are related to the personnel main roles with general job and economical issues. It is worthwhile mentioning that successful human resources units and managers have important strategic effects on their organizations. [13] Since in the present conditions, economical orientations and movements are more directed toward informational and service economics, competition among those who are indeed talented has intensified. In other words, perhaps utilizing and maintaining such people are the most important challenges which the present trade is facing at the time being. [14]

- Absorbing efficient workforces from outside for fulfillment of human resources requirements entails activities such as: [15]

Considering many challenges regarding workforce attraction which results from lack of experts, vigorous competitions for absorbing skilled worker and employment laws and regulations, the issue of human resources is of paramount importance. The studies performed in respect of the reasons for people quitting their jobs show that factors such as low job opportunities for the future, unwillingness to work, feeling of not being sufficiently valued by the organization, lack of work obligations, not receiving enough rewards, not having suitable social status, boring work environment, discrimination, lack of group coordination and unfair and uncompetitive salaries are the main reasons for quitting jobs. Therefore, the below items can be considered as the strategies for maintaining human resources:

- Suitable design of jobs (considering variety, independence, possibility of growth and work environment).
- Suitable and fair payment and rewards for services presented.
- Creating a strong discipline for operational management.
- Training and development of skills and recognizing people potential strengths.
- Creating clear job paths and bright careers.
- Development of commitment in employees.
- Formation of work groups. [16]

Advent of new knowledge and technologies and also novel orientations and strategies in organization, force them to take steps for continuous training and development of their human resources to be able to survive in competitive markets. According to Walton, strategic development of human resources includes the following: creation, elimination, correction and adjustment of responsibilities, processes and guiding people such that all people and groups are equipped with the knowledge and potentials which are necessary for accepting and performing the present and future activities of organizations [16].

Suitable Working Culture for Improving Employee's Efficiency: Manpower is one of the most important factors which plays a very important part in upgrading working culture through participation in production. In our country one of the issues that organizations and public sectors encounter is "How" to improve work culture. The importance of this subject is so serious that today, the existence of trained and goal-oriented workforce is considered one of the main factors for development in the developed countries. In other words, workforces who are specialized and possess good work culture. [17]

Culture in Farsi is called "Farhang" which consists of two constituents: "Far" and "Hang". Far means "front" and "up" and "Hang" in Farsi comes from the ancient Avesta word "Tang" which means "pulling" and "weigh". [18]

The known Farsi dictionaries have defined culture as science, knowledge and plans. [1] In the large dictionary, culture is defined as: "A general complicated criterion which includes customs, thoughts, arts and life styles and it is formed during historical experiences of various tribes and is transferred to the next generations accordingly. Work culture must be considered a dynamic subject which moves in its own path during its evolution trend.

The essence of work shows how and at what rate a nation produces which affects social welfare. Production is also considerably effective in work culture and social relationships [19]. work culture includes: Sum of all common and accepted beliefs and knowledge's of one working group considering the activities which are aimed at production and/or creating added values [20].

The main question is that what factors or components form work culture? In general terms many factors are effective in formation of work culture, such as

Table 1: The effects of positive (strong) and negative (weak) work culture [20].

The effects of negative work	The effects of positive work
Not willing to work, escape from work, doing less work	Willingness to do much work and being full of incentive
Not paying attention to processes and products quality	Precision in obtaining high quality for processes and products
Not paying attention to maintaining devices, working equipment and production	Precision in keeping machineries and equipment in sound condition
Individualism or being against others	Cooperation and sympathy with others.
Laziness and apathy at work environment	Joy and vitality in work
Resistance or apathy against any kind of changes	Accepting positive changes
Willingness to receive salary before the accepted criteria	Being contented
Having detrimental stresses and side effects due to stress such as digestive problems and having unbalanced social relations	Not having detrimental stresses in work environment and being far from side effects of detrimental stresses

geographical, environmental, economical and social factors. In the present report we have mentioned issues such as the rate of readiness and power of workforce, employees, their competencies considering the essence of job, the support rate of employees' organizations for the personnel, employees, rater of incentive and commitments to their employers, organization and managers, the quality of outputs, the amount of credits and conformity of decisions with organizations rules, insight and group attitude, work attitude and etc [20].

