Examining the Effect of Integrated Management System (IMS) on organizational performance of Medical Sciences Universities in Kohgiluyeh And Boyer-Ahmad

Nasrin Roshangar and Yousef Mohammadi Moghadam

1Department of Management, Yasouj Branch, Islamic Azad University, Yasouj, Iran.  
2Department of iri Police university, Tehran, Iran.

**A B S T R A C T**

Today, most organizations use management systems for the purposefulness of the organization's activities and directing them in different fields. In the short time that passed the emergence and implementation of integrated management system, it has caused to significant and positive results. In fact, the management systems can examine the activities, products and services of the organization from different aspects and views. In other words, in each of these management systems, one of the aspects of the organization is considered and policies and objectives which are defined are in line with that aspect of the organization's activities. Establishment of different management systems with specific requirements for each of them, not only will cause to the complexity and confusion of organization, but will create problems such as waste the resources, large amounts of documentation, rework, reduce the efficiency of the organization performance, the conflict between the policies and objectives defined for each of the systems and so on. The solution to prevent these problems is the integration of different management systems in a single system, that this system is called the Integrated Management System. The main benefit and advantage of integrated management system is its role in improving the performance of organizations. So the present study has done aimed to evaluate the effect of Integrated Management System (IMS) on staff performance of Medical Sciences University in Kohgiluyeh And Boyer-Ahmad. This study in terms of data collection is survey and in terms of research methods is a descriptive study. To achieve the objectives of the study, the sample consisted of 360 employees of the Medical Sciences University in Kohgiluyeh And Boyer-Ahmad considered. To analyze the data and testing hypotheses the structural equation modeling (SEM), confirmatory factor analysis (CFA) and Cronbach's alpha coefficient were used. In general, based on the theoretical foundations, three dimensions of quality management systems, occupational health and safety management system and environmental management system were considered as the dimensions of the integrated management system. Research findings indicated a significant influence of integrated management system and its dimensions such as quality management system, occupational health and safety management system and environmental management system on staff performance of Medical Sciences University in Kohgiluyeh And Boyer-Ahmad.

**INTRODUCTION**

In the short time that passed the emergence and implementation of integrated management system, it has caused to significant and positive results. The main approach of the International Organization for Standardization in the review and revision process of standards, especially in recent years, is to create greater compatibility between these management standards. For integrate management systems it should be considered that all aspects of systems are not reconcilable, and this depends on the nature and the size and complexity of organizations, so the integrated system will vary from organization to organization. In fact, the management systems can examine the activities, products and services of the organization from different aspects and views that can be mentioned, for example, the Quality management system, environmental management system, occupational health and safety management system, financial management system, trading management system, human resources management systems, business management systems, etc. In other words, in each of these management systems, one of the aspects of the organization is considered and policies and objectives which are
defined are in line with that aspect of the organization's activities. On the other hand, in each of these management systems, the satisfaction of a certain group is regarded more than others, these groups can include customers, employees, owners and shareholders, suppliers and contractors, community, independent groups and government, etc. that if the organization consider the satisfaction of all parties, it should look at its operations from various aspects and this requires establishment of different management systems in the organization. But the establishment of different management systems with specific requirements for each of them, not only will cause to the complexity and confusion of organization, but will create problems such as waste the resources, large amounts of documentation, rework, reduce the efficiency of the organization performance, the conflict between the policies and objectives defined for each of the systems and so on. The solution to prevent these problems is the integration of different management systems in a single system, that this system is called the Integrated Management System [1] The main benefit and advantage of integrated management system is its role in improving the performance of organizations. The organization of the present time, given the difficult competitive circumstances and today's turbulent environment must constantly improve their performance and operate with higher productivity. Focus on the organization's internal capabilities is one of the tools and concepts that lead to competitive advantage for organizations to improve their productivity and competitiveness. Integrated Management System as a factor within the organization can has a significant role in improving the performance of organizations, including universities. Hence, this study has examined the role and impact of Integrated Management System on the performance in the Medical Sciences University in kohgiluyeh And Boyer-Ahmad.

