

Analysis of Environment in Construction Engineering Organization of Zanjan

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To Link this Article: <http://dx.doi.org/10.6007/IJAREMS/v3-i3/925> DOI:10.6007/IJAREMS/v3-i3/925

Published Online: 06 June, 2014

Abstract

The vision shows the path to achieve the goals of the organization. Without vision, the direction, the tasks of organization's units, and their contribution in each of the functions will not be clear. The reason of ineffectiveness in Construction Engineers Organization of Zanjan may be the lack of appropriate vision. In this case, the non-aligned and heterogonous efforts may cause the organization do not move in proper direction and several attempts will thwart each other. The research question is: What factors of general and operational environment impact on it? In any case, understanding is a necessity to achieve the vision and the formulation of vision and strategic plan requires knowledge of the subject. There are different techniques for analyzing the political, economic, social, and technological macro environment; the pest model is one of them. In this technique, the political, economic, social, and technological macro factors in organization will be analyzed. Today, the economic environment of Iran has created specific conditions for the business environment such as high inflation, international sanctions, and economic policies like targeted subsidies. This study aimed to analyze the macro environment of Construction Engineers Organization in Zanjan in order to identify and prioritize the political, economic, social, and technological factors affecting it.

Keywords: Analysis of Environment, Construction Engineering Organization , Zanjan ,Iran

Introduction

Knowledge is a necessity for each reasonable action. Organizations always decide and plan to choose their future direction. In this case, the knowledge about the facts may guide the organizations to reach the desired destination. This particularly got clear in the early eighties and after more competitive pressures on organizations that organizations should spend part of their energy to understand their business environment to survive and sustain. Thus, strategic management concepts and theories had been formed and understanding the existing situation was proposed for dealing with crisis and formulating the route in terms of knowledge of opportunities and threats. In other words, the opportunities and threats will be identified, internal strategy will be formed based on it and according to the internal strengths and weaknesses, the goals will be set, policies will be formulated, and work procedures will be identified through the analysis of environment. The task of environment analyzers for

identifying the opportunities and threats is checking the exact impact of environmental factors on all organizational components including their inputs and outputs. All of these help the organization's management to adopt an integrated approach for dealing with environmental threats. This paper is named: the analysis of environment in construction engineering organization of Zanjan along with the formulation of strategic plans.

Today, the nations and organizations which are active in the field of national development owe their success to national and organizational visions. So, any evaluation of performance and reinforcement and punishment of people at high and low levels cannot be done without assessing the realization of vision goals. It is always considered in the continuation of the nations and organizations' goals. Vision benefits for an organization can be outlined as follows:

- Creating a tacit understanding of what is the meaning of success in an organization and how it is achievable.
- Clarifying the organization's direction and goals.
- Establishing a consensus on the desired future of the organization among its members.

As the largest professional non-governmental association of Zanjan province, the Construction Engineering Organization has not developed a vision and a shared vision. Given the number of members who have expertise in various disciplines, the financial potential of this organization which is a powerful tool in the organization, and professional staff, unfortunately, this organization has not used these potentials well and have not achieve to considerable success in improving the quality of construction. Since the environmental factors and general factors affecting the organization have not carefully analyzed and identified, thus, the strengths, weaknesses, and opportunities in the organization have not been identified. Therefore, it is hoped that organization achieve to success- using its potentials- by developing the strategic planning and the vision.

In the changing environment of organization, the dynamic vision development and continuous analysis of general and operational environment lead to the survival and development of organization. Given the experience and performance of organization, lack of success proportional to potentials, and the factors affecting the organization are constantly changing, therefore, identification of these components and developing an appropriate vision and coherent planning will not only survive and develop the organization, but also it will contribute in the excellence and achievement to organizational goals.

