E-ISSN: 2706-8927
P-ISSN: 2706-8919
www.allstudyjournal.com
IJAAS 2021; 3(1): 355-361
Received: 09-11-2020
Accepted: 14-12-2020

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Investigating the effect of situational variables on quality management activities and performance of leading Iranian organizations

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Abstract
The present article examines the effect of situational variables on the quality management activities and performance of organizations. The research method that led to this article is a descriptive survey that was used to analyze the collected data using statistical tests comparing the means. The study of the effect of situational variables as variables of modulating the implementation of quality management system activities and performance of organizations showed that these variables do not have a significant effect on the implementation of quality management activities and performance of organizations that this can be confirmed as the comprehensiveness of the activities of the quality management system.

Keywords: Situational variables, quality, management activities, performance, Iranian organizations

1. Introductions
Situational variables that can be described based on institutional and contingency theories can have a significant impact on the success/failure of management systems, especially the quality management system. In other words, it can be said that the performance of organizations in different areas is directly and indirectly affected by situational variables. On the other hand, the study of the existing literature on the quality management system and the performance of organizations show contradictory results of the impact of situational variables on these areas. Therefore, in order to determine the impact of situational variables on the activities of the quality management system and the performance of leading Iranian organizations, research has been conducted and the results are reported in this article. The structure of the present article is as follows: First the research variables (situational variables, quality management system activities and organizational performance) are briefly described and introduced; then a review of the research literature has been done and based on this the research hypotheses have been stated (the research hypotheses are the output of the review of the research literature). After stating the hypotheses of the research, methodology and finally based on the analysis of the collected data, the results of the research are stated.

2. Situational Factors
The situational factors of organizations can be institutional or contingent, which can be explained based on institutional and contingent theories [19]. The scientific definitions and objective examples of situational factors used in the present study are described below:

3. Institutional Factors
Based on institutional theory, it can be stated that organizations form their structure based on legal and governmental pressures, the structure of other organizations that are the result of competitive pressures, or the standards defined by certifying companies and customer support organizations and they change it at appropriate times [25]. System registration according to the ISO 9001 standard, which is considered as an institutional factor in the present study, is a process that aims to standardize the quality management system worldwide. The study of this variable as an institutional factor has been considered in other studies [5, 19].

4. Contingent Factors
One of the important issues raised about contingency theory is that successful organizations choose specific process and structural features according to the degree of uncertainty in their

organization, which is determined by the number of human resource available to organizations. The selection of organizational size as a contingency factor and its determination based on the number of human resource has been considered in other studies [19, 25]. Accordingly, organizations with less than 100 human resource are in the category of small organizations, organizations with more than 100 and 500 human resource are in the category of medium organizations and organizations with more than 500 human resource are in the category of large organizations.

5. Quality Management Activities

According to the ISO 9000 standard, quality management is coordinated activities to guide and control organizations in the direction of quality. These activities include leadership, strategic planning, customer orientation, a realistic approach to decision making, human resource management, process management, and supplier management [22, 19, 23].

6. Organizational Performance Measurement Indicators

Performance is measurable results, organizational decisions and actions that indicate the degree of success and achievements achieved [16]. Measuring the performance of organizations should be based on appropriate indicators. In this regard, indicators of employee satisfaction, customer satisfaction, organizational effectiveness and financial and market results were performance indicators that have been considered in this study and in most previous studies [18, 19].

7. A Brief Review of the Research Background

There are differing views on whether the implementation of TQM depends on the situation or is universal. Meanwhile, the premise of most previous studies is the universality of total quality management activities and the fact that total quality management activities can be based on different situations has received less attention. Quality theorists such as Deming [10] and Juran [14] state that the principles of quality management are universally applicable.

In other words, these principles can be implemented in any organization with any feature and situation, but other authors such as Sila [19] state that the implementation of quality management in each organization depends on the specific situation of the organization and the organization turn to special activities and the use of special tools. Robson and Mitchell [6] have studied the performance of organizations by considering factors such as productivity or serviceability, the level of implementation of total quality management and organizational size. This article is based on two studies conducted in manufacturing and service companies in the North of the United Kingdom on the use of self-assessment benchmarking tools. The data required for this study were collected from 128 manufacturing companies and 428 service companies whose performance is evaluated according to the two main parameters of stability and durability and their degree of involvement. The results show that the level of performance of companies in terms of sustainability and degree of involvement varies for both the manufacturing and service sectors, taking into account the impact of firm size, global position and specific individuals and enabling quality management capabilities. Both manufacturing and service companies have limited ways to move in the direction of their performance, in which case the above variables need to be considered. Sila [19] in his research entitled the study of the effect of situational variables on organizational performance and quality management activities, states that the effect of institutional and contingent variables on organizational performance is an issue that has received less attention. However, the results of his research show that situational variables do not have a significant effect on organizational performance and implementation of total quality management.

