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Investigating Factors Influencing the Implementation of ISO9000 Quality Management System

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Abstract:

Nowadays acquisition and preservation of customer satisfaction is the most reliable factor for the continuous participation of companies in domestic and foreign markets. Quality is dependent on the needs and expectations of the customer on a permanent revision and evolution. Therefore, it is necessary to take the necessary measures to ensure long-term customer confidence and trust. ISO standards 9000 as the quality system standards, on the one hand, provide the basis for quality improvement and, on the other hand, provide for all stakeholders the confidence that the supplier performs in accordance with what he claims to be. In the present study, the full introduction of the ISO 9000 standards and the A The elements that comprise these standards are described. First, by providing a pair comparison questionnaire and obtaining information from ten experts at the Pars Damavand Asphalt Factory, a multi-criteria AHP decision-making technique improved the criteria for ranking the criteria and the sub criteria. The results of the research show that The operating and operating factors of the organizational structure, with weights of 0.31, 0.24, are considered to be the most effective factor in the implementation of ISO 9000 in the asphalt factory. And values and personnel factors were ranked 0.07%, 0.06%, in the final priorities. Finally, based on the results of the research, suggestions were made to improve the quality of performance through the quality assurance system and the long-term goals of the company. It turned out

Key words: ISO 9000, Improved AHP, Management, Organizational Structure, Values

Statement of the problem

In recent years, the world's largest companies have implemented ISO9001: 2000 quality management system in order to compete in the international markets and to reduce production costs, reduce redoing, reduce waste and raise profits, and increase customer satisfaction. Given the quality at this time when required for company products, the ISO9001 as a quality system can help organizations deliver better products. ISO (International Organization for Standardization), a global federation of national standard institutions (ISO entities). The work of preparing national standards is usually made up of ISO technical teams. The ISO9001 quality system requirements have 20 mandates that direct a good quality system. Adoption of a quality management system in the organization should be a strategic decision and the design and deployment of a quality management system in an organization affected by its business environment, changes in its environment, or the risks associated with that environment, specific goals and products, processes used The export status and the size and organizational structure of it, and the purpose of this standard is not to create

uniformity in the structure of quality management systems or uniformity in the documentation, but to follow the company's approach to meeting the demands of customers. The basic issue that has been addressed in this study is the entry of Iranian products into overseas markets and increased competition for expansion of markets, which the IS09001 quality management system can provide valuable assistance in this regard, considering that The quality and price of products in the eyes of the customer today and world markets, paying attention to the system that is an effective tool in the long run, will boost the growth of Iranian companies. Unfortunately, the time has come for the implementation of this system to be difficult and in most cases this system has not been effective or Iranian organizations have not been able to keep it and then have lost their certification time. The study attempts to identify the factors that contribute to the failure of the ISO9001 implementation, and the results of such a study may highlight existing deficiencies, shortcomings and fundamental problems, and serve as useful guidance for consultants, managers, auditors, and Experts are quality assurance. Due to the problems, factors such as market policies, values, organizational structure, management, staffing, and customer orientation have been studied in this project. The Damavand asphalt plant as one of The largest asphalt plants in the east of Tehran play a significant role in providing asphalt to the eastern roads Tehran and Mazandaran, but unfortunately, because of the lack of ISO standards, it has always been costly to road construction projects due to the low quality and low costs of the project. Therefore, this study seeks to examine the infrastructure required for the implementation and deployment of the ISO scale step To improve the quality of the Damavand asphalt production plant.

The necessity and importance of research

Today's standards of "Jahrvah" not only focus on qualitative standards, but also on management criteria to reduce costs and avoid spending unnecessary expenses and in other words "productivity."

Observance of the standard terms and conditions in terms of qualitative supervision and quality management set forth in the ISO 9000 series standards are of particular interest in increasing the productivity of the units.

In such standards, the management of economic units must be geared not only to the quality, quality of goods, but also to the cost of production, in order to achieve competitive prices in global markets.

The growth of the productivity of economic units causes the unnecessary costs (in terms of raw material supply, maintenance of machinery, manpower, etc.) as much as possible and, finally, eliminated. Optimal production of resources (labor, land, capital, Equipment and machinery ...) will reduce the price of finished goods or services and reduce the amount of waste in accordance with production standards to a significant extent. Therefore, one of the advantages of observing the principles and standards of standard economic units, increase Productivity. Therefore, it is imperative that economic enterprises succeed in the field of competition The world gradually reaches the ISO 9000 series standards, and in particular the ISO 9001 standard, which provides comprehensive quality control, as all economic sectors can achieve ISO 9000 standards, macroeconomic

savings result from the optimal use of production, growth, Exports and strengthening of the competitiveness of units in global markets can be achieved, and the national economy can be achieved, and in this regard, the national economy can achieve sustainable growth and development.