- research objectives

- 1 - Analysis of general environment
- 2 Analysis of operational environment
- 3 - The development of a strategic plan based on a shared vision and analysis of the organization environment

Methodology

The population consists of board members, administrators, staff, and some members of Construction Engineering Organization in Zanjan Province. Sampling method is simple random sampling. Since the results of this research may help the mentioned organization to achieve the organization's strengths and weaknesses and develop the vision, it is an applied research. This is a descriptive-applied field survey. The location of this study is the Construction Engineering Organization in Zanjan. The researcher made questionnaire included three parts with 49 questions. The first part consists of eight questions on biographical characteristics

including gender, age, educational level, field of education, occupation, income, and level of English proficiency. The second part of the questionnaire measures the quality of five elements of vision development including people, objects, places, ideas, and institutions. The third section measures the quality of indoor and outdoor elements such as strengths, weaknesses, economic factors, political factors, cultural factors, social factors, and technological factors affecting on organization. In order to accurately measure the vision development elements and analysis of environment, they need to be converted to variable. Therefore, the measurable dimensions of these elements was identified, differentiate, assessed, and chosen and the questionnaire was designed based on these measurable features (variables). Vision elements and variables and environment analysis was determined. The questionnaire's questions in this study represent the constituent elements of studied structures. This type of validity was confirmed by management and research experts (advice and consultant professors). Reliability of the questionnaire was measured by performing re-test.

First, the questionnaire was completed by 10% of respondents. After about a week, participants again completed the same questionnaire. Cronbach's alpha coefficient of questionnaire was calculated (0.838%). The data were analyzed using descriptive statistics such as tables, frequency graphs, and frequency percentage. Then, the research hypotheses were analyzed using inferential statistics, Pearson correlation test, and one sample T-test. It should be noted that the significance level is 0.05. Also, all of the above tests have been performed with the SPSS statistical software.

Findings

The general situation of structure elements: if the perceived point will be more, it means that subjects' perception of organization and factors affecting it is more positive and their assumptions is deeper and more dynamic.

1) Analysis of the operational environment: more point means: (the assumption of further acceleration in the coming changes in the operational environment elements).

Table 1:

Measured indicator variables of << analysis of the operational environment >>.

Analysis of the operational environment	<i>N</i>	<i>M</i>	<i>S.D</i>
(Vst)Strength	351	2.6553	0.78155
(Vwe)Weakness	351	2.8803	1.50615

2) Analysis of the general environment: more point means: (the assumption of further acceleration in the coming changes in the general environment elements).

Table 2:

Measured indicator variables of << analysis of the general environment >>.

Analysis of the general environment	N	M	SD
<i>Economic</i> (vef)	350	3.0949	0.85239
<i>Political</i> (vpf)	350	2.6043	0.79836
<i>Social</i> (vsf)	351	2.7692	1.28320
(vcf) <i>Cultural</i>	350	2.5929	0.90483
(vtf) <i>Technological</i>	351	2.7308	0.78705
<i>Opportunity</i> (vop)	351	3.1823	1.14932
(vth) <i>Threat</i>	351	2.3205	0.86634

1) Analysis of the operational environment

Based on the results, it can be seen that the significant number of two-way correlation test between the two variables is 0.066 and it is larger than the considered significance level of 0.05. Therefore, the null hypothesis is confirmed and the opposite hypothesis is rejected.

Also, it can be seen that the significant number of two-way correlation test between the two variables is 0.03 and it is smaller than the considered significance level of 0.05. Therefore, the null hypothesis is rejected and the opposite hypothesis is confirmed. It can be seen that the significant number of two-way correlation test between the two variables is 0.51 and it is larger than the considered significance level of 0.05. Therefore, the null hypothesis is confirmed and the opposite hypothesis is rejected. It can be seen that the significant number of two-way correlation test between the two variables is 0.000 and it is smaller than the considered significance level of 0.05. Therefore, the null hypothesis is rejected and the opposite hypothesis is confirmed. It can be seen that the significant number of two-way correlation test between the two variables is 0.000 and it is smaller than the considered significance level of 0.05. Therefore, the null hypothesis is rejected and the opposite hypothesis is confirmed. It can be seen that the significant number of two-way correlation test between the two variables is 0.241 and it is larger than the considered significance level of 0.05. Therefore, the null hypothesis is confirmed and the opposite hypothesis is rejected. It can be seen that the significant number of two-way correlation test between the two variables is 0.000 and it is smaller than the considered significance level of 0.05. Therefore, the null hypothesis is rejected and the opposite hypothesis is confirmed. It can be seen that the significant number of two-way correlation test between the two variables is 0.022 and it is smaller than the considered significance level of 0.05. Therefore, the null hypothesis is rejected and the opposite hypothesis is confirmed. It can be seen that the significant number of two-way correlation test between the two variables is 0.000 and it is smaller than the considered significance level of 0.05. Therefore, the null hypothesis is rejected and the opposite hypothesis is confirmed. It can be seen that the significant number of two-way correlation test between the two variables is 0.000 and it is smaller than the considered significance level of 0.05. Therefore, the null hypothesis is rejected and the opposite hypothesis is confirmed. It can be seen that the significant number of two-way correlation test between the two variables is 0.000 and it is smaller than the considered significance level of 0.05. Therefore, the null hypothesis is rejected and the opposite hypothesis is confirmed. It can be seen that the significant number of two-way correlation test between the two

