



**Identification, Investigation and Prioritization of Factors Affecting the
Strategies of Non-Governmental Oil Refining Companies Using FAHP Software
(Case Study: Lavan Oil Refining Company)**

Revista Publicando, 5 No 14 . No. 2. 2018, 1-26. ISSN 1390-9304

**Identification, Investigation and Prioritization of Factors Affecting the Strategies
of Non-Governmental Oil Refining Companies Using FAHP Software
(Case Study: Lavan Oil Refining Company)**

Abbas Dadkhah Kalashi¹, Ahmad Reza Kasrai²

**1 M.A Student of Executive Management, Faculty Of management - Department
of Executive Management, Central Tehran Branch, Islamic Azad University,
Tehran, Iran**

**2 PhD, Faculty Member of Executive Management, Central Tehran Branch,
Islamic Azad University, Tehran, Iran**

ABSTRACT

Due to rapid growth of the global oil industry development, it is important to consider a dynamic strategy that coordinates itself with the political, economic, social and cultural developments both within the country and internationally. Many Oil refiners has entered privatization stages in accordance with Article 44 of the Constitution for many years. These companies need to have dynamic and targeted strategies to have strong presence in global and domestic competitive markets. The purpose of this study is to identify, review and prioritize factors affecting the strategy of oil refining companies that have joined the private sector. to achieve the research goals, Excel software, spss analysis and Fuzzy AHP software have been used. The results of the research show that process factors play the most effective role in the strategy development of non-governmental oil refinement companies which underlying, economic and environmental factors are the next.

Keywords: Factors Affecting Strategy Formulation, Refinishing Companies, Fuzzy AHP Software



**Identification, Investigation and Prioritization of Factors Affecting the
Strategies of Non-Governmental Oil Refining Companies Using FAHP Software
(Case Study: Lavan Oil Refining Company)**

Revista Publicando, 5 No 14 . No. 2. 2018, 1-26. ISSN 1390-9304

1. INTRODUCTION

The term "privatization" implies changes in the balance between government and market that is in favor of the market. Privatization is tool to increase the efficiency (financial and social) of the operation of an economic institution because it seems that the mechanism of supply and demand and the market in a competitive environment further utilize the factors of production, increase the efficiency of the factors and, consequently, produce more and more diversified goods and Services and prices. Given that the perspectives and long-term strategies of each company are tailored to the conditions and features of the company, the strategies of privately-owned refining companies are also drawn in light of their limitations and strengths and weaknesses. But given the rapid growth of the global oil industry development, it is crucial to consider a dynamic strategy that coordinates itself with political, economic, social and cultural developments both within the country and internationally. Scientists have mentioned different definitions of the strategy, of McKenzie's Advisory Group is to understand the different dimensions of the industry structure and the basics of competition in it. In 1962, Shandler considered the strategy to be an all-encompassing one-stop plan that combines the strengths and weaknesses of the organization with threats and opportunities for the organization to make the organization's main goals possible (Nichols, 2011).

2. INTRODUCTION

Since 2008, the first steps towards privatization of the country's oil industry have been taken in accordance with Article 44 of the Constitution, it has been going on for many years. Oil refining companies were subject to this clause of the Constitution and entered the privatization process. These companies, which have a significant share of the country's energy supply, have faced many downturns during the years after privatization. Failure to conduct sufficient studies prior to privatization and accumulated debt from a closed government system has made these companies face new challenges. The most important challenge of these newly-privatized companies face is the lack of a strategy for dealing with the new situation. The extent and the degree of intervention in the economy has always been the subject of controversy by many economists. Although the beliefs of classical economists, such as Adam Smith, David Ricardo, Jean-Baptiste



**Identification, Investigation and Prioritization of Factors Affecting the
Strategies of Non-Governmental Oil Refining Companies Using FAHP Software
(Case Study: Lavan Oil Refining Company)**

Revista Publicando, 5 No 14 . No. 2. 2018, 1-26. ISSN 1390-9304

Thirty, ... did not completely deny the role of governments, it could be argued that their belief in government involvement was very limited. It was the dominant idea of the first and second decades of the 20th century.

After the First World War, and especially after the Great Crisis of the West in 1933-1929, the influence of classical politics was questioned and the need for more government involvement was felt. So, after the end of the Second World War, the extent and type of government intervention in the economy and the direction of the economic growth and development of these countries were raised more seriously. Accordingly, it was necessary for the governments of developing countries, based on new theories of development, to have more involvement in the economy and carry heavier tasks, so that during the 1960s and 1970s this intervention was greatly developed in these countries, and in fact this Politics followed the notion of the famous English economist John Maynard Keynes and his followers, the Keynesians (in this regard, theories of the balanced growth of Forks, Mirdal, etc. can be named).

But after a while, due to the inefficiency of state-owned enterprises and their failure to achieve the desired goals of the privatization debate, it was raised by economists from the mid-80s onwards as neoclassic or monologists, and in Many countries in the world have been affected. For example, in the 1980s, after Margaret Thatcher came to England, this matter had great importance and was expanded rapidly by the government. Since the 1990s, there has also been a new concept of private-sector cooperation with the public sector, which has based its activities on developing, development-oriented governments. Oil refining companies in Iran were assigned to the social security organization due to their high debts to the National Refining and Distribution Company under the name of government rejection.

The assignment was based on 50% of the total equity owned by the social security organization and 5% for the employees of those companies and the rest of the shares were transferred to the people as equity. due to the new state of affairs, they face new challenges when they would have to buy their food at a 5% discount and at FOB Gulf prices, selling the bulk of their products under the name of a commitment to the National Refining and Distribution Company. low technology will increase waste of production and more energy to produce products. Having large debts to suppliers of



**Identification, Investigation and Prioritization of Factors Affecting the
Strategies of Non-Governmental Oil Refining Companies Using FAHP Software
(Case Study: Lavan Oil Refining Company)**

Revista Publicando, 5 No 14 . No. 2. 2018, 1-26. ISSN 1390-9304

goods and services, lack of licenses to sell products in domestic and foreign markets is one of the most important challenges. These companies have entered a new competitive environment without having a new strategy that does not have the potential for at least the short-term potential to face them.