Generally, nine factors can be considered which are the causes of present economical, social and cultural conditions, management disciplines and work structures [21]. These 9 factors include:

- Having organizational usefulness.
- Having a mental image of our own work talents.
- Having positive attitude toward our work.
- The rate of accepting changes and new methods.
- The present cultural discipline in the society.
- The rate of roles clarity and work methods.
- The rate of organizational Justice.
- Work values (internal and external).
- Having high work consciousness.

All of the above mentioned accepted insights and values for employees can lead to some effects (Table1) which brings about some consequences in two positive and negative conditions (strong and weak work cultures).

Intelligent Network Organization: In 21st century, by entrance of communization technologies, the subject of communicating information in the shortest possible time with the best quality has become possible. At the present time, more than before, products and services are completely based on network organizations such as development organizations, virtual organizations, intelligent organizations and ... other different names. But there are a general attributes in all of them. In these organizations, production and independent units cooperate with each other in an intelligent manner in order to respond to the environments which are full of competition by using communication networks (with wire or wireless). Organizations must review their structures to be able to make their processes faster and more coordinated. We have to forget the time when production managers contacted other companies by telephone to find their markets. Today, conditions are much easier than the past and it is possible to achieve our marketing goals without walking around different stores for many times and also we can update production plans without hand – written lists [22].

What is important in the area of networking is to have inter - network thoughts. In order to facilitate processes, not only networking must include all the production systems, but it must also cover management and general offices. On the other hand, all those who have roles in production process must cooperate in different stages to present better products and everyone must have access to information at all times. Convergence of production with IF is termed CIM, i.e, production has been convergent with manufacture by computers.

In the productions which have been convergent with computers (or CIM computer integrated technology), an integrated flow of information is used for producing each product. Networking forces all types of machines to be involved in exchanging and changing the related information.

In such conditions, it is possible to atomize and controls all the processes in an effective active manner which ultimately increases productivity.

Intelligent organizations are the ones which emphasize on superior work methods and by doing so, have improved their functions. Studies have shown that intelligent organizations have had better performances compared to the non- intelligent ones [23] There are nine principles for intelligent organizations which facilitates introducing superior methods. These principles are usually established with precision and are such at different levels of organizations. They also affect the

Table 2: The nine principles of intelligent organizations [23]

Operational domain	Principles
Goal determination	Culture of creating values Finding options Continuous learning
Understanding the environment	Accepting Uncertainties Beyond goal- oriented insights Intelligent Systems
Transfer of resources	Strategical decision making Coordinating the goals and Transfer of responsiblites Flow of information loads

insights, behaviors and the reaction of people and can predate and estimate people’s reactions toward accepting new and superior methods. Consequently utilizing superior methods will preset positive trade results for organizations. In addition, in goal- oriented decision makings which have high qualities, comparing these nine principles with each other is also essential considering global aspects. Each principle presents a model based on logical theories by which we can organize the related organizational criteria and behavioral patterns.

When intelligent principles are used in organizations, behaviors will strengthen methods for better performances and decisions will be made on optimum basis.

In case of lacking these principles, not only behaviors will destroy and reduce the effects of superior functions, but they also damage the organizations capability to accept them, These principles are classified below in three main duty domains in Table 2 :

Goal Determination: What are the reasons for intelligent organizations to participate in the market?

All the personnel must understand this concept and use it for assessing their own functions and determine whether these reactions and orientations are valuable for the organization and its customers or not (The culture of creating value)?