In another study conducted by [20] with the subject of examining the key factors for the success of total quality management in organizations, Sila concludes that attention to the specific characteristics of organizations (size, location, ...) is one of the most important key factors in the success of implementing total quality management in organizations. Voss [21] in his study entitled quality management review, has addressed the importance that in the implementation of total quality management, specific organizational characteristics should be considered. Martinez-Lorente *et al*. [17] in their study entitled "Total Quality Management and Organizational Characteristics" analyzed the impact of some organizational characteristics such as organizational size, organizational nationality, perception of the benefits of total quality management, management orientation inclusive quality and value obtained for products through the implementation of total quality management. They have dealt with the manner and results of implementing total quality management in Spanish industrial organizations. They have concluded that most of the studied situational variables have affected the activities of total quality management and the results of its establishment.

8. Research Hypotheses

As mentioned in the introduction of the article, the research hypotheses are the output of the research background review. Therefore, according to the mentioned background, the research hypotheses are determined as follows:

Hypothesis 1: The quality management system registration variable based on ISO 9001 standard has a significant effect on the implementation of specific activities of the quality management system.

Hypothesis 2: Variable of organizational size has a significant effect on the implementation of quality management system activities.

Hypothesis 3: Variable of quality management system registration based on ISO 9001 standard has a significant effect on the performance of organizations.

Hypothesis 4: Variable of organizational size has a significant effect on the performance of organizations.

9. Method of Conducting Research

The research leads to the present article in terms of subject matter in the field of managerial research which was conducted in 2007. In terms of the type of research method, it is a descriptive survey research based on which the existing literature in the field of research variables is studied and reviewed, then the research tool (questionnaire) is prepared and after confirmation is distributed among the respondents. The data were collected and fitted and finally the fitted data were tested and the research results were inferred. The use of questionnaire tools can be done in Iran due to the greater efficiency of the questionnaire in management research [1-11].

10. Validity and Reliability of Research Tools

Validity means that the measuring instrument can actually measure the desired feature and not another feature [12-22]. The process of identifying the research variables that has been the result of extensive study of the literature and background of the subject and the steps of preparing data collection tools (initial preparation based on research literature, approval of supervisors, preliminary distribution and correction and re-validation of correction) can be evidence of the validity of the collected data.

The purpose of reliability is that a measuring device designed to measure an attribute will produce similar results under the same conditions [23-33]. In order to determine the reliability of measuring instruments, there are various methods, one of which is to measure its internal consistency [34-44]. The internal consistency of the measuring instrument can be measured by Cronbach's alpha coefficient [45-55]. The acceptable value for this coefficient is generally 0.7, but values of 0.6 and even 0.55 are accepted [56-66]. The present research questionnaire is reliable because the calculated Cronbach's alpha coefficient was 0.765.

11. Society and Statistical Sample of Research

The information required for the research leading to the present article has been extracted from the data set collected [67-77]. The statistical population of the study was subject matter experts and experts active in leading Iranian organizations. Since the structural equation modeling method was used in the study, the number of samples had to be determined based on the logical volume of the sample required to extract the structural models [78-90]. In this regard, after conducting a preliminary study and the existing limitations regarding the identification of the statistical sample of the case, the number of sample members required for research, according to 11 research variables (7 variables related to the activities of quality management system and 4 variables related to indicators organizational performance), was predicted of 110 people. Therefore, in order to achieve the minimum required answers, 150 questionnaires were randomly distributed among the respondents, of which 117 questionnaires were completed and the relevant data were analyzed.