In order to have an effective strategy in the new situation which oil refining companies might face, they must first identify effective and key factors in their strategy. These effective factors will make the strategies adopted by the company contribute to determining the objectives of the target markets and how to exploit the opportunities that face the threats. The study of factors affecting the strategy of non-governmental oil refinement companies, including the Lavan Oil Refining Company, will make them aware of the factors that can contribute to the strengths, weaknesses, threats and opportunities (SWOT) of the company. Take appropriate strategies and play a key role in the economic prosperity of the country.

3. RESEARCH BACKGROUND

Ghaemi (2014) designed an efficient compensation system based on organizational strategies in Isfahan municipality. The model designed by the Deputy of Urban Services of Isfahan Municipality has been tested experimentally in 3 months in order to determine the results of the model in real terms. As a result of using this system, the human resources strategy of the organization affects the incomes of individuals and increases their salaries in addition to promotion, depends on the realization of the strategic goals of the organization.

Salmani and Paleshi (2013) developed strategic planning using the David model in the North Wood Industry Company. Firstly, in two areas, David's strategic model was used to collect and analyze information and the mission statement of the North Wood Industry Company. Then, according to the Factor Assessment Factor Matrix (EFE), the Internal Factor Rating Matrix (IFE) In the input stage, the internal factor estimator matrix (IE) has been extracted. In the decision stage using IE and the SWOT matrix, the information obtained from the matrix statistical society, identify the various strategy options and use the quantitative strategy programming matrix (QSPM) are prioritized.



**Identification, Investigation and Prioritization of Factors Affecting the
Strategies of Non-Governmental Oil Refining Companies Using FAHP Software
(Case Study: Lavan Oil Refining Company)**

Revista Publicando, 5 No 14 . No. 2. 2018, 1-26. ISSN 1390-9304

Mahzari and Khalili Shourini (2013) identified barriers to implementing strategic plans and prioritizing them in the Saipa automobile group. The results of the study showed that 20 obstacles to implementing strategic plans were classified in terms of four factors, structural and cultural constraints, resource constraints (human and financial), system and management constraints, and planning constraints.

Argon et al. (2015) examined the intermediate effect of strategic HR practices in knowledge management and company performance. Findings confirmed that KM strategies have a positive impact on company performance through some of the high performance practices, for example: selective human resources, intensive training, active participation, comprehensive performance evaluation, and performance-based compensation. It also highlights the role of intermediary HRM in this regard and the need to coordinate HR practices with organizational strategies.

Aryanto et al. (2015) reviewed the strategic HR management, the ability to innovate and function in the Indonesian software industry. The company should develop the ability to innovate to manage the innovation process from the production of business ideas.

Strategic human resource management is considered as a key element in the innovation capability of humans in the process of innovation involved. The result showed that the strategic HRM related to the innovation capability, in turn, has a positive effect on innovation performance.

Meyer (2014) states in his article "Local context and global strategy" that in recent years, independent companies have found that, in order to achieve economic goals, in addition to the sub-strategies, they must have the main strategies. They share their resources based on a global strategy based on a global strategy. But the sub-strategies of these companies are in contradiction with globalization and increase the risk of doing business.

4. CONCEPTUAL MODEL

Determining the factors influencing the strategy of non-governmental oil refining companies in terms of criteria and effective factors by modeling models and articles that researchers have expressed in various industries, and according to experts' opinions the following model for these groups of companies has been formulated:



Identification, Investigation and Prioritization of Factors Affecting the Strategies of Non-Governmental Oil Refining Companies Using FAHP Software (Case Study: Lavan Oil Refining Company)

Revista Publicando, 5 No 14 . No. 2. 2018, 1-26. ISSN 1390-9304

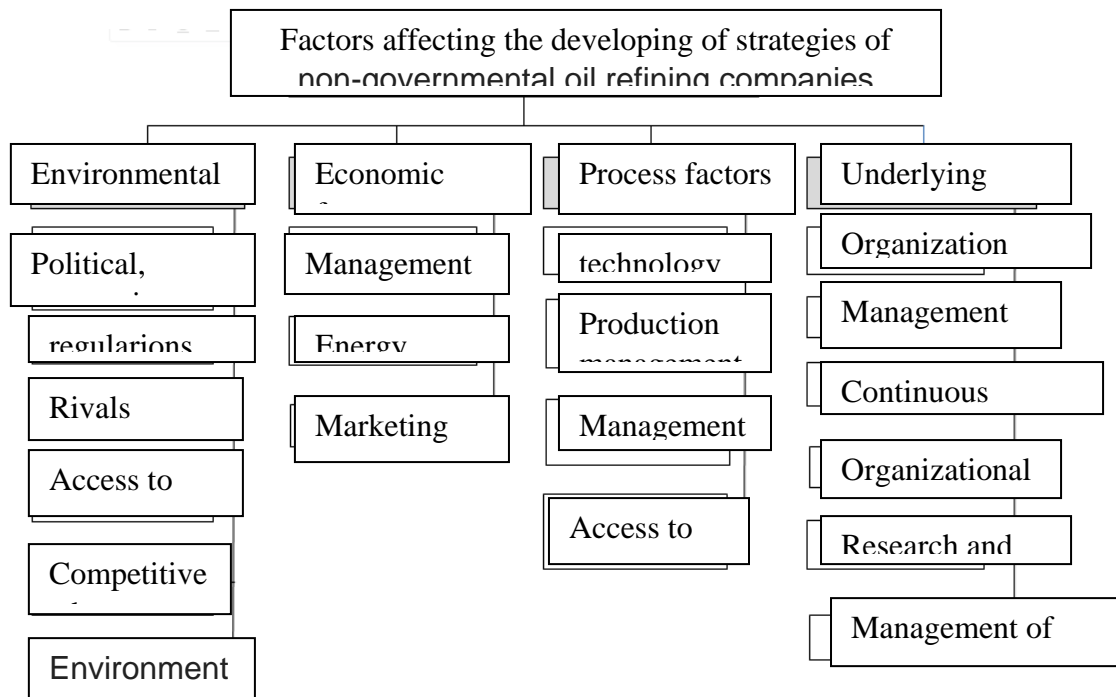


Figure 1. Research Model

5. RESEARCH HYPOTHESES

To answer the research questions, based on theoretical foundations of research and empirical studies, the research hypothesis has been developed and tested:

Hypothesis 1: Underlying factors in non-governmental oil refining companies have a direct impact on the formulation and implementation of these companies' strategies.