These organizations search for novel options in order to act on passive basis. They strongly try to avoid performing goal- oriented measures before creating and assessing some options (Finding options). They are constantly looking for identifying opportunities to be able to find advanced and new methods for value creation (continuous learning).

Understanding the Environment: People in intelligent organizations understand how to work with uncertainty and how to integrate it with logical processes.

They assess and measure whatever they don't know anything about and manage their risks (Accepting uncertainty). In the first step, they review the issue on macro basis, including where world is going, how their customers and industries change (beyond goal-oriented insights). Albert Einstein taught us to use the simplest models for capturing opportunities.

Intelligent systems encourage us to follow Einstein's recommendations and by following the guiding points, we can make decisions easy and simple (Intelligent system).

Transfer of Resources: Intelligent organizations use systematic processes in order to specify the required steps and stages correctly for reaching the desired results (systematic decision making) and they encourage participation in decision making processes considering the goals and the essential understanding for effective transfer of responsibilities. In cooperation oriented organizations, which are acting based on value creation culture, everyone needs to have access to the information required for his / her job. (Flow of information load).

Development and Distribution of Promoted Knowledge and Organizational Learning: By the advent of network sources, new methods were discovered for specifying, sharing, maintenance and distribution of knowledge which causes organizations to be able to use their vital and important knowledge simpler and cheaper.

In this regard, the important issue is to find a suitable model for knowledge management. So far there have only been a few experimental models for this purpose.

The results of these activities, experiences and thought exchanges are to create the industry of knowledge management which went beyond a few experimental limited models at that time.

Today, a group of leading companies in the area of IT (such as Open Text, Lotus Documented and others), have created special tools for management and distribution of strategic sciences in organizations in the form of software and operational packages. Therefore, it is not necessary anymore for organizations to design everything from the very first step. (There is no need to invent wheel again!). Nowadays, many organizations have indeed realized that knowledge management is an important issue for their survival and growth. The important point for organizations is to know the core and competency pivot and have a deep understanding of what causes values for customers. [11]

The concept of organizational learning goes back to the year 1900 when Fredrik Taylor introduced the subject of transferring learning to other employers for organizations' improvement and efficiencies. But Richard Capra and James March were the first people who combined the two words of learning and organization in 1963 and introduced learning as an organizational phenomenon. [24]

Fayool Described Organizational Learning in 1985 as Follows: Organizational learning includes the process of improving the measures through knowledge and better understanding. Also, Kim believes that organization learning is to develop the required capacities for organizations to perform effective measures. Templeton and Tell contend that there are three paradigms for defining organizational learning. They have presented it by studying and grouping more than 150 scientific articles in which this expression has been mentioned somehow. These paradigms include:

- 1- Demographic 2- Social measures 3-Conclusion orientations.

In the first one, learning has been defined considering individual and organizational learning's perspective. In the second paradigm issues such as obtaining knowledge, distribution of and interpretation of information and organizational memory have been included.

And finally in the conclusion paradigm, issues such as structured changes, secondary learning knowledge, learning credibility of information content, control and organizational consequences have been considered. [24]

Gomez and *et al.* have also considered organizational learning with respect to the process of learning knowledge. They have defined three main processes of organizational learning as achieving or creating knowledge, transfer of knowledge and integration of knowledge. Based on this definition, they have introduced organizational learning as the capability of organizations to process knowledge. In other words, they have considered organizational learning as the capability for creating, obtaining and integrating science and correcting organizations behavior for reflecting new conditions with an insight toward improving organization's functions. Gomez and *et al* introduced four components for measuring organization learning using the related literatures and "concept making methods" and they have called it the capability of organizational learning. [25]

Management commitment: first the organizations managers must provide a strong basis for organizational learning.

Systematic insight: Secondly, existence of a group intelligence for viewing organization systematically and considering a common future for employers is necessary.

Transfer and integration of science: Third, organizations require developing organizational science based on transfer and integration of sciences which have been obtained individually.