2. Theoretical Foundations:

2.1. Concept of System:

The word system comes from the Latin word systeisma meaning the whole, combination or a set of several components. In Persian, the word System is common due to multiplicity use. The words "Samaneh" and "Nezam" are common Persian equivalents for System. The system is a set of interconnected components that are dependent together to achieve one or more specific target, so that, if one or more data enter into it, one or several outputs come out from it. In another definition a system is a set or a group of related or unrelated objects that follow a specific goal or goals so that form a complex unit. The system is a set of components that work together and pursue a certain goal. The system is not limited only to its physical kind. The concept of system also uses for dynamic abstract phenomena such as economics. The system consists of a set of different elements and components that work together with coordination and coherence and make it possible to achieve the ultimate goal by designed mechanisms. In other words, a system is a set that is moving towards a certain point, and at the same time, concepts such as discipline, harmony, unity, integrity and objectivity are its distinctive characteristics [2]

2.2 Management Systems:

Like all modern scientific phenomena, designed and created systems have also changed from day to day. In recent years, there have been big changes in the issue of system. Rules and regulations governing these mechanisms have seen many changes in their routines, the way of drawing the goals and methods to advance works have been changed a lot. However, in all these changes, a fundamental issue remains stable that, the purpose of all these changes is to access to the systems that have the most adapt with the expressed needs and have the most practical form. The result of this attitude is the emergence of a new generation of industrial and services systems. During these changes and developments, another problem created. This new problem was the interaction of existing systems and lack of coordination among them. Thus, it was necessary to select a new solution to this problem. In the meantime, the designers of systems presented a very good and practical solution and in fact solved the created difficult by the systems. The invented approach was nothing more than "management systems" [3]

2.3 Standard:

Standard definition:

Standard is an order based on the results of sciences, technologies and human expertise in the field of public activities that use in form of rules, regulations and codes in order to create harmony and uniformity of procedure, development of understanding, facilitating the communications, saving the economy, health maintenance and development of domestic and foreign trade and generally standard means law, rule, principle or criterion. There are other various definitions of standard that some of these definitions are:

- Standard in general means any fixed order that exist in phenomena affairs.
- Standard means any criterion and measure by which the quality and quantity of affairs can be measured.
- Standard is the result of a special effort in assimilating affairs which are approved by a known authority.
- Standard means selection [4]
3. Research Methodology:

- Research method is a set of valid, reliable and systematic rules, tools and ways to check the facts, discover the unknowns and achieve the solutions for problems [5]. Scientific researches based on method can be divided into descriptive and experimental research [6]. In classification based on method, descriptive researches include types of researches such as: Survey, correlation research, work (practical) research, case studies and Ex post facto research [7]. This study based on the nature and method of research is a descriptive survey.

- Descriptive research describes and interprets what is exist and attention to the existence situation or relationships, common ideas, current processes, visible effects or trends in development. The main focus is primarily on the present, although often examine the past events and effects that are relevant to the current situation [8].

- Survey is a method in research that goes beyond a certain technique in gathering information and its goal is exploratory, descriptive or explanatory, although questionnaire is mainly used in it, but other tools such as structured interviews, observation, content analysis, etc. are used too. [8].

- So this research objectively is an applied research, and in terms of research methods is descriptive - survey.

The population includes all individuals, elements, objects and phenomena that have at least one common trait that has reviewed in the research that the researcher can generalize his research results to all of them. The population of this research consists of all employees of Medical Sciences University in Kohgiluyeh and Boyer-Ahmad. In other words, all employees of Medical Sciences University in Kohgiluyeh and Boyer-Ahmad, that all of them have a chance of being selected for the study, forms the statistical population of the study. Overall Medical Sciences University in Kohgiluyeh and Boyer-Ahmad exactly has 5749 employees that all of them are a member of the population and there are many methods for sampling and sample size. One of the best methods of sampling is simple random sampling. In this method all members of the population have an equal chance of being selected [9].

