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Opportunities, Priorities and Challenges for the Industrial Development of the Bushehr Province, from the Perspective of Experts, Professionals and Industrialists of Bushehr

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Abstract This study aimed to examine opportunities, priorities, and challenges for this province's industrial development from the perspective of experts, professionals and industrialists of Bushehr. To achieve this objective, descriptive and survey methodology and researcher-made questionnaire have been used that the reliability of the questionnaire is 0.80, based on the test of Cronbach's alpha. The statistical population consists of 731 experts, industrialists and the industry experts that based on the formula to determine sample size, 288 people were randomly selected. After analyzing the data, the main purpose of this study was to determine opportunities and priorities, and challenges faced byte province's industrial development from the perspective of experts, professionals and industrialists in Bushehr province, the following results were obtained from all respondents' standpoint: The most important opportunities of province's industrial development frequency: 1) the potential capacity of the province in the field of communication and transport, 2) unique geographical location of the province, 3) efficient and capable human resources, 4) the potential capacity of investment attraction and small industries, 5) rich reserves of natural resources. The most important challenges facing the province's industrial development: 1) lack of financial support from industry, banks, 2) legal and administrative problems, 3) business problems, 4) a delay in the construction, completion and inappropriate deployment of industrial projects, and the most important priorities faced by industrial development of province include: 1) maritime industry, 2) industries related to fisheries, 3) industry related to palms gardens, 4) the petrochemical industry.

Keywords: *opportunities, priorities, challenges, industrial development, bushehr province*

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1. Introduction

A term "development" has been pervasive after the Second World War. The word literally means getting out of the wrapper and in English, expansion, understanding, development and progress. Although the term from the 14th century A.D has been used to explain some of social phenomena, extensive use of the word as an analytical framework gets accepted for understanding the development of human societies after the Second World War and in the decade of 1960-1950. Since then, the concept has become synonymous with modernization, growth, industrialization, and was used for similar modifications and terms. In a sense, the development is meant as improvement, growth and expansion of conditions and material and spiritual dimensions of social life which are built on the relationship between the state and the nation and they prepare the proper conditions of security, personal freedom, political participation, economic growth and financial prosperity. According to the broadness of the concept of development, this concept is divided into many branches and dimensions, including economic development, political development, cultural development, social development and industrial development which finally a set of these parameters constitute a developed society .

According to the topic, this study focuses merely on the industrial development of the geography of the province. It, of course, should be noted that industrial development are of two major factors: one is an increase in production both quantitatively and qualitatively, and other one is the creation of jobs, which in turn could improve income distribution in society. The industrial development requires its own infrastructure, including the national and innovation system, adoption of individual property, protection of technology production and exchange, support for entrepreneurship and paying attention of the private sector seriously. This is not neglected by the scholar and industrial development of the province is not separate from the country's industrial development. In this regard, it should be acknowledged that industrial policies should be made tailored to the economic development of

the country and appropriate to the capacities of country. For example, instability and change in policies, not only in states but also in a government, can be encountered by difficulties for industrial development in the country. Knowing this subject, the study seeks to obtain opportunities and priorities and challenges of industrial development of the province, from perspective of industrialist and industrial experts of Bushehr province. The researcher believes that in addition to the important and affecting issues of industrial development which are definitively in the scientific discussions, examining the views of industrialists and the experts who engage in the works can explain strengths, weaknesses, and shortcomings, opportunities and threats faced by the industrial development of Bushehr Province better and accurately. This study seeks to achieve opportunities and priorities and challenges faced by the industrial development, from the perspective of industrialists and the experts in Bushehr province.

2. Background of Research

- Safavi and Aghajani in the field of research entitled “Evaluating and identifying a field of industrial capable activities of the country's capability to create productive employment” seek to answer which field are the industrial capable activities to create employment? And it is found that the employment priorities of industrial subsectors of the country are determined using scientific criteria to determine the use magnitude according to ISIC Codes and numerical taxonomy method, as follows: 1- the textile industry, 2- machinery industry, 3- various industries 4- mineral industries 5-food industry 6- basic metals industry, 7- wood industry, 8- paper and printing industry, 9- chemical industry.

- Houshmand and Azari, given the importance of the industrial sector in economic development plan, within the article of analysis of the industry structure and determination of the priorities of industrial development over Kerman, have made attempts to provide the scientific analysis of industry structure within conceptual framework and techniques of regional economic, and as well as the identification of important industries, industrial development priorities are determined that establishing those industries that benefit more than other industries provides the perfect platform for industrial development. The methodology is a documentary method and statistical population consist of all industrial workshops with ten or more employees in Kerman province, according to ISIC four-digit codes and based on statistical years 1994, 1999 and 2002, respectively. Analysis tool is a combination of numerical taxonomy and factor analysis.