Open and experimental spaces: Fourth, it is enough for simple adaptations with the changes in the environment to become a source of learning for creating competitive advantages, but we must move beyond disciplinary learning and achieve relative learning which needs open minds and experimental behaviors [26].

Research Methods: By reviewing the research literature and comparing the models and methods, we extracted and adjusted the below conceptual model:

The Main Assumptions: In Mazandaran wood and paper industries company, effective works have been taken for establishing electronic management.

Subsidiary Assumptions:

- MWPI has tried to attract and maintain talented employees.
- MWPI has strengthened suitable work culture for their performance.
- An intelligent network system has been established at MWPI
- At MWPI, development and distribution of knowledge has been promoted and organizational learning has been emphasized.

Since the goal of this research includes answering a functional question in the real organizational situation which ultimately improves operational methods and increases the company's efficiency, it is therefore considered a functional research. On the other hand, since it describes the organization's conditions and status, it is also considered a descriptive research.

Statistical Society and Sample (Case Study): MWPI, as the largest producer of different types of paper in Iran (writing and printing papers, newsprint, liner, kraft liner and fluting paper) has an annual production capacity of 175,000 Tons. This company is located in North of Iran

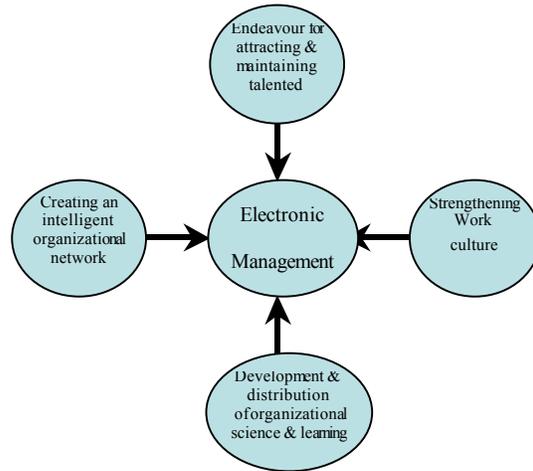


Fig. 3: The conceptual model of research

and has been active and producing paper since 1997. MWPI is trying to upgrade the integrated management quality and environmental systems with the goal of continuous development and proper profitability in the direction of maintaining qualitative consistently and increasing the quantity of products, simultaneous with observing environmental requirements and their continuous improvement. For this reason the a/m company has provided the possibility of on-line networks and equipment, internet and has also established various software information systems in the areas of industry, forestry and procurement aspects such as accounting, warehouse presence and absence hours, salaries and wages, sales, production, quality control, comprehensive system of forestry, final price and closed – loop orbit cameras. And in order to expedite work processes and provide the required information for top managers. For all the above mentioned reasons, MWPI has established the basis for electronic management, so that by the strategy of establishing electronic management, these investments can be used effectively. The statistical society of the present research includes the deputies, managers, directors, heads, responsible people and experts of MWPI (320 people) and by using Morgan table, 175 people were selected through the optional relative classification sampling method.

The Tools of Data Collection: In the present research we used some questionnaires prepared for the deputies, managers, directors, supervisors, responsible people and experts. The above mentioned questionnaires have interval scales and include 5 optional spectrums of Likert. The options were ranked in 5 spectrums of very low (1), low (2), average (3), high (4) and very high (5).

Considering that the average of the points is "3", this number was assumed to be the society's expected average.

In this project, after studying and extensive research and obtaining the expert's opinions, 30 questions were prepared.

The content method was used for its assessment. By high reliance on the subject literature and utilizing the experts and obtaining their opinions for assessing the questionnaire, its content was confirmed. Also its Cronbach's alpha was 0.885. This coefficient indicates that the questionnaire is reliable.

