

Review of the effectiveness of management systems on empowerment of employees: A case study in an Iranian Power Generation Management Co.

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Abstract: One of the most important subjects in management research is empowerment of employees. Many researchers have studied empowerment in different organizations, and presented different theories about it. In this paper in order to find relationship between management system and increasing employee's empowerment, one main and three sub-hypotheses have been posed: Main hypotheses: the existence of integrative management systems would effect on increasing the employ's empowerment system ISO14001 and occupational health management system ISO18001. The method of research is experimental and tools to gather the data is questionnaire. The statistical society of this research is the employees of Shazand Power Generation Management Co. the number of sample is that had responded to the questionnaire were 100 employees. After analysis the data by software SPSS the following results had been seen: The existence of management systems with 0.802 coefficient correlation would effectively and strongly impact the employ's empowerment increasing and also the result of this study indicated that the existence of environmental management system with 0.633 coefficient correlation, the existence of quality management system with 0.733 coefficient correlation and the existence of occupational health and Safety management system with 0.833 coefficient correlation have had the most effect on the employees' empowerment. [Mojtaba Rafiey, Hadi Ghaffari, Mahdi Bandarkhany. Review of the effectiveness of management systems on empowerment of employees: A case study in an Iranian Power Generation Management. Journal of American Science 2011;7(6):1204-1210]. (ISSN: 1545-1003). <http://www.americanscience.org>.

Key words: Integrative management system, Quality management system ISO9001, Environment management system ISO14001. Empowerment

1. Introduction:

Quality and quest for quality, along, along with achieving an acceptable and promoting business process from various viewpoints, has been one of the most important. Debates during the past few years. Progress in the field of business and a bigger share of market along with access to such issues as customer's satisfaction, meeting legal and international requirements and are amongst the most fundamental factors persuading institutions to move towards systematizing their activities. Meanwhile, various international standards in the fields of quality, environment, safety and professional health, have had a fundamental and undeniable role. Similarities of such management systems and advantages of their synchronous implementation, has raised the issue of integrated management systems. Therefore the objective of establishing the integrated management systems and executing the empowerment process is to improve the quality level of products and speed of providing services the result of which being, satisfaction of expectations, demands, satisfaction of transformer, more profit and increased market share.

2. Problem statement and its importance:

The fact is that during the recent years, in line with evolution of the concept of quality and producing

superior products, other issues have been raised on behalf of state and social organizations such as the environment protection organization, insurance and social security institutions and ... without regarding which, the possibility to keep market, and survival in the competition field will not be easily feasible. On one hand, regarding the ever increasing growth of population and limitation of natural resources, environmental protection as one of the most crucial problems of the human society has been raised and this topic is not limited to the political and geographical border and demand for collective endeavor on behalf of all the inhabitant, of the earth globe. In the issue of unstained development too, optimal exploitation of natural resources, especially non renewable resources, quality products production and increased productivity has a crucial importance. Therefore, producing better product should not be done at the expense of damaging environment and destroying the human. Based on the above said reasons, many firms, in addition to obtaining the Quality Management system certificate (QMSC)², fake actions to obtain the Environmental Management Systems (EMS) and the Occupation Health and Safety Management System (OHSMS) and obtaining the relevant certificates from the certificate granting firms. Regarding the importance of establishing the

integrated management system in the institutions and empowerment of staff, in this research attempt has been made to answer to the following questions:

1. Is the integrated management system effective on empowerment of employees?
2. Which of the standard systems is more effective on empowerment of employees?

3. The research objectives

The main objective of the present research is to review effectiveness of executing the integrated management systems in the shazand power generation management Co. and identify the effective and key factors on increasing effectiveness of the management systems so that the power station directors can, through activating these factors achieving the objectives defined in the mission and policy of the institution.

Also, regarding that the present research is an applied one, several applications can be expected of it inducing:

1. Finding the relation between the standards and the manpower.
2. Is establishment of the management systems effective on empowering staff and how and to which degree?
3. Level of satisfaction of employees of establishment of such systems and the procedure of dealing with such cases.
4. theoretical bases of research:

A: The integrated management systems:

To do any type of business, there is need for a criterion for evaluating the activities and standards have been able to do this job. To establish an effective system in the institution, the four stages of planning, doing (execution), checking and action should be performed. The expanse of application of management standards depend on such factors as policy of the institution and nature of the activity conditions. The main factor has been the concept of integrating the triad interaction systems of management between them. The amplifying factor of the concept of integrating the management system enjoys many advantages arising from their implementation for the institutions [1].

The integrated management systems means a mixture of several management systems established, executed, monitored and measured as a limit and administered as a process.

The integrated management system includes the Quality Management System, Environmental Management System, and the Occupational Health and Safety Management Systems based on the interactional ISO, ISO 9001:2008, 14001:2004 and OHSAS 18001:2007 standards [2].