In the present study, due to the limited size of the statistical population i.e. the limited number of staff of Medical Sciences University as well as access to and list all of these staff, the possible simple random sampling method used to Sampling and the questionnaire was distributed among the required sample size of the staff, randomly.

4. Research findings:

4.1 One sample Kolmogorov-Smirnov test (K-S) to check the normality of the data distribution:

One of the main assumptions for using parametric statistics and regression is normal distribution. The One sample Kolmogorov-Smirnov test can be used to check the normality of the distribution that the test results for all variables are presented below.

The Kolmogorov-Smirnov test was used to check the normality of the distribution of the variables in the test. Accordingly, the null and first hypotheses for each of the variables are considered as below.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Significant level (sig)</th>
<th>Error value</th>
<th>Confirm the hypotheses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrated Management Systems</td>
<td>0.0098</td>
<td>0.05</td>
<td>H0</td>
</tr>
<tr>
<td>Quality Management System</td>
<td>0.0082</td>
<td>0.05</td>
<td>H0</td>
</tr>
<tr>
<td>Occupational Health and Safety Management System</td>
<td>0.0068</td>
<td>0.05</td>
<td>H0</td>
</tr>
<tr>
<td>Environmental Management System</td>
<td>0.0103</td>
<td>0.05</td>
<td>H0</td>
</tr>
<tr>
<td>Organizational Performance</td>
<td>0.0102</td>
<td>0.05</td>
<td>H0</td>
</tr>
</tbody>
</table>

Due to the K-S test showed that the distribution of all the variables of questionnaire is normal, the parametric tests such as structural equation modeling which is a branch of regression, correlation coefficients and confirmatory factor analysis can be used to analyze the data and test the hypotheses. If the distribution of variables were not normal, non-parametric tests must be used to evaluate hypotheses.

4.2- Test and interpret the research hypotheses by structural equation modeling (SEM):

Other type of relationships between latent variables in structural equation modeling is a direct effect. The direct effect is actually one of the components of structural equation models and shows a directional relationship between the two variables. These relationships are mainly evaluated by ANOVA. This type of effect actually
A model is a representation of causal linear effect of one variable on another variable. In a model, each direct effect identifies and discusses a relationship between a dependent variable and an independent variable. Although a dependent variable in a direct effect can be an independent variable, and vice versa. Furthermore, in a multiple regression model, a dependent variable can be associated with several dependent variables and also in MANOVA an independent variable can be associated with several dependent variables. This issue that the dependent variable can be independent variable in some cases causes to create a third relationship which is called indirect effect. This effect in fact is the effect of an independent variable on a dependent variable through one or more Mediating variables. In this effect, the Mediating variable plays a role as an independent variable to a variable, and as a dependent variable to another variable. In this study we have no Mediating variable.

Accordingly, the results of the test hypotheses based on structural equation shown in Table 2.

Table 2: The results of testing hypotheses.

<table>
<thead>
<tr>
<th>Result</th>
<th>Coefficient of determination r2</th>
<th>t statistics</th>
<th>Path coefficient (β)</th>
<th>Research Hypotheses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confirm the hypotheses</td>
<td>0/63</td>
<td>14/54**</td>
<td>0/68</td>
<td>1) the impact of integrated management systems on organizational performance</td>
</tr>
<tr>
<td>Confirm the hypotheses</td>
<td>0/67</td>
<td>2/78**</td>
<td>0/50</td>
<td>2) the impact of the quality management systems on organizational performance</td>
</tr>
<tr>
<td>Confirm the hypotheses</td>
<td>2/90**</td>
<td>0/52</td>
<td></td>
<td>3) the impact of occupational health and safety management systems on organizational performance</td>
</tr>
<tr>
<td>Confirm the hypotheses</td>
<td>2/84**</td>
<td>0/51</td>
<td></td>
<td>4) the impact of environmental management systems on organizational performance</td>
</tr>
</tbody>
</table>