- Abedin Moghanaki in an article entitled "Rating industrial activities of IRAN: a framework for operating National Development Plan proposal" aiming at examining the orientation of industrial policies and strategies in Iran in the face of industries, based on ability of their competitiveness in the global market sought to prioritize the industries to enhance the country's abilities of competitiveness and provide the possibility of continuation and development of exports. They all except Korea and India have used foreign direct investment as a way to gain knowledge of foreign and to influence in foreign export markets and as well as in regarding the strengths and challenges for China and India came to some conclusions.

- Jakopin and Bajec in a study entitled “Challenges of industrial development of Serbia,” as well as the analysis of irregular structure of industrial systems and its impact on the macro-economic balance stressed on the important role of government in the development of the industrial policy.

2.1. Research Questions

1. What are the priorities of industrial development of the province?
2. What are the opportunities facing the industrial development of the province?
3. What are the challenges facing the industrial development of the province?
4. Are there differences between the views of industry experts and industrialists, in regarding industrial priorities of the province?
5. Are there differences between views of industry experts and industrialists in regarding the industrial challenges of the province?
6. Are there differences between views of industry experts and industrialists in regarding the industrial opportunities of the province?

3. Methodology

This study is a descriptive one to be conducted by survey technique. The statistical population consisted of all the industry experts and industrialist in Bushehr in 2013. According to the available official statistics, 20 industry experts, and 21 industrialists and 690 industrialists are licensed to utilize.

To select the sample in this study among the experts and industrialist, due to the small number of them, the sample size was considered by the population size, but considering the large number of industrialists (690 people), the sample size was calculated 247using Cochran formula of estimating sample size at 95% confidence level or error level of 5%.

In analyzing the data, first by using descriptive statistics methods such as one-dimensional tables, frequency distribution, and percentage of mean, standard deviation and individual characteristics of subjects were described. In inferential statistics level, the modern inferential statistical techniques such as factor analysis, Friedman test, and Tukey’s post hoc test were used.

3.1. Data Collection Methods

The required information through a questionnaire consisting of open and closed questions was collected. We used a questionnaire composed of two parts:

A) The underlying questions: These questions were intended to measure the individual characteristics of respondents.

B) A questionnaire of priorities, opportunities and challenges of industrial development: to measure the respondents' views on the opportunities, challenges and priorities of industrial development of the province, the questionnaire consists of 33 items based on 5-scale Likert.

This questionnaire has three subscales (18-item opportunities, 11-item challenges and 4-item priorities, all faced by the industrial development).

4. Findings

4.1. Factor Analysis of Industrial Development Opportunities in Bushehr

In this section, variables related to industrial development opportunities of Bushehr are analyzed by factor as follows:

Table 1. Bartlett and Kaiser Meyer test results to assess the adequacy of the sample

Value	Statistics
0.739	KMO
1867.6	Chi-square
153	Degrees of freedom
0.0001	Significance level

The results of Bartlett's test which is an approximation of Chi-square in above table show that the factor analysis to identify the structure, the factor model is known to be appropriate and a hypothesis on correlation matrix to be known is rejected. The results of the factor analysis as Kaiser Meyer (KMO) were equal to 0.747 closing to 1, representing an adequacy of sample size for factor analysis.

Table 2. Estimates Results of the share value of industrial development opportunities of Bushehr

Value Burden	Initial Subscription	Industrial development opportunities in Bushehr	Row
0.807	1	Existence of Infrastructure of water, electricity and gas	1
0.66	1	Existence of land	2
0.708	1	Geographical location and weather conditions	3
0.552	1	Existence of Marine resources	4
0.590	1	Port capacity	5
0.496	1	Amount of domestic and foreign investment	6
0.682	1	The fast access to information and communication technology	7
0.628	1	Existence of industrial towns	8
0.507	1	Existence of special economic zones	9
0.653	1	Near to the Persian Gulf states	10
0.617	1	Existence of technical field of higher education	11
0.557	1	Directors Vision	12
0.676	1	Unique talent and capacity of human resources	13
0.731	1	Existence of oil, gas, fish and palm	14
0.374	1	Existence of sources with well-known brand	15
0.622	1	Access to appropriate distribution networks	16
0.504	1	Amount of marine cargo transport	17
0.713	1	The education level of Province industry employees	18

The data in table shows the initial subscription which is the same subscription before factor extraction is all equal to 1. The column related to value burden of common value for the explained variance proportion of each variable shows a combination of factors extracted. In this regard, any low scores are less correlated with factors. The minimum criterion for accepting common correlation of items is 0.3. So all factors extracted in the above table have correlation values bigger than 0.3 and are acceptable.