Hypothesis 2: Process factors in non-governmental oil refining companies have a direct impact on the formulation and implementation of these companies' strategies.

Hypothesis 3: The economic factors in non-governmental oil refining companies have a direct impact on the formulation and streamlining of the strategies of these companies.

Hypothesis 4: Environmental factors in non-governmental oil refining companies have a direct impact on the formulation and implementation of these companies' strategies.



**Identification, Investigation and Prioritization of Factors Affecting the
Strategies of Non-Governmental Oil Refining Companies Using FAHP Software
(Case Study: Lavan Oil Refining Company)**

Revista Publicando, 5 No 14 . No. 2. 2018, 1-26. ISSN 1390-9304

6. METHODOLOGY OF RESEARCH

The research method is applied and a cross-sectional study of descriptive-survey method. The statistical population of the present study is divided into two parts, considering that the research divided into two sections and a separate questionnaire is prepared for each department. The first part of the statistical population consists of 285 people, which is extracted according to the Morgan table (Momeni, 2015, 203). The second part of the study population is based on the FAHP technique from the viewpoint of 12 experts. Asgharpour, 2013, 133). To collect theoretical basis of information about literature explanation, the subject of the research was used through library method and documentary studies. In line with the research objectives, respondents' views are collected through two questionnaires. The main questions of the initial factors and components of the questionnaire have been extracted from theoretical foundations and research background. After verifying the factors by the professors and experts specializing in the field of research, some modifications were made to the initial questionnaires. The second questionnaire, also called the Compensation Questionnaire, was designed to perform a pair comparison and to obtain the weight of the criteria and their qualification. This questionnaire has been prepared using elite and resourceful materials (Kung, 2005). The method of the present study is SPSS21 and FAHP software for decision making and ranking.

7. ANALYSIS OF DATA

6.1. The Validity and Reliability of the Questionnaire

Since there is no test and questionnaire to contain all the content and objectives of a research or concept, in the design of questionnaire A, we tried to consult the elites and professors and consider all the opinions in relation to the research objectives. The validity of the questionnaire Considering the total opinion and results of the questionnaire A has acceptable validity.

Cronbach's alpha test was used to test the reliability of the questionnaire. According to the results of the SPSS software, the questionnaire was found to be reliable because the Cronbach's alpha value was 0.939, which is more than at least 0.7.



**Identification, Investigation and Prioritization of Factors Affecting the
Strategies of Non-Governmental Oil Refining Companies Using FAHP Software
(Case Study: Lavan Oil Refining Company)**

Revista Publicando, 5 No 14 . No. 2. 2018, 1-26. ISSN 1390-9304

6.2. Descriptive Statistics

In this section, according to the statistics and data of the questionnaires, the frequency of the underlying and main variables were determined. The results showed that the frequency of the gender variable shows that 100% of the respondents were male. Frequency distribution related to the variable work experience shows that 24% of respondents have less than 5 years' work experience, 33% of respondents aged between 5 and 10 years old, 28% of respondents between 10 and 15 years old, 15% of respondents over 15 years old, more respondents have had 5 to 10-year work experience. frequency distribution of age variables indicates that 31 percent of respondents aged less than 30 years old, 54% of respondents aged 31 to 40, and the rest, 15% of respondents aged over 40, with most of them aged between 31 and 40. The frequency distribution of respondents' education in sample cases The results showed that, 0.0% of them had diplomas and 10% of them had an undergraduate degree, 68% had undergraduate education, and the rest were 22% had masters and higher.

Relationship 4-2) Binomial Test Assumptions

Binomial test hypotheses:

The variables of the research are not effective in terms of experts: $H_0: p \leq 0.6$

The variables of the research are effective in terms of experts: $H_1: p > 0.6$

Table 1- Significant Level of Variables

Research variable	Level	Number	Observed Ratio	Test ratio	Significance level
	Group 1	=>3	0.4	0.000	0.6
	Group2	<3	0.6		
	Total		1		



**Identification, Investigation and Prioritization of Factors Affecting the
Strategies of Non-Governmental Oil Refining Companies Using FAHP Software
(Case Study: Lavan Oil Refining Company)**

Revista Publicando, 5 No 14 . No. 2. 2018, 1-26. ISSN 1390-9304

Management commitment	Group 1	=>3	0.2	64	0.000	0.6
	Group2	<3	0.8	221		
	Total		1	285		
Continuous improvement	Group 1	=>3	0.5	146	0.002	0.6
		<3	0.5	139		
			1	285		
Organizational Culture	Group 1	=>3	0.3	76	0.000	0.6
	Group2	<3	0.7	209		
	Total		1	285		
Research and Development	Group 1	=>3	0.7	194	0.003	0.6
	Group2	<3	0.3	91		
	Total		1	285		
Human resources management	Group 1	=>3	0.4	107	0.000	0.6
	Group2	<3	0.6	178		
	Total		1	285		
technology management	Group 1	=>3	0.3	87	0.000	0.6
	Group2	<3	0.7	198		
	Total		1	285		
Manage production and its methods	Group 1	=>3	0.2	56	0.000	0.6
	Group2	<3	0.8	229		
	Total		1	285		



**Identification, Investigation and Prioritization of Factors Affecting the
Strategies of Non-Governmental Oil Refining Companies Using FAHP Software
(Case Study: Lavan Oil Refining Company)**