Research Findings: After gathering the inputs by using SPSS Software, different statistical tests were performed of which the results are presented as descriptive statistical indices for the inputs:

95% of the respondents were males and 5% were females. More than 69% of the respondents had Bachelor degrees, more than 14% had master degree and the rest had associate degrees, or high school diploma. The respondents average age rate was about 39 years old and the average work experience of them in the organization was about 13 years and the minimum and maximum ages were 24 and 56 years old, respectively.

Table (3) shows that factors such as creating suitable relationships with employees, encouraging them to participate and present their opinions, presenting suitable rewards, training and development of skills, defining skillful requirements and behavioral competencies had the highest average values, respectively, but it is lower than the average considering creation of commitment in employees and defining opportunities for Job promotion.

Table (4) shows the mean values for factors such as high work consciousness, precision for the health of equipment and machineries, positive attitude toward work, willingness to do much work with incentive, clarity of roles and work methods and ... in the second subsidiary assumption, except for joy and content at work environment, the mean value of the remaining factors have been higher than the mean value.

In table 5 factors such as employees tendency and their support of networking, unity of information and inputs in a common data base, management's belief concerning networking idea, creation of network structure between management production system and general office, culture of valve creation, coordination between production and technology, employees access to the essential and required information at all times, having directive insight, continuous learning, strategical decision making and coordination of goals and transfer of

Table 3: The average response for the measured variables in the first subsidiary assumption

Mean	Subsidiary Variable
3.16	(Maintaining) Creating suitable relationships with employees
3.13	(Function) Encouraging employees to participate and present their opinions.
3.04	(Maintaining) Presenting suitable rewards
3.06	(Training) Development of skills
3.01	(Attraction) Defining the skills requirements and behavioral competencies
2.86	(Application) Creating commitment in employees
2.81	Attraction Defining opportunities for Job promotiong8

Table 4: Average values for responses regarding the measured variables in the second subsidiary

Mean	Subsidiary variable
3.39	Having high work commitment consciousness
3.30	Precision in the health of machineries and equipment
3.28	Positive attitude toward work incentive
3.17	Willingness to do much work with incentive
3.09	Clarity of roles and work methods
3.05	Accepting the changes and new works methods
3.86	Joy and content at work environment

Table 5: Mean values for responses concerning the measured variables in the third subsidiary assumption

Mean value	Subsidiary variable
3.85	Willingness of employees and supporting them concerning networking
3.83	The unified information and inputs in a command data base
3.62	Management's belief in the future of networking
3.60	Creation of network structure between production network, management and general office
3.36	(Determination of goals): The culture of valve creation
3.17	Contingency between production and technology
3.07	(Understanding the environment) beyond directive insight
3.00	(Good achievement): continuous learning
2.43	(Transfer of sources): Strategical decision making
2.84	(Transfer of sources): Coordination between goals and transfer of authority

Table 6: The mean value of responses concerning the measured variables in the fourth subsidiary assumption

Mean value	Subsidiary variable
3.50	Managers' commitment to learning
3.39	Transfer and integration of knowledge
3.18	employees' systematic insight
3.09	Transfer of knowledge through conversation, negotiations, meetings and working teams
3.09	Open and experimental spaces

Table 7: Results of Kolmogorov-Smirnov test

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One-Sample Kolmogorov-Smirnov Test						
		First subsidiary assumption	Second subsidiary assumption	Third subsidiary assumption	Fourth subsidiary assumption	Main assumption
N ^a		175	175	175	175	175
Normal Parameters ab Mean		3.0147	3.1641	3.3091	3.2491	3.1966
	Std. Deviation	.52991	.45488	.42751	.56537	.40460
Most Extreme Differences	Absolute	.093	.069	.064	.098	.068
	Positive	.059	.069	.064	.083	.061
	Negative	.093	-.068	-.059	-.098	-.068
Kolmogorov-Smirnov Z		1.226	.918	.846	1.300	.895
Asymp. Sig. (2-tailed)		.099	.368	.471	.068	.400