** Significant at the 99% confidence level. * Significant at 95% confidence level.

4.2.1 First hypothesis: integrated management system has a significant effect on organizational performance:

According to the results of the t-statistics in Table 2, the variable of integrated management system at the 99% confidence level has a significant relationship with organizational performance in Medical Sciences University (t-statistic is located outside the range of -2/58 to +2/58). It can be said that the type of this relationship is positive and direct. Thus, it can be concluded that by the establishment and strengthening of Integrated Management System in Medical Sciences University of Kohgiluyeh and Boyer-Ahmad, the organizational performance in the university increases and improves and vice versa. So the first hypothesis is confirmed.

According to the path coefficient of this hypothesis, it can be concluded that the variable of integrated management system has an effect on organizational performance of Medical Sciences University to the amount of 0/68. It means if the integrated management system and its three axes to be strengthened or improved to the amount of 1 unit, probably 99% the value of the organizational performance of Medical Sciences University improves to the amount of 0/68 of unit.

4.2.2- The second hypothesis: quality management system has a significant effect on organizational performance:

According to the results of the t-statistics in Table 2, the variable of quality management system at the 99% confidence level has a significant relationship with organizational performance in Medical Sciences University (t-statistic is located outside the range of -2/58 to +2/58). It can be said that the type of this relationship is positive and direct. Thus, it can be concluded that by the establishment and strengthening of quality Management System in Medical Sciences University of Kohgiluyeh and Boyer-Ahmad, the organizational performance in the university increases and improves and vice versa. So the second hypothesis is confirmed.

According to the path coefficient of this hypothesis, it can be concluded that the variable of quality management system has an effect on organizational performance of Medical Sciences University to the amount of 0/50. It means if the quality management system to be strengthened or improved to the amount of 1 unit, probably 99% the value of the organizational performance of Medical Sciences University improves to the amount of 0/50 of unit.

4.2.3- The third hypothesis: occupational health and safety management system has a significant effect on organizational performance:

According to the results of the t-statistics in Table 2, the variable of occupational health and safety management system at the 99% confidence level has a significant relationship with organizational performance in Medical Sciences University (t-statistic is located outside the range of -2/58 to +2/58). It can be said that the type of this relationship is positive and direct. Thus, it can be concluded that by the establishment and strengthening of occupational health and safety Management System in Medical Sciences University of Kohgiluyeh and Boyer-Ahmad, the organizational performance in the university increases and improves and vice versa. So the third hypothesis is confirmed.

According to the path coefficient of this hypothesis, it can be concluded that the variable of occupational health and safety management system has an effect on organizational performance of Medical Sciences
University to the amount of 0/52. It means if the occupational health and safety management system to be strengthened or improved to the amount of 1 unit, probably 99% the value of the organizational performance of Medical Sciences University improves to the amount of 0/52 of unit.

4-2-4- Explain the status of organizational performance:
To check the status of organizational performance in Medical Sciences University of Kohgiluyeh and Boyer-Ahmad the one-sample T-test was used. Accordingly, the null and first hypotheses of this test can be stated as follows:

In this test, due to the 5-choice range of questionnaire of organizational performance the mean value compares with assumed and theoretical value of 3 (Median of range). The results of One-sample T-test related to organizational performance variable are shown in Table 3. To interpret the results at first according to t-statistics or significant level (sig), significant difference of the means is checked. If the t-statistic be greater than 1/96 or significant level (sig) be smaller than 0/05, the difference of the means is significant and the first hypothesis is accepted and the null hypothesis is rejected. If the first hypothesis be confirmed, the status of organizational performance can be explained by using the mean value and the difference amount between it and the median value of Likert scale i.e. 3.

In the table below, since the t-statistic of organizational performance variable is larger than 1/96 (or according to sig that is smaller than 0/05), it can be concluded that, in the view of staff under investigation the difference of mean of organizational performance in Medical Sciences University with the assumed value of 3 is significant. Both upper limit and lower limit of difference are positive so it indicates that this difference is positive. So, the first hypothesis is approved. The mean value of organizational performance is 3/122. Accordingly, it can be concluded that the level of organizational performance in Medical Sciences University is moderate to high.