Revista Publicando, 5 No 14 . No. 2. 2018, 1-26. ISSN 1390-9304

Supply Chain Management	Group 1	=>3	0.4	123	0.000	0.6
	Group2	<3	0.6	162		
	Total		1	285		
Access to production and distribution resources	Group 1	=>3	0.4	113	0.000	0.6
	Group2	<3	0.6	172		
	Total		1	285		
Financial resources management	Group 1	=>3	0.2	50	0.000	0.6
	Group2	<3	0.8	235		
	Total		1	285		
Energy Management	Group 1	=>3	0.1	30	0.000	0.6
	Group2	<3	0.9	255		
	Total		1	285		
Marketing Management	Group 1	=>3	0.1	32	0.000	0.6
	Group2	<3	0.9	253		
	Total		1	285		
Political, economic, cultural and social conditions	Group 1	=>3	0.1	36	0.000	0.6
	Group2	<3	0.9	249		
	Total		1	285		
Terms and Conditions	Group 1	=>3	0.2	58	0.000	0.6



**Identification, Investigation and Prioritization of Factors Affecting the
Strategies of Non-Governmental Oil Refining Companies Using FAHP Software
(Case Study: Lavan Oil Refining Company)**

Revista Publicando, 5 No 14 . No. 2. 2018, 1-26. ISSN 1390-9304

	Group2	<3	0.8	277		
	Total		1	285		
Rivals	Group 1	=>3	0.3	98	0.000	0.6
	Group2	<3	0.7	187		
	Total		1	285		
Level of access to a variety of technologies	Group 1	=>3	0.4	100	0.000	0.6
	Group2	<3	0.6	185		
	Total		1	285		
Competitive Advantage	Group 1	=>3	0.5	138	0.000	0.6
	Group2	<3	0.5	147		
	Total		1	285		
Environmental resource management	Group 1	=>3	0.5	154	0.024	0.6
		<3	0.5	131		
		=>3	1	285		

According to the above table, the results of the binomial test is acceptable for all four criteria and all the indicators of the questionnaire, so the zero assumption is rejected. This means that the listed indicators are verified by experts. Therefore, there is no need to remove questionnaire questions for analyzing the data and testing the hypotheses.

6.3. Calculating the weight of each of the criteria and factors affecting strategy formulation

Questionnaire B.



**Identification, Investigation and Prioritization of Factors Affecting the
Strategies of Non-Governmental Oil Refining Companies Using FAHP Software
(Case Study: Lavan Oil Refining Company)**

Revista Publicando, 5 No 14 . No. 2. 2018, 1-26. ISSN 1390-9304

A questionnaire (elite questionnaire) was developed to determine the weight of the criteria and sub criteria. The questionnaire was prepared in consultation with the experts and resources based on the research model (Kung, 2005).

Questionnaire B is designed for paired comparisons and the equivalent of verbal expressions in the questionnaire which is converted to triangular numbers based on the following graph (Deners, 2016)

Table 2- Triangular number equivalent to verbal expressions

Code	Verbal expressions	Farsi number
1	The same importance	(0,5,1,1,5)
3	Somewhat more important	(1,1,5,2)
5	Of great importance	(1,5,2,2,5)
7	Very important	(3,2,2,5)
9	Absolutely Important	(2,5,3,3,5)

6.4.Compliance rate of the questionnaire

In a paired comparison, the variable that gives validated results is the compatibility rate. Since each of the factors is compared in pairs, this model can determine the rationality of the comparisons taken.

In other words, by comparing the degree of compatibility, it is possible to compare the comparisons of the factors taken (Asgharpur, 2004)

The compatibility rates for each of the paired comparison matrices are as follows:

Table 3-Compatibility rate for paired matrix matrices

Matching matrix of paired comparison matrix	CRm	CRg
Major Criteria	0.071	0.032
Sub-criteria of underlying factors	0.031	0.014
Sub criteria for process factors	0.063	0.006



**Identification, Investigation and Prioritization of Factors Affecting the
Strategies of Non-Governmental Oil Refining Companies Using FAHP Software
(Case Study: Lavan Oil Refining Company)**

Revista Publicando, 5 No 14 . No. 2. 2018, 1-26. ISSN 1390-9304

Sub criteria for economic factors	0.084	0.061
Sub criteria for environmental factors	0.053	0.076
Average	0.06	0.038

Given the numbers listed in the table above, all of which are less than 0.1, the questionnaire B and the results obtained have acceptable compatibility.

In this research, four factors influencing the strategy development of non-governmental oil refining companies have been identified. The matrix of paired decision makers to the results of hierarchical modeling is performed using Chang method.

In 1992, Chang presented a very simple way to extend the process of hierarchical analysis to fuzzy space. This method, which was based on the average score of experts' comments and the standard normalization method, was developed using fuzzy triangular numbers, and was welcomed by researchers. The steps to do this are as follows:

Formation of paired comparison matrix and weighting the main factors and factors:

In this research, four factors affecting the strategies of non-governmental oil refining companies have been identified, which is the matrix of paired decision makers in the form of a table chart.

Table 4-Matrix Comparison of Couples Criteria

Paired comparison matrix	Underlying factors			Process factors			Economic factors			Environmental factors		
Underlying factors	0.500	1.000	1.500	1.000	1.500	2.000	1.225	1.732	2.236	1.107	1.612	2.115
Process factors	0.500	0.667	1.000	0.500	1.000	1.500	2.364	2.866	3.368	1.107	1.612	2.115
Economic factors	0.447	0.577	0.816	0.297	0.349	0.423	0.500	1.000	1.500	1.225	1.732	2.236



**Identification, Investigation and Prioritization of Factors Affecting the
Strategies of Non-Governmental Oil Refining Companies Using FAHP Software
(Case Study: Lavan Oil Refining Company)**

Revista Publicando, 5 No 14 . No. 2. 2018, 1-26. ISSN 1390-9304

Environmental factors	0.473	0.620	0.904	0.473	0.620	0.904	0.447	0.577	0.816	0.500	1.000	1.500
-----------------------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

A processor with a relative weight of 0.033 is most important. Therefore, among the effective factors of the strategy of non-governmental oil refinement companies, the main factor is the relative weight of 319% in the next priority, the economic factor with the relative weight of 0.203 in the third place, and ultimately the relative environmental factor 0.148 is the last priority. The paired comparison rate for CRM is 0.071 and for CRB 0.032, which is less than 0.010, but comparisons are acceptable.