Table 8: The results of T-Test for the first subsidiary assumption

One-Sample Test						
Test Value = 3						

95% Confidence Interval of the Difference						

	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
First Subsidiary Assumption	.367	174	.714	.0147	.0644	.0938

Table 9: Results of T-Test for the second subsidiary assumption

One-Sample Test				
Test Value = 3				

	t	df	Sig. (2-tailed)	Mean Difference
Second Subsidiary Assumption	4.772	174	.000	.1641

Table 10: Results of T-Test, the third subsidiary assumption

One-Sample Test				
Test Value = 3				

	t	df	Sig. (2-tailed)	Mean Difference
Third Subsidiary Assumption	9.564	174	.000	.3091

Table 11: Results of T-Test, the fourth subsidiary assumption

One-Sample Test				
Test Value = 3				

	t	df	Sig. (2-tailed)	Mean Difference
Fourth Subsidiary Assumption	5.830	174	.000	.2491

Table 12: Results of T-Test, for the main assumption.

One-Sample Test				
Test Value = 3				

	t	df	Sig. (2-tailed)	Mean Difference
Main Assumption	6.427	174	.000	.1966

authorities have been lower than the mean value whereas employees' tendency and their approval of networking, integration of information and inputs in a common data base and top-manger's belief in networking idea had the highest mean value. During reviewing the factor of fourth subsidiary assumption, table 6 shows that factors such as managements commitments to learning, transfer and integration of science, employees' systematic insight, transfer of science through conversations, negotiations, meetings and working teams, open and experimental spaces indicates that all those factors are more than the mean value and proves that MWPI must be considered a learning organization.

The Main Assumption: In the main assumption, the results of subsidiary assumptions can be shown based on the most obtained mean value from top to bottom as:

- Assumption 3: creation of a network and intelligent organization with the mean value of 3.3091
- Assumption 2: strengthening suitable work culture for better function with the mean value of 3.2491
- Assumption 4: development and distribution of promoted knowledge and organizational learning with the mean value of 3.1641.
- Assumption 1: Endeavour for attracting and maintaining talented employees with the mean value of 3.0147

Normalization Test: In order to show that distribution of variables is normal or abnormal, Kolmogorov-Smirnov test has been used. As it is observed in Table (7), since the calculated Sig is more than 0.05 at confidence level of 95%, it can be claimed that all the variables have a normal distribution. Consequently, the T test sample is used to analyze the statistical hypotheses.

The Hypotheses Test: The first subsidiary assumption test: MWPI has endeavored to attract and maintain talented employees:

- H_0 : MWPI has not endeavored to attract and maintain talented employees.
 H_1 : "MWPI has endeavored to attract and maintain talented employees.

This test was preformed at the 5% a-level and the results are:

$$\begin{cases} H_0: \mu \leq 3 \\ H_0: \mu > 3 \end{cases}$$

Considering Table 8, the measured value of t ($t=0.367$) is not more than critical point $t=1.73$ in the T table, Therefore null hypothesis is not rejected, i.e it is not rejected with %95 of the coefficient assumed in the research. As a result, it can be said that MWPI has not endeavored to attract and maintain talented employees.

The test of second subsidiary assumption: MWPI has strengthened the suitable work culture for better performance.

- H_0 : MWPI has not consolidated suitable work culture for better performance.
 H_1 : MWPI has consolidated suitable work culture for better performance.

Considering Table (9), the measured t ($t=4.772$) is more than critical point $t=1.73$. Therefore, null hypothesis is rejected, i.e it can be said with 95% confidence that MWPI has consolidated suitable work culture for better performance.

Test of the third subsidiary assumption: An intelligent network organization has been established at MWPI.

Considering Table (10), the amount of the measured t (9.546) is more than critical point $t=1.73$. Therefore, null hypothesis is rejected, i.e it can be said with 95% confidence that intelligent network organization has been established at MWPI.