These standards cover almost all technology related issues, as well as help build and deliver more effective, safer and more healthful goods and services. The standards (ISO) of commerce and trade between the countries make it easier and more correct and, in general, support consumers of goods and services and make their lives easier. In other words, the measures (ISO) resulting from international agreements are ultimately published in the form of international standards

research method

After determining and determining the subject of the research, the researcher should consider the choice of research method. The choice of the research methodology depends on the characteristics of the topic, the scope of the scope and scope of the research topic, how to select the method, how to collect the information, how to use statistical methods to examine the information, ethical and human standards observing the subject of the research. In other words, the purpose of choosing a research method is to identify the method and method that the researcher will take to make him as accurate, easier, faster as possible to get answers or answers to questions or research questions.

The present research, in terms of the type and purpose of the research, considering that the results are tangible and practical, is an applied research. From another perspective, considering that the researcher attempted to state the status of the research variables from the language of the studied statistical society, without any changes, the research Descriptive-survey.

Ranking of the Six ISO Standards:

In this section, the main criteria for the ISO 9000 research, which include: Market policies (B), Values (V, Management domain) (M, Personnel area P), Customer area (C, Sector structure (S), Priority It will be listed.

Table 1: Paired Comparisons of Indicators

row	state	dominant	Recessed	equal
1	BV	**4**	**5**	**1**
2	BS	**2**	**7**	**1**
3	BM	**2**	**8**	**-----**
4	BP	**7**	**3**	**-----**
5	BC	**2**	**7**	**1**
6	VS	**2**	**8**	**-----**
7	VM	**3**	**7**	**-----**

8	VP	**6**	**3**	**1**
9	VC	**1**	**9**	**-----**
10	SM	**3**	**7**	**-----**
11	SP	**6**	**3**	**1**
12	SC	**7**	**3**	**-----**
13	MP	**7**	**2**	**1**
14	MC	**7**	**3**	**------**
15	PC	**2**	**7**	**1**

Table 2: Paired Comparisons

	B	V	S	M	P	C
B	**1**	**4.5 / 5.5**	**2 / 7**	**2 / 8**	**7 / 3**	**2.5 / 7.5**
V	**5.5 / 4.5**	**1**	**2 / 8**	**3 / 7**	**6.5 / 3.5**	**1 / 9**
S	**7 / 2**	**8 / 2**	**1**	**3 / 7**	**6.5 / 3.5**	**7 / 3**
M	**8 / 2**	**7 / 3**	**7 / 3**	**1**	**7.5 / 2.5**	**7 / 3**
P	**3 / 7**	**5. / 6.5**	**3.5 / 6.5**	**2.5 / 7.5**	**1**	**2.5 / 7.5**
C	**7.5 / 2.5**	**9 / 1**	**3 / 7**	**3 / 7**	**7.5 / 2.5**	**1**

Wi	weights
W1	0.597397
W2	0.547797
W3	1.72119
W4	2.311277
W5	0.489796
W6	1.568274

criteria	Normalized weights
B	0.082562062
V	0.07570717
S	0.23787376
M	0.319425497
P	0.067691269

C	0.216740242

P<V<B<C<S<M

In other words, the criterion of management was ranked first and the domain of the second ranking and the customer-centered circuit in the third rank, and the areas of values and personnel were ranked fifth and sixth respectively, respectively.

Prioritizing the factors affecting the implementation of ISO 9000 through the use of scores derived from the criteria and indicators (sub-criteria)

Level 1	score	Level2	Score2	Score of 2 levels
The field of market policies	0,082562062	B1	0,192388744	0,015884011
The field of market policies	0,082562062	B2	0,292811835	0,024175149
The field of market policies	0,082562062	B3	0,258713781	0,021359943
The field of market policies	0,082562062	B4	0,25608564	0,021142959
Domain of values	0,07570717	V1	0,185380683	0,014034647
Domain of values	0,07570717	V2	0,218766057	0,016562159
Domain of values	0,07570717	V3	0,219228616	0,016597178
Domain of values	0,07570717	V4	0,115927054	0,008776509
Domain of values	0,07570717	V5	0,26069759	0,019736677
The scope of organizational structure	0,23787376	S1	0,268479486	0,063864225
The scope of organizational structure	0,23787376	S2	0,234499322	0,055781235
The scope of	0,23787376	S3	0,203975221	0,048520353

organizational structure				
The scope of organizational structure	0,23787376	S4	0,173132386	0,041183652
The scope of organizational structure	0,23787376	S5	0,119913585	0,028524295
Management area	0,319425497	M1	0,186608997	0,059607671
Management area	0,319425497	M2	0,13871621	0,044309494
Management area	0,319425497	M3	0,211203757	0,067463865
Management area	0,319425497	M4	0,220034032	0,07028448
Management area	0,319425497	M5	0,243437005	0,077759986
Personnel area	0,067691269	P1	0,204780544	0,013861855
Personnel area	0,067691269	P2	0,209283906	0,014166693
Personnel area	0,067691269	P3	0,231610715	0,015678023
Personnel area	0,067691269	P4	0,354324835	0,023984698
Customer Domain	0,216740242	C1	0,298172478	0,064625975
Customer Domain	0,216740242	C2	0,183631621	0,039800362
Customer Domain	0,216740242	C3	0,083319527	0,018058695
Customer Domain	0,216740242	C4	0,178580318	0,038705541
Customer Domain	0,216740242	C5	0,256296055	0,055549669

factors	scores	rank
M5	0,07776	1
M4	0,070284	2
M3	0,067464	3
C1	0,064626	4
S1	0,063864	5
M1	0,059608	6