Synchronous establishment of the three systems will assist a combined or assembled management system. In this system, requirements and demands of the management, quality, and safety and environment systems are combined and obey a unique documentation system. In this system, the volume of the previous documents of quality is decreased and through integration into the safety management system is significantly reduced and a unique system is codified for all the free systems. Also the executive methods and directions are adapted to requirement of all the three systems and the volume of documents is reduced up to a one third. In the policy of these three systems, the main objectives of quality, environment and safety are defined. In the other words, at this stage the institution will be able to adapt its system with the integrated management system.

Advantages of the integrated management systems: some of the advantages of the integrated management system are as follows:

- Definition of the objective in a clear form and regarding the institution's policy.
- Preventing traveling the wrong courses towards the objective.
- Removing the interference and disharmony of the various intersystem mechanisms.
- Reduction of costs due to duplications.
- Establishment and expansion of the dynamic data circulation in the system.
- Providing the possibility of reviewing the system and removing the defects and weak points of the system.
- Provision of the possibility of obtaining feedback from details of the activities.
- Provision of a background for the various process predictions. [2].

4- Definition of empowerment

The English word 'empower' in the Oxford concise dictionary has been defined as to become powerful, authority to act making powerful and granting permit. This term includes the power and freedom of action for enforcing one's will and in the institutional concept; it means the change of culture and courage for establishment and running an organizational environment.

- Empowerment is a process through which a manager helps employees to obtain the ability required for independent decision taking. This process is effective not only on performance but also on personality of individuals [3].
- Empowerment means development of the individual's potentials and competence for attaining continuous empowerment in the institution's performance.

- Promotion of the employees' ability in better use of their power of change and analysis, having in sight in performing their works and complete participation in decisions effective on their lives.
- Empowerment is the process of developing the institution, leads to increase power of the staff to solve problems, promotion of their political and social insight and makes them able to recognize and control the environmental factors.
- Empowerment provides an environment in which employees can work with more authority and have a role in the process of change and product improvement, reduce their needs to their immediate supervisor and take part in realizing the firm's objectives [4].
- Empowerment is the process of achieving continuous empowerment in the institution's performance through developing influence based on competence of individuals and group in all areas and duties which are effective on performance and general operation of the institution [5].

5 - The fox empowerment model

Fox believes that empowerment is a process through which the empowerment and competence is developed information is shared and resources and support is also provided. Fox is attempting to provide a model for empowering the employees.

In this model each of the empowerment components (culture, contribution in information, development of competence, provision of resources and support) are singly tested and finally a model has been provided based on ethical requirements to comprehend and employ empowerment of employees. [3].

Fox in his proposed model believes that so far the employees have not developed their knowledge and skills during traineeship and while performing a duty they should be regarded as an apprentice and then, when they promoted their knowledge and skill, can continue their work as a specialist worker and finally become a master in their field of activity.

Organizational culture

Harrison and Stocks have raised an interesting debate on the method in which the culture of an organization can lead to empowerment. These two, consider the organizational culture that part of the institution which gives one a special feeling, Harrison and stocks believe that the ratio of culture to institution is similar to the ration of personality to an individual which is apart from beliefs, values, work styles, and relations which distinguishes an institution from another [20].

Data distribution

Data distribution amongst employees can inform employees of problems and events, and change them to powerful individuals. Once this situation is provided, little by little work will precede through another procedure. Task structures from proportional to needs and specialties (not through the order of hierarchical reports). Once this happens, and data is available extensively and in a short period, the institution can no more remain as it is [3].

Empowerment won't be possible but through commitment of managers to education and exchange of information with the employees to whom they paid no attention (Brandt, 1998:247).

Competence Enhancement

Another of the empowerment requirements is nurturing competences of individuals and groups in the organization. No doubt all individuals have potentials in themselves to empower of which, such competences should be nurtured and developed. Individuals require nurturing competences needed for legal participation. Management and staff both have an identical Responsibility to nurture such competences. Individuals and groups should attempt to nurture in themselves the needed knowledge for informed and constructive participation. Management in turn should provide the support needed by employees everywhere so that they can nurture the debated participation skill in themselves. Some of the pivotal competences are:

- self management ability
- Critical though
- Communication establishing skills
- Flexible decision taking

Access to sources

In addition to data provision, power is enhanced via providing other sources which assist individuals to perform their duties. In this case, managers empowered by others, are mostly like defenders of a football game other than players of the attack line they are. Mostly resource suppliers and obstacle removers rather than directors and commanders. [6].

Support

The technique or approach of assisting other to experience empowerment, is to provide social and emotional support for them. In the event that it is intended that employees feel empowerment, manager should praise them, persuade them, support them and ensure them. [3].