variables is 0.000 and it is smaller than the considered significance level of 0.05. Therefore, the null hypothesis is rejected and the opposite hypothesis is confirmed. It can be seen that the significant number of two-way correlation test between the two variables is 0.118 and it is larger than the considered significance level of 0.05. Therefore, the null hypothesis is confirmed. It can be seen that the significant number of two-way correlation test between the two variables is 0.000 and it is smaller than the considered significance level of 0.05. Therefore, the null hypothesis is rejected and the opposite hypothesis is confirmed. It can be seen that the significant number of two-way correlation test between the two variables is 0.030 and it is smaller than the considered significance level of 0.05. Therefore, the null hypothesis is rejected and the opposite hypothesis is confirmed. It can be seen that the significant number of two-way correlation test between the two variables is 0.324 and it is larger than the considered significance level of 0.05. Therefore, the null hypothesis is confirmed and the opposite hypothesis is rejected. It can be seen that the significant number of two-way correlation test between the two variables is 0.269 and it is larger than the considered significance level of 0.05. Therefore, the null hypothesis is confirmed and the opposite hypothesis is rejected. It can be seen that the significant number of two-way correlation test between the two variables is 0.016 and it is smaller than the considered significance level of 0.05. Therefore, the null hypothesis is rejected and the opposite hypothesis is confirmed. It can be seen that the significant number of two-way correlation test between the two variables is 0.000 and it is smaller than the considered significance level of 0.05. Therefore, the null hypothesis is rejected and the opposite hypothesis is confirmed. It can be seen that the significant number of two-way correlation test between the two variables is 0.000 and it is smaller than the considered significance level of 0.05. Therefore, the null hypothesis is rejected and the opposite hypothesis is confirmed. It can be seen that the significant number of two-way correlation test between the two variables is 0.000 and it is smaller than the considered significance level of 0.05. Therefore, the null hypothesis is rejected and the opposite hypothesis is confirmed.

Conclusion and recommendations

The results showed that the number of male members of Construction Engineering Organization in Zanjan province is more than 6 times the number of female members. 39 % of members of Construction Engineering Organization in Zanjan province have BS degree. 56 % of members of Construction Engineering Organization in Zanjan province have MA degree. 4 % of members of Construction Engineering Organization in Zanjan province have PHD degree. Also, more than 63 % of the members of Construction Engineering Organization in Zanjan province have educated in Civil Engineering and approximately 20 % of the members of Construction Engineering Organization in Zanjan province have educated in Civil Engineering.

First result: the acceleration rate of things change in the activity field of Construction Engineering Organization of Zanjan and in the vision part is perceived to be 2.8331 (57%).

Second result: the acceleration rate of people change in the activity field of Construction Engineering Organization of Zanjan and in the vision development part is perceived to be 2.4080 (57%).

Third result: the acceleration rate of thoughts change in the activity field of Construction Engineering Organization of Zanjan and in the vision development part is perceived to be 2.8331 (57%).

Fourth result: the acceleration rate of places change in the activity field of Construction Engineering Organization of Zanjan and in the vision development part is perceived to be 2.1220 (57%).