S2	0,055781	7
C5	0,05555	8
S3	0,04852	9
M2	0,044309	10
S4	0,041184	11
C2	0,0398	12
C4	0,038706	13
S5	0,028524	14
B2	0,024175	15
P4	0,023985	16
B3	0,02136	17
B4	0,021143	18
V5	0,019737	19
C3	0,018059	20
V3	0,016597	21
V2	0,016562	22
B1	0,015884	23
P3	0,015678	24
P2	0,014167	25
V1	0,014035	26
P1	0,013862	27
V4	0,008777	28

As the criteria were prioritized, management and structure criteria were ranked high and value criteria and personnel were ranked below. In the ranking of the sub criteria, the first three positions of the table were the management components and positions Next, the table was assigned structural components, and the components of value criteria and personnel were ranked below the table.

Analysis of the results:

.Results of testing the first hypothesis (management factor)

According to the analysis (W = 0.319425497), the management factor has been recognized as the most effective factor in implementing ISO 9000 in the asphalt plant, which indicates that support for senior executives and participation in meetings and in particular management review sessions Creating teamwork culture, increasing the counseling spirit, and promoting problem-solving groups are part of the tasks that senior plant managers can make by creating an effective portfolio management system in their organization and continually improving their organizations.

Results of the second hypothesis test (organizational structure factor:(

According to the results of the analysis (W = 0.23787376), the organizational structure is the second most influential factor in the implementation of the ISO 9000. Organizations must create an approved institutional organizational structure using descriptions of tasks, descriptions The authority and authority of the personnel, and also the establishment of specific relationships within the organization, which are representative of the focus and lack of concentration in the organization. ISO implementation is a multi-month process, if organizations have a proper pedestrian appraisal system Have paved the way for an effective system in their organization.

Results of testing the third hypothesis (client factor:(

According to the analysis of the results (W = 0.216740242), the customer is the third factor that influences the implementation of the ISO 9000, which is referred to in clause 5.2 of ISO requirements, and senior management should ensure that the demands The customer is determined to increase the level of customer satisfaction, and this requires the establishment of a customer-friendly customer relationship management system in the factories that can measure customer satisfaction and inform customers about their demands.

Results of testing the fourth hypothesis (market policy agent:(

According to the analysis, the market policies as the fourth ((W = 0.07570717) factor affect the implementation of ISO 9000. Implementation of ISO 9000 will increase sales of products for the organization. Organizations using the strategy Appropriate and comparing organizations with competing organizations that have a more appropriate system can enhance their competitive ability. An organization must, by adopting and enforcing appropriate policies, create a coherent and consistent procedure within an organization and between units. .

Results of the fifth hypothesis test (factor of values):

According to the results of the analysis (W = 0.07570717), Values are the fifth factor affecting the implementation of the ISO 9000. Implementation of the ISO 9000 requirements is a group activity whose implementation requires participation, satisfaction, employee adherence to It is the organization that, in order to realize that organization, should define the codes of ethics in the policy of the quality management system, which both the organization and the personnel should act in line with its objectives.

.6.5.1Results of testing the sixth hypothesis (personnel factor):

According to the results of the analysis, (0.067691269) (W = personnel is the sixth factor affecting the implementation of ISO 9000. Implementation of these requirements initially faces many challenges for organizations to reduce these problems and increase Personnel skills should provide an appropriate training environment in which the personnel involved in the various departments are familiar with the system, and by creating systems of suggestion systems, etc., a suitable platform for the self-actualization of individuals in the organization.

Suggestions to Pars Damavand Asphalt Company

Based on the results of the research, suggestions are made to improve the quality of the products through the quality assurance system and the long-term goals of the company, which are as follows:

.1The company will pay more attention to the customer, as in the last few years, attention has been focused on the customers at the top of their work.

.2Human resources are a strategic factor, and it is very important and important, the company should try to increase the motivation of the employees and attract their participation, so that the employees willingly and more willingly serve the company.

.3Knowledge of human resources is one of the most important and key factors in improving quality, therefore, the greatest effort should be made to increase the knowledge of manpower.

.4Increasing employee experience means that employees are more familiar with the system, resulting in costly loss of personnel with a very long history and the organization should show the lasting attention to the survival of personnel with a record history. To give

5. With the increase in the quality of the product, it is possible to prevent possible losses, as well as the return of products, which can be harmful to the organization, and Lee is more important than the negative one, which creates a negative perception of the customer and, in the long run, Cancellation and loss of the ISO certificate is issued by the issuing organization. As it has been, the organization has continued to pay attention to the quality and satisfaction of its customers.

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