Test of the fourth subsidiary assumption: At MWPI, development and distribution of knowledge have been promoted and organizational learning has not been considered.

- H_0 : At MWPI, development and distribution of knowledge have been promoted and organizational learning has not been considered
 H_1 : At MWPI, development and distribution of knowledge have been promoted and organizational learning has been considered.

Considering Table (11), the calculated t ($t=5.836$) is more than $t=1.73$ in the table and therefore, null hypothesis is rejected, i.e it can be said with 95% confidence level that at MWPI development and distribution of knowledge have been prompted and organizational learning has been noticed.

The main assumption test: In the under-study company, effective work has not been performed for establishing electronic management.

H_0 : At MWPI effective work has not been performed for establishing electronic management.

H_1 : At MWPI effective work has been performed for establishing electronic management.

Considering the values of table (12), the amount of calculated t ($t=6.427$) is more than $t=1.73$ in the table and therefore null hypothesis is rejected, i.e. it can be said with 95% confidence that effective measure have been taken for establishing electronic management at MWPI.

DISCUSSION

Considering the above mentioned points, electronic management must be considered a necessity for the present and future conditions of organizations. Since establishment of efficient electronic management depends on providing the related basic components, needless to say that establishment and using these tools in the first stage requires identification of the related components.

Organizations have to classify and identify these effective factors and eliminate the deficiencies based on the existing conditions.

In the case study performed the intensive 8 feebleness of these factors were identified and it is necessary to compensate the weaknesses by presenting some suggestions. Based on the usual procedure of the research and the assumption, some suggestions are presented as follows:

Suggestions for the first assumption: The a/m company has done effective measures for attracting and maintaining man power through creating suitable relationships with employees, encouraging them to participate and comment, paying suitable rewards, training and development of skills and defining skilful requirements and employees behavioral competencies in order to create commitment in them, but it is necessary for MWPI to consider more suitable measures in its agendas for creating commitment in employees and defining opportunities for job promotions and also for lower job positions (such as directors / responsible people and experts) and more actions are necessary for maintaining them. Suggestions for the second assumption: MWPI has employees with positive attitude toward work with high work consciousness who carefully work with the equipment and are willing to use new methods and it is therefore suggested for MWPI to do the following regarding reinforcement of suitable work culture for creating vitality and joy in the work environment by using the below factors:

Vitality components at work place include: Safety at work place, justice, interaction with colleagues, flexible structure, positive attitude and participation. [27]

Suggestion for the third assumption: MWPI has established a suitable network structure between the mill's units and the head office. The unified information and input are kept in control servers and the necessary information are exchanged among employees. MWPI has a high potential considering networked and intelligent organization, but it is necessary to organize the decisions in the company and to transfer the required authorities in conformity with the goals and obligations.

Suggestions for the fourth assumption: Concerning organization learning at MWPI, managements' commitment to transfer and learning and integration of knowledge and employees systematic insight has been admirable and this company can be considered a learning one, but according to the findings, it is suggested for MWPI to create a common image and objective for the future and Group learning [2] more than before, while creating an open and experimental atmosphere, transfer of knowledge, improving individuals skills and providing mental models.

Considering the reliance of the present research on the case study and analysis of the effective factors on establishing electronic management in the real world, the results, suggestions, the analysis method and the test together with the classified factors are also applicable and extendable in a similar manner in other organizations.

Electronic management has opened an extensive and novel space for management which still needs to grow and I hope we have succeeded in providing the necessary information in this regard for the time being.

REFERENCES

1. Moein, Mohammad, 2004. Moein Farsi dictionary, The one volume period, Moein publications, fourth edition.(Persian)
2. Sharifi, Asghar and Fatemeh, Eslamieh, 2008, Reviewing the relationship between organizational learning and using communication and information technology in Azad Islamic university, Garmsar branch, Academic year of 2007-2008, The article of a novel method for training management in the first year, no.2. winter of 2008. (Persian)
3. Burke, Robert, 2004. E-leadership Being an e-manager, <http://www.flexibility.com>.
4. Hematfar, M., *et al.* 2010. Performance Management and its relationship with Service Quality in Electronic Banking, SSRN Working Paper Series, December.