6.5. Formation of paired comparison matrices and weighing according to the following criteria:

To weigh the following criteria for each of the main factors, such as the section before the paired matrix, are used.

Sub criteria for underlying factors

The paired comparison matrix follows the criteria for the underlying factors as follows:

Table 5- Matrix of Paired Comparisons of Underlying factors

Human resource management			Research and Development			Organizational Culture			Continuou s improveme nt			Management commitment			View			View	Management commitment
U	M	L	U	M	L	U	M	L	U	M	L	U	M	L	U	M	L		
2.115	1.612	1.107	2.115	1.612	1.107	2.000	1.500	1.000	2.213	1.704	1.189	2.236	1.732	1.225	1.500	1.000	0.500	0.500	
2.958	2.449	1.936	2.340	1.831	1.316	2.213	1.704	1.189	2.236	1.732	1.225	1.500	1.000	0.500	0.816	0.577	0.447	0.447	



**Identification, Investigation and Prioritization of Factors Affecting the
Strategies of Non-Governmental Oil Refining Companies Using FAHP Software
(Case Study: Lavan Oil Refining Company)**

Revista Publicando, 5 No 14 . No. 2. 2018, 1-26. ISSN 1390-9304

	Continuous improvement	Organizational Culture	Research and Development	Human resource management
	0.452	0.500	0.473	0.473
	0.587	0.667	0.620	0.620
	0.841	1.000	0.904	0.904
	0.447	0.452	0.427	0.338
	0.577	0.587	0.546	0.408
	0.816	0.841	0.760	0.516
	0.500	0.447	0.400	0.452
	1.000	0.577	0.500	0.587
	1.500	0.816	0.667	0.841
	1.225	0.500	0.473	0.435
	1.732	1.000	0.620	0.561
	2.236	1.500	0.904	0.795
	1.500	1.107	0.500	0.435
	2.000	1.612	1.000	0.561
	2.500	2.115	1.500	0.795
	1.189	1.257	1.257	0.500
	1.704	1.784	1.784	1.000
	2.213	2.300	2.300	1.500

The sub-criterion of management commitment with a relative weight of 0.2253 is most important. Therefore, among the underlying criteria of the underlying factor is the most important, and the sub-zero perspective with a relative weight of 0.2230 is in the next priority; sub-measures of continuous improvement, organizational culture, research and development, and human resources management with a relative weight of 1.1917, 0.1596, 0.1247 and 0.0756 are in the next ranks. The incompatibility rate for paired comparisons was 0.31 for CR_m and 0.014 for CR_g, which is less than 0.10, and these comparisons are acceptable.

Sub criteria for process factors

The paired comparison matrix follows the criteria for process factors as described in the table below:



**Identification, Investigation and Prioritization of Factors Affecting the
Strategies of Non-Governmental Oil Refining Companies Using FAHP Software
(Case Study: Lavan Oil Refining Company)**

Revista Publicando, 5 No 14 . No. 2. 2018, 1-26. ISSN 1390-9304

Table 6- Matrix of Paired Comparisons of Process sub-criteria

Access to production and distribution resources			Supply Chain Management			Manage production and its methods			technology management			Sub criteria for process factors
U	M	L	U	M	L	U	M	L	U	M	L	
2.000	1.500	1.000	2.236	1.732	1.225	2.000	1.500	1.000	1.500	1.000	0.500	technology
3.096	2.590	2.081	2.449	1.936	1.414	1.500	1.000	0.500	1.000	0.667	0.500	Manage production
2.739	2.236	1.732	1.500	1.000	0.500	0.707	0.516	0.408	0.816	0.577	0.447	Supply Chain Management
1.500	1.000	0.500	0.577	0.447	0.365	0.481	0.386	0.323	1.000	0.667	0.500	Access to production and distribution

The subcategory of production management and its methods with a relative weight of 334.0 is most important. Therefore, among the sub criteria of the process factor is the most important and the sub criteria of technology management, supply chain



**Identification, Investigation and Prioritization of Factors Affecting the
Strategies of Non-Governmental Oil Refining Companies Using FAHP Software
(Case Study: Lavan Oil Refining Company)**

Revista Publicando, 5 No 14 . No. 2. 2018, 1-26. ISSN 1390-9304

management, and access to resource and distribution resources with relative weights of 315.0, 243.0 and 0.198 are in the next ranks. The rate of incompatibility of the pair comparisons was 0.63 for CR_m and 0.006 for CR_g, since it is less than 0.10, these comparisons are acceptable.

Other criteria for economic factors

The matrix of paired comparisons below is the following economic factors:

Table 7- Matrix of Paired Comparisons of Economic Factors

Marketing Management			Energy Management			Financial resources management			Sub criteria for economic factors
U	M	L	U	M	L	U	M	L	
2.432	1.917	1.392	2.000	1.500	1.000	1.500	1.000	0.500	Financial resources management
3.500	3.000	2.500	1.500	1.000	0.500	1.000	0.667	0.500	Energy Management
1.500	1.000	0.500	0.400	0.333	0.286	0.719	0.522	0.411	Marketing Management

The sub-criterion for managing energy management with a relative weight of 0.445 is the most important. Therefore, among the sub criteria of the economic factor is the most important and the sub-category of financial management with a relative weight 0.427 is in the next priority, and finally the sub-measure of marketing management with a relative weight of 0.129 is last priority. The rate of incompatibility of the paired comparison is 0.044 for CR_m and 0.061 for CR_g. Because it is less than 0.10, these comparisons are acceptable.