<table>
<thead>
<tr>
<th>Table 3: One-sample T-test to assess the status of organizational performance.</th>
</tr>
</thead>
<tbody>
<tr>
<td>result</td>
</tr>
<tr>
<td>--------</td>
</tr>
<tr>
<td>Confirm the first hypotheses</td>
</tr>
</tbody>
</table>

5. Conclusion:
5-1- The first hypothesis test results:
According to this hypothesis, it can be concluded that by the establishment and implementation of integrated management system in Medical Sciences University of Kohgiluyeh and Boyer-Ahmad, the organizational performance of University staff improves. In other words, if the integrated management system in Medical Sciences University of Kohgiluyeh and Boyer-Ahmad be implemented and applied desirably, the employees of the university will have more better and desirable performance.

5-2 The second hypothesis test result:
According to this hypothesis, it can be concluded that by the establishment and implementation of quality management system in Medical Sciences University of Kohgiluyeh and Boyer-Ahmad, the organizational performance of University staff improves. In other words, if the quality management system in Medical Sciences University of Kohgiluyeh and Boyer-Ahmad be implemented and applied desirably, the employees of the university will have more better and desirable performance.

5.3 The third hypothesis test result:
According to this hypothesis, it can be concluded that by the establishment and implementation of occupational health and safety management system in Medical Sciences University of Kohgiluyeh and Boyer-Ahmad, the organizational performance of University staff improves. In other words, if the occupational health and safety management system in Medical Sciences University of Kohgiluyeh and Boyer-Ahmad be implemented and applied desirably, the employees of the university will have more better and desirable performance.

5-4- The fourth hypothesis test result:
According to this hypothesis, it can be concluded that by the establishment and implementation of environmental management system in Medical Sciences University of Kohgiluyeh and Boyer-Ahmad, the organizational performance of University staff improves. In other words, if the environmental management system in Medical Sciences University of Kohgiluyeh and Boyer-Ahmad be implemented and applied desirably, the employees of the university will have more better and desirable performance.
6. The Recommendations based on the research:

Implementation and establishment of the quality management system as one of the three standards of integrated management system will have a significant role in improving organizational performance of universities and the implementation of this standard in universities will improve organizational performance significantly. In fact, organizations such as universities can achieve high performance by designing the Service Quality Management Systems. Therefore, it is recommended to managers and decision makers in universities to implement and establish ISO 9001 quality management system by providing opportunity and enough resources and try to change their system structures for continuous improvement in all functional areas by providing infrastructure required for the basic design and implementation of management systems such as quality management system.

Accordingly, it is suggested to universities to attention to respect and implementation of environmental management standards and use appropriate methods to optimal use of energy, financial, human and organizational resources and to reduce environmental wastes and pollution.

7. Limitations and Recommendations for future researchers:

This research has done only for Medical Sciences University of Kohgiluyeh and Boyer-Ahmad and to generalize this study and model, it is necessary to do it for other organizations and universities and in other cities and geographical areas.

Integrated Management System and its dimensions such as quality management system, environmental management system and occupational health and safety management system could predict 67% of the changes of organizational performance in Medical Sciences University of Kohgiluyeh and Boyer-Ahmad. The remaining 33% change by other variables and factors affecting the organizational performance of the university that are not examined in this study. Thus, factors, dimensions, or other systems and standards such as performance management systems, human resources management system, etc. may have effect on organizational performance of staff of Medical Sciences University and can increase the ability to explain and predict it, that it is suggested to future researchers to identify these dimensions and factors.

In the methodology of this study the quantitative methods are used for measuring and modeling implicit structures (such as quality, organizational performance, etc.). It is suggested that other researchers use qualitative methods and techniques such as in-depth interviews, observation, etc. for modeling and theorizing in this regard.

REFERENCES