5. Momeni, Hooshang, 2002. Management of IT communictions. Center of university publication, First edition. (Persian)
6. Zati Rostami, Ahmad, 2008. Virtual management of providing the managerial nequirements of global village, The fifth international conference in IT and communications management. (Persian)
7. Sahut, J.M., 2011. Quality Management of Internet Banking Services, Geneva School of Business Administration, February.
8. Samuelson, Pamela and R. Varian, Hal, 2002. The New Economy and Information Technol.,
9. Memarzadeh, Gholamreza and Sarfrazi, Mehrzad, 2009, Management Paradigm. (Persian)
10. Walker and W. James, 2000. Perspectives E-leadership? Human Resource Planning, 23: 1. www.sims.Berkeley.Edu/~hal.
11. Bahrami Torabi, Hosein, 2006. Reviewing the process of electronic management in organizations, A master degree thesis, the advisor: Dr. Mahmoud Hooshmand, Sharif Industrial university. (Persian)
12. Chan, C. and P.M.C. Swatman, 2000. from EDI to Internet commerce, the BHP Steel Experience .J. The Internet.
13. Khairandish, Afsharnezhad, The future of human resources management work, 2003, No.4, Study 11, [Http : www.imi.ir](http://www.imi.ir). (Persian)
14. Marriott, J.W., 2001. Our competitive strength. Human Capital, Executive Speeches.
15. Samei, Hoseing, 2009. Fancion strategy of human resources management Tadbir monthly article, year 20 th, No. 204. (Persian)
16. Armstrong, Michael, 2007. Human Resources. Strategic management, Translated by Seyyed Mohammad Arabi, Davood Izadi, Office of cultural research, Third Edition.
17. Azadi, Hosein, 2003, Approaches for creating work culture consciousness, A collection of orticles and speeches in the third meeting for national work . (Persian)
18. Seyyed Esfahani and Seyyed Mehdi, 1996. Culture of using a collection of comments and the presented articles in the work culture and utilization seminar related to social affairs and work organization, First edition, Tehran. (Persian)
19. Kavani, Abbas, 1995. Structural analysis of populations and Work culture, work culture evolution seminar, Islamic Promotions organization, First Edition. (Persian)
20. Jafari, Mostafa and Habibi, Mahammad, 2002. Work culture, Tadbir news letter, pp: 125. (Persian)
21. Akbari Moallem. and Reza Ali, 2006. Work culture and approaches for upgrading the same, Work and social affairs organization, Cultural Affairs Office. (Persian)
22. Professor Gurd Finkbiner, Professor Brand yorgen met and professor Ralf Fisher, Translated by Dr. Yonus Shekardhah, the essentials and objectives of networking, Hamshahri newspaper, Tuesday, 22 November, 2007. (Persian)
23. Kesmati, Mohammad Reza, 2005. Do intenlligent organizations have better functions? The fifth meetion of Industries and mines organizations research and development centers. (Persian)
24. Templeton, G.F., B.R. Lewis and C.A. Snyder, 2002. Development of a Measure for the Organizational Learning Construct, J. Management Information Systems.
25. Gomez, P., J. Cespedes-Lorente and R. Valle-Cabrera, 2005. Organizational learning capability: A proposal of measurement, J. Business Res., pp: 58.
26. Khakzar Befroee, Morteza, Aghdasi. and Mohammad, 2007. The model of structural equations for measuring organizational learning in hospitals, The fifth international conference of industrial engineering Science and Industry University. (Persian)
27. Zarei Matin. and Hasan, 2009. Identifying vitality components in the Work environment, Pubic management article, Period 1, No. 4. (Persian)