Challenge towards empowering employees

The most crucial existing challenges can be reviewed from the two managerial and consequential dimensions.

A. Managerial Challenges

- * Lack of self-concept
- * Managerial security threat [7]

Achievements of the empowerment programs

Empowerment programs provide the institution with the possibility to behave in a creative and innovative way and present it business schemes in such a way which can retain always its status in the best possible situation. The most conspicuous advantage of employing such schemes is that it provides the motives for ever increasing understanding and commitment of staff and the institution.

Here we will point out to some of the other most important executive benefits of the power enhancing programs:

- * Concentration on customer- orientation and attaining satisfaction of the referring customers as the main axis of the crucial institutional decisions.
- * Taking crucial organizational decisions in a team and group form.
- * Participation and sharing employees in responsibilities, skills and organizational authorities.
- * Control and evaluation of individual and organizational performance by the evaluating groups.
- * Establishment of agility in the institution and rapid accommodation with environmental changes and modifications.
- * Dominance of the key skill of working in community and with others as the basic organizational thought.
- * Changing the concept of commanding to the ability to influence on others.
- * Changed responsibility of managers from mere control to releasing hidden abilities of staff [8].

6. Research Method:

Regarding importance of subject in this research, various dimensions of the managerial and empowerment model of the Fox correlation research procedure has been used. In this research, the statistical population includes all employees of the Shazand Power Generation Co. (480 individuals). In the present study the simple random method was employed and the sample volume according to the John Haravy statistical formula was specified to be 92. For more reliability of results, 100 questionnaires was distributed amongst members of the statistical population. Local territory of this research is the Shazand Thermal Power Station.

To collect required data library and internet search tools and various papers were used.

In this research, empowerment of employees was used as dependent variable and the integrated management systems as independent variables.

For this purpose, a questionnaire with 45 questions was designed in the following two sections:

A. Factors of the integrated management systems, a total of 25 questions including: The occupational health and safety management systems (9 questions),

the factor of environmental management system (7 questions) the quality management systems (4 questions).

B. Powerful factor, a total of 20 question including the organizational culture (4 questions) participation in data (data sharing) (5 questions), competence development (4 questions).

Also in this research, for the purpose of questionnaire assessment the Cronbach alpha test was used and in a volume samples of 30 individuals the Cronbach alpha of 0.843 was obtained indicating that the validity and stability of the system is appropriate. Since the research findings is base on polling from the respondents, based on Likret scale therefore to analyze the obtained results the inference spearman correlation was used as follows:

$$R_{rth_0} = 1 - \frac{6\sum D^2}{N(N^2 - 1)}$$

Also for grading the integrated management systems, the standards were separately graded according to the Freedman test.

7. Findings of the research

In conclusions where tests are used in which the relation between two variables are surveyed, if the correlation coefficient between the two variables is less than 0.3, the relation between the two variables is evaluated as being weak and in the event of this coefficient's sum being between 0.3 and 0.7, this relation would be medium and in case of its sum exceeding 0.7 it means that there is a powerful relation between the two variables. Obtained results are presented in the following table:

Empowerment of Employees	Factor of the management systems	Correlation Coefficient
	The quality Management System	0.733
	The Environment Management System	0.633
	The Occupational Health and Safety Management System	0.866

As it can be seen in the above table, the highest correlation exists between the occupational health safety of employees and empowerment (0.866) and the least correlation exists between the environment management system and empowerment of employees (0.633).

A. Conclusion from the first secondary hypothesis

Statistical hypotheses regarding the first research hypothesis was codified and tested as follows:

∩ There is no significant relation between establishment of the quality management standard system and empowerment of employees:

H_0

There is a significant relation between establishment of the quality management standard system and empowerment of employees: H_1
Following performing the pertinent test the P-Value = 0.000 was obtained therefore the H_0 hypothesis was rejected and the H_1 hypothesis was accepted. The correlation coefficient between the two factors of the quality management system and empowerment of (0.733) was obtained. As a result, it can be stated that establishment of the quality management system had a positive effect on empowering employees at the Shazand Power Generation Co. Management.

B. Conclusion regarding test of the second secondary hypothesis:

The statistical hypothesis regarding the second secondary hypothesis was codified as follows:

There is no significant relation between establishment of the standard of environment management and empowerment of employees: H_0

There is significant relation between establishment of the environmental management standard and empowerment of employees:

H_1

Through performing the relevant test, the p-value= 0.000 is obtained. Therefore the hypothesis H_0 was rejected and the hypothesis H_1 was accepted. Since the correlation coefficient of (0.633) was obtained between the environmental management standard and empowerment of employees, it can be concluded that establishment of the above said system also has a medium effect on empowerment of employees in the Shazand Power Generation Management Co.