Fifth result: the acceleration rate of organizations change in the activity field of Construction Engineering Organization of Zanjan and in the vision development part is perceived to be 2.4650 (57%).

Sixth result: the acceleration rate of strength change in the activity field of Construction Engineering Organization of Zanjan and in the vision development part is perceived to be 2.6553 (57%).

Seventh result: the acceleration rate of weaknesses change in the activity field of Construction Engineering Organization of Zanjan and in the vision development part is perceived to be 2.8813 (57%).

Eighth result: Considering the strategic approach, average changes in economic factors of Construction Engineering Organization of Zanjan province is expressed to be 3.0949.

Ninth result: Considering the strategic approach, average changes in political factors of Construction Engineering Organization of Zanjan province is expressed to be 2.6043.

Tenth result: Considering the strategic approach, average changes in social factors of Construction Engineering Organization of Zanjan province is expressed to be 2.7692.

Eleventh result: Considering the strategic approach, average changes in cultural factors of Construction Engineering Organization of Zanjan province is expressed to be 2.5929.

Twelfth result: Considering the strategic approach, average changes in technological factors of Construction Engineering Organization of Zanjan province is expressed to be 2.7308.

Thirteenth result: in the heart of general environment trends, the opportunity of Construction Engineering Organization of Zanjan is 3.1823.

Fourteenth result: in the heart of general environment trends, the threat of Construction Engineering Organization of Zanjan is 2.3205.

Results answer to this question that what is the meaning of research results? Research findings are as follows:

First finding: the most appropriate combination of vision development elements in the order of importance and changes acceleration are:

- | | | | | |
|---|---|----------|-----|--------------|
| 1 | - | Thoughts | and | things |
| 2 | - | Thought | and | Institutions |
| 3 | - | Thoughts | and | places |
| 4 | - | People | and | institutions |

5 - Institutions and Places

Second finding: the thoughts that Construction Engineering Organization of Zanjan will deal with them over the next 8 years will change less than other elements of the vision.

Third finding: the places that Construction Engineering Organization of Zanjan will deal with them over the next 8 years will have the greatest change.

Fourth finding: the vision's five elements in Construction Engineering Organization of Zanjan will change during 8 years with an average rate of 2.6856.

Fifth finding: there is no relationship between the strengths and weaknesses of Construction Engineering Organization in Zanjan.

Sixth finding: from the perspective of Construction Engineering Organization members, the most changes occur in economic environment.

Seventh finding: from the perspective of Construction Engineering Organization members, the least changes occur in cultural factors.

Eighth finding: from the perspective of engineers, seven elements (dimensions) of general environment analysis in Construction Engineering Organization of Zanjan will change during 8 years for average rate of 2.7564.

Ninth finding: in the environment of Construction Engineering Organization of Zanjan, the opportunities are more than threats for the amount of 0.8618.

According to the results, the following conclusions are obtained:

- Construction Engineering Organization of Zanjan has weak performance.
 - This organization has high potential in human resources.
 - This organization is weak in communicating with other organizations.
 - There are great opportunities around the organization.

Limitations and research problems

Since the research limitations can greatly affect the results, the main limitations of this study include:

- 1 - Inherent limitations of the questionnaire
- 2 - Because the members of Construction Engineering Organization in Zanjan were not regularly present in the organization, the completion of the questionnaire was associated with great difficulties.
- 3 - The population members were busy and have not enough time to answer the questions.

Recommendations

Recommendations for future research

It is recommended to students and scholars who are interested in cognitive approaches- especially in the management- to study the many questions that came to the mind of researcher such as:

1. Why significant parts of the population are not good vision developers?
2. How the shared vision development can be upgraded among the engineers?
3. What is the relationship between the change speed and change manner of vision development elements and the change speed and manner of operational environment elements?
4. What is the relationship between the change speed and change manner of vision development elements and the change speed and manner of general environment elements?
5. What is the relationship between the change speed and change manner of operational environment elements and the change speed and manner of general environment elements?
6. In addition to vision development, what factors affect the relationship between the between general environmental analysis and operational environment analysis?
7. What are the factors affecting the correction or replacement of vision development models at different individual, group, and institutional levels?

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