Other criteria for environmental factors



**Identification, Investigation and Prioritization of Factors Affecting the
Strategies of Non-Governmental Oil Refining Companies Using FAHP Software
(Case Study: Lavan Oil Refining Company)**

Revista Publicando, 5 No 14 . No. 2. 2018, 1-26. ISSN 1390-9304

The paired comparison matrix below the environmental factors criteria is as follows:

Table 8- Matrix of Paired Comparisons of Environmental Factor

Environmental resource management			Competitive Advantage			Level of access to a variety of technologies			Rivals			Terms and Conditions			Political, economic, cultural and social conditions			Sub criteria for environmental factors
U	M	L	U	M	L	U	M	L	U	M	L	U	M	L	U	M	L	
2.00	1.50	1.00	2.00	1.50	1.00	2.00	1.50	1.00	2.00	1.50	1.00	2.00	1.50	1.00	1.50	1.00	0.50	Political, economic, cultural and social conditions
2.00	1.50	1.00	2.11	1.61	1.11	2.00	1.50	1.00	2.00	1.50	1.00	1.50	1.00	0.50	1.00	0.67	0.50	Terms and Conditions
2.00	1.50	1.00	2.93	2.41	1.88	2.24	1.73	1.00	1.50	1.00	0.50	1.00	0.67	0.50	1.00	0.67	0.50	Rivals
3.50	3.00	2.50	3.50	3.00	2.50	1.50	1.00	0.50	1.00	0.58	0.45	1.00	0.67	0.50	1.00	0.67	0.50	Level of access to a variety of technologies
2.00	1.50	1.00	1.50	1.00	0.50	0.40	0.33	0.29	0.53	0.41	0.34	0.90	0.62	0.47	1.00	0.67	0.50	Competitive Advantage



**Identification, Investigation and Prioritization of Factors Affecting the
Strategies of Non-Governmental Oil Refining Companies Using FAHP Software
(Case Study: Lavan Oil Refining Company)**

Revista Publicando, 5 No 14 . No. 2. 2018, 1-26. ISSN 1390-9304

1.50	1.00	0.50	1.00	0.67	0.50	0.40	0.33	0.29	1.00	0.67	0.50	1.00	0.67	0.50	1.00	0.67	0.50	Environmental resource management
------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	-----------------------------------

The lowest level of access to technology types with a relative weight of 0.2140 is most important. Therefore, among the sub-criteria of the environmental factor, the most important are the sub-criteria of political / economic / cultural / social, rivals, rules and regulations, competitive advantage and environmental resource management, respectively, with relative weights of 0.2066.0.1962.0.1927.0.1027 and 0.0877 are in the next rank. The incompatibility rate for paired comparisons is obtained for CRM 0.053 and for CRg 0.076, which is less than 0.10, and these comparisons are acceptable.

6.6.Question 3: How to prioritize the key criteria and key factors which affecting strategy?

Prioritizing the main criterion

According to the previous steps and obtaining weight of each of the criteria, the ranking of the main criteria is as follows:

Table 9- Prioritizing the main factors

Row	Components	Weight	Priority
1	Underlying factors	0.319	2
2	Process factors	0.330	1
3	Economic factors	0.203	3
4	Environmental factors	0.148	4



**Identification, Investigation and Prioritization of Factors Affecting the
Strategies of Non-Governmental Oil Refining Companies Using FAHP Software
(Case Study: Lavan Oil Refining Company)**

Revista Publicando, 5 No 14 . No. 2. 2018, 1-26. ISSN 1390-9304

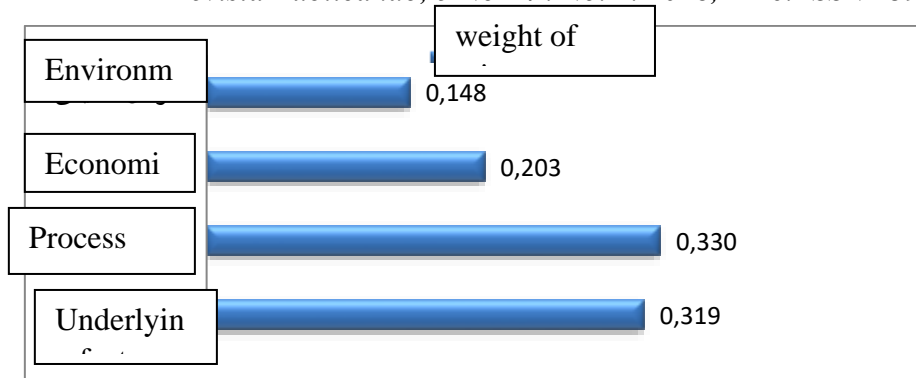


Figure 2-Relative weight of sub- criteria of the underlying factors

Upgrading the following criteria

Prioritizing sub-criteria with respect to the weights obtained in the previous sections are as follows.

Table 10- Prioritizing of Underlying Factors

Row	Components	Weight	Priority
1	Organization outlook	0.2230	1
2	Management commitment	0.2253	2
3	Continuous improvement	0.1917	3
4	Organizational Culture	0.1596	4
5	Research and Development	0.1247	5
6	Human resources management	0.0756	6



**Identification, Investigation and Prioritization of Factors Affecting the
Strategies of Non-Governmental Oil Refining Companies Using FAHP Software
(Case Study: Lavan Oil Refining Company)**

Revista Publicando, 5 No 14 . No. 2. 2018, 1-26. ISSN 1390-9304

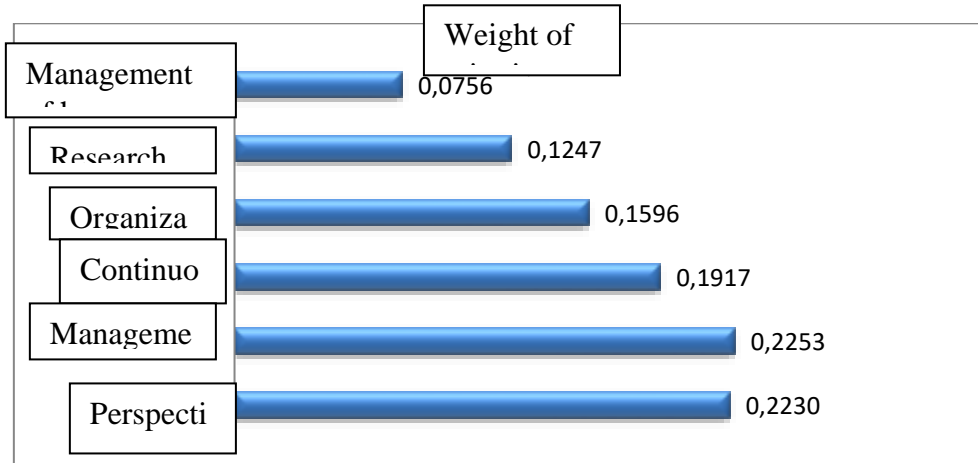


Figure 3. Prioritization of process factor sub-criteria

Row	Components	Weight	Priority
1	technology management	0.315	2
2	Production management and its methods	0.334	1
3	Supply Chain Management	0.243	3
4	Access to production and distribution resources	0.108	4