C. Conclusion regarding the third secondary hypothesis tests

The statistical hypothesis regarding the third hypothesis was also codified as follows:

There is no significant relation between establishment of the occupational health and safety management system and empowerment of employees: H_0 there is a significant relation between establishment of the occupational health and safety management standard and empowerment of employees: H_1 .

Through performing the relevant test, the p-value = 0.000 was obtained, therefore the H_0 hypothesis was rejected and the H_1 hypothesis was accepted. Thence the correlation coefficient between the occupational health and safety management system standard and empowerment of employees (0.866) was obtained thus it can be concluded that establishment of the above said system as well has a significant effect on empowerment of employees in the Shazand Power generation Management Co.

D. Conclusion concerning the main hypothesis of research:

In this research, the integrated management systems were segregated into three systems of quality management, environmental management and health and safety management and defined based on the Fox model for empowerment of employees and its factors along with identification of IMS systems and presented based on constitution of the Shazand Power Generation Management Co. Statistical hypothesis regarding the main hypothesis of the research were codified as follows:

There is no significant relation ship between establishment of the management systems and empowerment of employees: H_0

There exists a significant relationship between establishment of the management systems and empowerment of employees: H_1 .

Through performance of the test, the P-value = 0.000 was obtained. Thus the H_0 hypothesis was rejected and the H_1 hypothesis was accepted.

Therefore in this research through test effectiveness level of the management systems on empowerment of the Shazand Power Generation Management Co. was studied and it was revealed that the correlation coefficient between the integrated management systems (IMS) and empowerment of employees is 0.802 indicating that there is powerful and effective relationship between these two parameters.

Conclusion

If we look at the management of the Shazand Power Generation Co. it will be revealed that the two principles of empowering employees and performing all commitments of the integrated management are the ideals, mission and organizational delegation of the Shazand Power Generation Management Co. Therefore, co-direction and relationship between these two parameters was considered. Obtained results indicated that establishment of management systems has a significant and powerful relationship with empowerment of employees.

In the first hypothesis, it was attempted to assess the effect of establishing the quality management system on empowerment of employees. Therefore regarding the definitions provided of the above said system and empowerment of employees, "empowerment is the process of achieving continuous improvement in performance of the institution through development of extended influence based on competence of individuals and groups in all areas and for all duties influencing their operation and general performance of the institution" [5]. Also, apart from the extensive application that empowerment has obtained in various social, political and educational areas, this idea has found a fundamental position in present

movements of institutions towards quality management and continued improvement.

Regarding the fact that manufactured product of the Shazand Power Generation Management Co., is required by the national power network however, uniform product production and its not being seen by the employees has caused this factor of quality management system to have a moderate effect on empowerment of employees. On the other hand however, since performing commands and standard points of quality management is obligatory, employees deem themselves committed to perform it to prevent unwanted problems and trips in power generation. Also, regarding the result obtained in test of the second hypothesis, it can be concluded that establishment of the environmental management system as well will have a moderate effect on empowerment of employees in the Shazand Power Generation Co. Therefore, since execution of command and environmental points is directly entrusted with the authorities of the power station and codification of schemes to prevent air pollution is continued by the Environment Department experts and experts of the Bakhtar Regional Power and the Tavanir Co. as well from which the employees are informed at on moderate level and only a few of them are involved in these issues however execution of schemes of waste reduction and developing the culture of reducing pollution, are included in the programs of the Bureau of Education and Management systems from which the employees have goods education and sufficient information.

In the third hypothesis test, regarding the high coefficient obtained, it is revealed that establishment of the above said system has also a very high effect on empowering of employees at the Shazand Power Generation Management Co. This is because from the very beginning of formation of the Shazand Power Generation Management Co. extensive activities were done regarding promotion of the safely culture at the employees level examples of which are as follows:

1. Employment of the visual management technique for the safety principles and criteria: in this method, the safety signal relevant to business in a beautiful and desirable form was installed in all departments such that such signals were seen in all spaces and passage locations of employees.

2. All the employees received continuous safety education such that it could be claimed that the highest contribution of education concerned the safety issues and that this training was provided at a very high and quite technical level with the technical staff however for the administrative staff it was also provided.

3. Commitment of all managers and staff to safety criteria is another of the crucial factors effective on increase correlation intensity. From the establishment of the Shazand Power Generation Management Co.

This commitment has been established and continued to present. Implementation of the occupational health and safety management and intermixture of the safety issues with routine affairs of staff was also another factor effective on increased correlation intensity.

Finally regarding the general results obtained in this research, it was revealed that there is a powerful and effective relationship between the integrated management systems (IMS) and empowerment of the employees at the Shazand Power Generation Management Co. therefore it is recommended that, due to importance of occupational and safety of employees and observing the environmental issues and observance of quality standards and as a whole execution of the integrated management systems, this research be implemented in a comparative form in all the state and private sectors in the power industry plants.

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