12. Method of Data Analysis

In order to test the hypotheses presented in the research, the means comparison test (t-test and ANOVA) was used. Cronbach's alpha test was also used to analyze the reliability of the research instrument. In data analysis first, the research hypotheses related to each case are mentioned, then the statistical hypotheses appropriate to the research hypotheses are presented, and finally the relevant statistical calculations are presented and concluded. The level of reliability in all tests was 95% and the basis for statistical inference was the significant level (Sig) obtained from statistical tests. Thus, when the calculated significance level is more than 5%, it can be inferred that the difference between the studied groups is not statistically significant and vice versa. In the following, the hypothesis test related to the study of each of the situational variables effect (registration of quality management system and organizational size) on the quality management activities and performance of organizations is given:

Assumption test of the effect of quality management system registration on quality management activities. In order to identify the effect of system registration variable on quality management activities, the test of comparing t-student averages with independent samples was used:

13. Study of the Effect of Organizational Size on Quality Management Activities

Considering that the organizational size in the present study is classified into three categories of small, medium and large organizations based on the number of human resources, the analysis of variance (ANOVA) test was used to compare the means.

14. Results and Discussion

In the present study, the effect of situational variables on quality management activities and performance of organizations was investigated. As shown in the test of hypotheses a significant effect of situational variables on the specific activities of the quality management system and the performance of organizations was not confirmed. The result of the research can be explained by the fact that the activities of the quality management system can be applied to all organizations with any organizational size. Now that, do the situational variables in organizations (such as registering the quality management system and the size of the organization based on the human resources of organizations, etc.) affect the success of organizations in the actual implementation of quality management system activities and organizational performance? or not?!, is an issue that has been a halo of ambiguity in previous studies; Because in some studies this effect was confirmed and in others it was rejected. Therefore, considering the existence of contradictory evidence this issue still needs further study and reflection and can be studied in other research conditions. It is understood that the results of the research are generalizable based on the level of reliability defined for the research, validity and reliability of the research model and data collection tools, the population and the relevant statistical sample, etc., and determine the applicability of the research. For example, despite the confirmation of the effectiveness of the questionnaire tool by the greats of management science in our country [1] and the use of this tool in a significant percentage of research conducted in Iran and the world, the main limitation of research whose main tool is a questionnaire, is quality and relativity of the results indicates that a fundamental solution to this issue should be considered in the scientific community in the field of management and other behavioral sciences.

15. Conclusion

The results obtained for each of the research hypotheses are presented and analyzed follow:

Hypothesis 1 and 3 of the present study stated that the institutional variable of quality management system registration according to ISO 9001, 2000, has a positive and significant effect on the activities of quality management system and the performance of organizations. The results of the relevant hypothesis test showed that there is no significant difference between the level of implementation of quality management system activities and performance results in organizations that have registered quality management system with organizations that have not registered quality management system. The reason for this result could be that even companies that have not registered the quality management system somehow undertake the

activities of the quality management system. In other words, organizations that have taken a rational approach to management and use any other management system will somehow follow the standard activities defined in ISO 900, 2000 edition. Because by adding the principles of quality management to the 2000 version of this standard, it can be stated that the close relationship between this version of the standard and quality management activities has been achieved. This is because most management systems are based on Professor Edward Deming's famous cycle, the Control and Implementation Planning Cycle (PDCA), and this cycle is inherent in all management systems. It can even be said that organizations that do not have any planned management system also use this cycle. Therefore, the results obtained in this area are not far from expectations and in general, it can be stated that the registration of quality management system is only to prove the ability and have a commercial and competitive weapon for organizations. Therefore, deepening in system activities and achieving results in different performance criteria can be achieved abstract from the registration of a system. For example, the result obtained in this field is consistent with the result of one of the most recent studies on the moderating role of institutional and contingent factors on the quality management system and performance of organizations conducted by Sila.

In Hypothesis 2 and 4 of the present study, it was stated that the contingency variable of organizational size has a positive and significant effect on the activities of the quality management system and the performance of organizations. The results of the relevant hypothesis test showed that there was no significant difference between the level of implementation of quality management system activities and performance results in organizations with different organizational sizes (small, medium and large). It is worth mentioning that contradictory results have been reported in the literature in this regard and obtaining such a result was not far from expectation. The results obtained in this field, as in the previous hypotheses, are consistent with the results of Sila research. From another point of view, it can be stated that the insignificance of the effect of contingent and institutional variables (system registration and organizational size) on the relationship between quality management activities and organizational performance, validates the inclusiveness and generality of system activities and this is consistent with the statements of greats such as Edward Deming.

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