**Identification, Investigation and Prioritization of Factors Affecting the
Strategies of Non-Governmental Oil Refining Companies Using FAHP Software
(Case Study: Lavan Oil Refining Company)**

Revista Publicando, 5 No 14 . No. 2. 2018, 1-26. ISSN 1390-9304

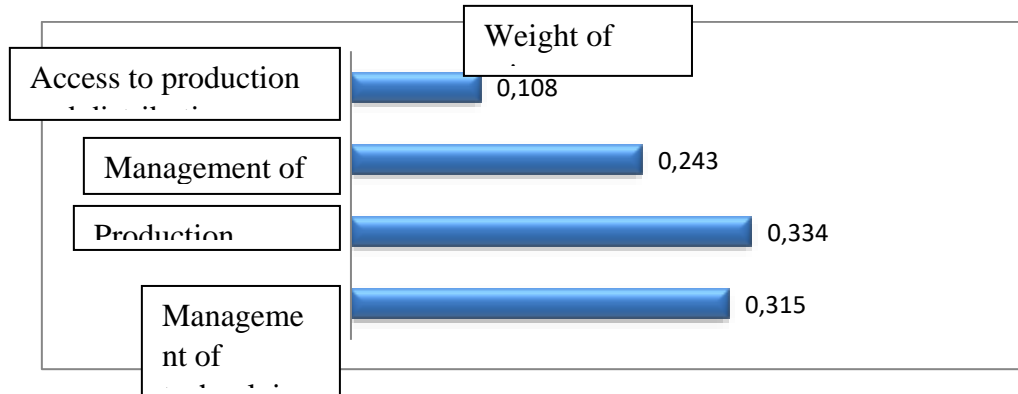


Figure 4-Relative weight of sub- criteria of process factors

Table 12- Prioritization of Economic factor sub-criteria

Row	Components	Weight	Priority
1	Financial resources management	0.427	2
2	Energy Management	0.445	1
3	Marketing Management	0.129	3

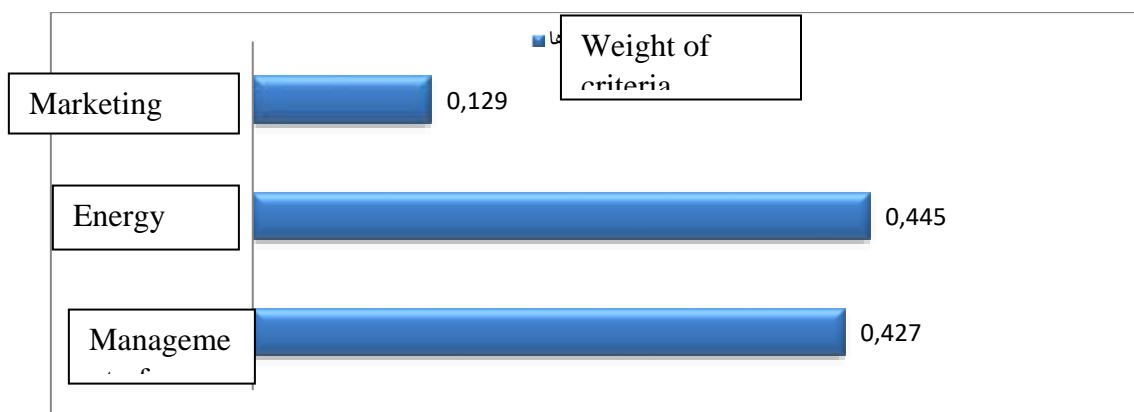


Figure 5- Relative weight of environmental factors



**Identification, Investigation and Prioritization of Factors Affecting the
Strategies of Non-Governmental Oil Refining Companies Using FAHP Software
(Case Study: Lavan Oil Refining Company)**

Revista Publicando, 5 No 14 . No. 2. 2018, 1-26. ISSN 1390-9304

Row	Components	Weight	Priority
1	Political / Economic / Cultural / Social Conditions	0.2066	2
2	Terms and Conditions	0.1927	4
3	Rivals	0.1962	3
4	Level of access to a variety of technologies	0.2140	1
5	Competitive Advantage	0.1027	5
6	Environmental resource management	0.0877	6

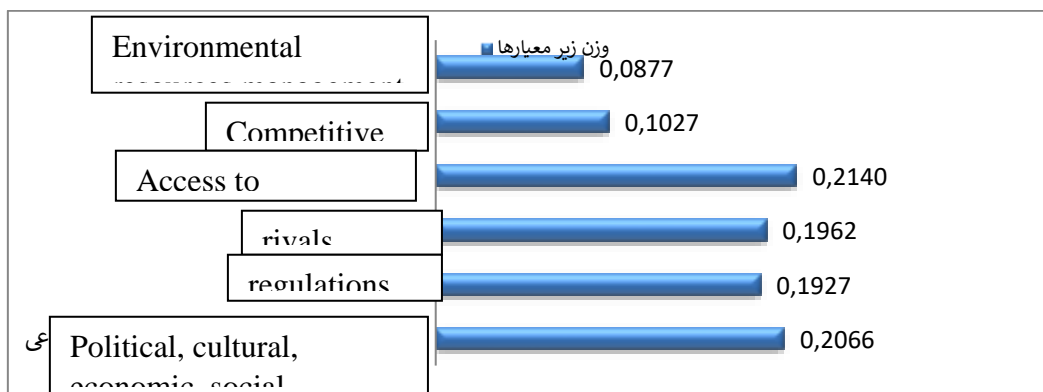


Figure 6- Relative weights of environmental factors

8. CONCLUSION AND RESEARCH FINDINGS

According to the findings of the research, it is concluded that strategy formulation that various factors depending on the type of organization and its functioning, are effective in it, is very important. Managers of non-governmental oil refining companies and



**Identification, Investigation and Prioritization of Factors Affecting the
Strategies of Non-Governmental Oil Refining Companies Using FAHP Software
(Case Study: Lavan Oil Refining Company)**

Revista Publicando, 5 No 14 . No. 2. 2018, 1-26. ISSN 1390-9304

especially senior managers of the company Lavan's oil refining should carefully consider the factors that will be effective in formulation of strategies to be successful in implementation the strategy and the outcomes. The purpose of this research was to answer the three main questions that were identified through the steps of answering the questions.

9. RESEARCH SUGGESTIONS

9-1. Suggestions to Improve Underlying Factors:

Among the sub criteria of this factor, the sub-criterion of management commitment has been the highest priority, so it is suggested to senior executives of the Lavan Oil Refining Company to demonstrate their commitment to designing and implementing the strategy to employees. When executives treat their employees with respect, staff will also behave well with their customers. Employees feel more committed to the organization when they feel they are committed to the organization (Fuller et al., 2003). At the next step, the criteria for the underlying factors that contribute to strategy formulation are sub-criteria of vision. Managers by taking a realistic perspective of their organization should guide them to move forward. The sub-criteria of the continuous improvement are organizational culture and R & D which with a short distance from each other placed in the next ranks, indicating that these three factors together can lead to successful organization. Particularly in the research and development section, considering the amount of funding in the field of education the growth and development of the company will have a competitive advantage over other competitors and in the long run it will give other companies in this field a good scientific gap.

9-2. Suggestions for Improving the Processor

Among the sub-criteria of this factor, production management and its methods, the sub-criteria of technology management, supply chain management have the highest priority respectively, therefore, it is suggested to senior managers of Lavan Oil Refining Company, which simultaneously in two areas of production management using modern methods to produce petroleum products and advanced technologies, and the proper use of specialist personnel for supply chain management and connecting with most suppliers of the materials required for the company, provide company access to the necessary initial requirements. And reduce the risk as much as possible.



**Identification, Investigation and Prioritization of Factors Affecting the
Strategies of Non-Governmental Oil Refining Companies Using FAHP Software
(Case Study: Lavan Oil Refining Company)**

Revista Publicando, 5 No 14 . No. 2. 2018, 1-26. ISSN 1390-9304

9-3. Suggestions for improving the economic factor:

Among the sub-criteria of this factor, the sub-measure of energy management has been the highest priority, so it is suggested to senior managers of Lavan Oil Refining Company that by employing experienced staff in this sector and considering the appropriate budget for this segment in optimization Energy consumption and management. Also, by connecting with the academic elite, young people with high motivation can be optimized. And succeeded in using advanced technology and optimizing the production of petroleum products in achieving economic goals. At the next step, the sub-criteria for this factor, sub-criteria of that is the financial management sub-criteria. Therefore, it is recommended that senior managers of the Lavan Oil Refining Company by advantaging the specialist employ and controlling financial processes will carefully help the company's strategic success and the company's economic success.

9-4. Proposals to improve the environmental factor:

Among the sub-criteria of this factor, the level of access to a variety of technology is ranked first. Therefore, senior executives of the organization should, on the one hand, participate in domestic and international conferences on the technology of day-to-day production of oil products to domestic knowledge-based companies and in the absence of domestic substitutes with foreign companies for localization the technology of the day will conclude the necessary contracts. The second set of political / economic / cultural / social conditions is ranked second among the criteria. Which shows that the managers of the organization must consider the environment of their surroundings in the political, economic, cultural and social terms in preparing their strategy for themselves and prepare themselves for future developments. At the next level of sub-criteria are sub-criteria of competitors. Shows that the managers of the organization, by taking into account the aggregate terms of production, should also consider the market and the ability of competitors and have the ability to compete in the market environment. Laws and regulations in the next rank are sub-criteria of environmental factors that indicate the importance of considering the rules and regulations in contracting and complying with obligations. Rewarding merit There are other sub-criteria to be considered, considering this sub-criterion by creating a distinct product from competitors or



**Identification, Investigation and Prioritization of Factors Affecting the
Strategies of Non-Governmental Oil Refining Companies Using FAHP Software
(Case Study: Lavan Oil Refining Company)**

Revista Publicando, 5 No 14 . No. 2. 2018, 1-26. ISSN 1390-9304

producing less costly products and mass production. In the last rank, according to the environmental factors criteria, are the sub criteria Environmental resource management. Although it is last priority, but sustainable development is not feasible without considering environmental resource management. Lavan Oil Refining Company has to maintain the environmental conditions of Lavan Island in its production programs.

REFERENCES

- Nazari, Mehdi and Sohrab Khalili Shourini, 2013, Identifying Barriers to Implementing Strategic Strategies and Prioritizing them (Case Study: Saipa Vehicle Group), 10th International Conference on Strategic Management, Tehran, Iran Strategic Management Association
- Salmani, Mohammad Mahdi Palshi, Mohammad. (2013). Developing Strategic Planning Using the David Model (Case Study: North Wood Industry Corporation). Tenth International Conference on Strategic Management. Tehran. Strategic Management Association of Iran.
- Thesis . Government - Ministry of Science, Research, Technology - Isfahan University of Technology - Faculty of Industrial Engineering. 1393 Master of Science (MSc) Subject: Applied Science and Technology> Engineering Engineering Supervisor: Behrouz Arbab Shirani | Created by: Amir Reza Ghaemi
- Fred Nickols, Strategy Strategic Management, Strategic Planning And Strategic Thinking, 2011
- Klau E.Meyer And Saul Estrin,Local Context And Global Strategy, 2014