Table 3. Varimax rotation matrix factors (opportunities for development of the province)

Factor	Fourth factor	Third factor	Second factor	First factor	Industrial development opportunities in Bushehr
-	-	-	-	0.821	The education level of Province industry employees
-	-	-	-	0.807	Unique talent and capacity of human resources
-	-	-	-	0.701	Existence of technical field of higher education
-	-	-	-	0.646	Directors Vision
-	-	-	0.843	-	Existence of Infrastructure of water, electricity and gas
-	-	-	0.768	-	Existence of land
-	-	-	0.753	-	Existence of oil, gas, fish and palm
-	-	-	0.602	-	Existence of Marine resources
-	-	-	0.402	-	Existence of sources with well-known brand
-	-	0.656	-	-	Geographical location and weather conditions
-	-	0.629	-	-	Near to the Persian Gulf states
-	-	0.602	-	-	Port capacity
-	0.694	-	-	-	Access to appropriate distribution networks
-	0.551	-	-	-	The fast access to information and communication technology
-	0.532	-	-	-	Amount of marine cargo transport
0.712	-	-	-	-	Existence of industrial towns
0.568	-	-	-	-	Amount of domestic and foreign investment
0.551	-	-	-	-	Existence of special economic zones

Varimax rotation matrix table above includes the factor loadings for each of the components upon the five factors extracted after the rotation. According to factor analysis on 18 factors or the province's industrial development

opportunities, five factors are identified as the main opportunities or factors of development. These five factors are named as follows:

The first factor: the existence of efficient and competent manpower.

The second factor: the existence of rich deposits of natural resources.

The third factor: the unique geographical location of the province.

The fourth factor: the potential of the province in the field of communication and transportation.

The fifth factor: the potential of attracting investment and small industries.

4.2. Factor Analysis on Industrial Development Challenges of Bushehr

In this section, the variables related to industrial development challenges of Bushehr is analyzed by factor as follows:

Table 4. Bartlett and Kaiser Meyer test results to assess the adequacy of the sample

Value	Statistics
0.78	KMO
969.9	Chi-square
66	Degrees of freedom
0.0001	Significance level

The result of Bartlett's test which is an approximation of Chi-square in above table shows that the factor analysis to identify the structure, the factor model is known to be appropriate and a hypothesis on correlation matrix to be known is rejected. The results of the factor analysis as Kaiser Meyer (KMO) were equal to 0.78 closing to 1, representing an adequacy of sample size for factor analysis.

Table 5. Estimates Results of the share value of industrial development challenges of Bushehr

Value Burden	Initial Subscription	Industrial development challenges in Bushehr	Row
0.790	1	Lack of marketing systems for export products	1
0.740	1	Weak private sector organizations in the sphere of production and trade	2
0.654	1	Lack of financial support from the banks of the industry	3
0.717	1	Lack of coordination in executive organizations	4
0.598	1	Delays in the completion of infrastructure projects	5
0.807	1	Non-implementation of land use plans	6
0.562	1	Cumbersome rules	7
0.535	1	Distribution of industrial units	8
0.480	1	Industry vulnerability to natural disasters	9
0.660	1	Bureaucracy	10
0.712	1	Barriers to international trade	11

The above table shows that all of the extracted data in the above table have correlation values greater than 3.0 and are acceptable.

Table 6. Varimax rotation matrix factors (challenges for development of the province)

Fourth factor	Third factor	Second factor	First factor	Industrial development challenges in Bushehr	Row
-	-	-	0.808	Lack of marketing systems for export products	1
-	-	-	0.788	Barriers to international trade	2
-	-	-	0.617	Weak private sector organizations in the sphere of production and trade	3
-	-	0.746	-	Bureaucracy	4
-	-	0.665	-	Lack of coordination in executive organizations	5
-	-	0.554	-	Cumbersome rules	6
-	0.865	-	-	Non-implementation of land use plans	7
-	0.723	-	-	Delays in the completion of infrastructure projects	8
-	0.619	-	-	Industry vulnerability to natural disasters	9
-	0.600	-	-	Distribution of industrial units	10
0.778	-	-	-	Lack of financial support from the banks of the industry	11

Varimax rotation matrix table (challenges of industrial development) above includes the factor loadings for each of the components upon the four factors extracted after the rotation. According to factor analysis on 11factors or the province's industrial development challenges, four factors are identified as the main opportunities or challenges of development. These four factors are named as follows:

The first factor: business and commercial problems.

The second factor: administrative and legal problems.

The third factor: delays in the construction, inappropriate completion and implementation of industrial projects.

The fourth factor: lack of financial support from the banks of the industry.

5. Conclusion

5.1. Factor Analysis of Industrial Development Opportunities of Bushehr

The results of Bartlett’s test which is an approximation of the chi-square show that the factor analysis to identify the structure, the factor model is known to be appropriate and the hypothesis on correlation matrix to be known is rejected. Also, the result of the factor analysis as Kaiser Meyer (KMO) is equal to 0.747 closing to 1, representing a sufficient sample size for factor analysis. The results of estimating the amount of share related to industrial

development opportunities of the province showed that the initial subscription which is the same subscription before factor extraction is all equal to 1. The column related to value burden of common value for the explained variance proportion of each variable shows a combination of factors extracted. In this regard, any low scores are less correlated with factors. The minimum criterion for accepting common correlation of items is 0.30. So all factors extracted in the above table have correlation values bigger than 0.3and are acceptable. The results of varimax rotation about the industrial development opportunities in Bushehr showed that due to the factor analysis on 18 factors or opportunities of the province's industrial development, five factors are identified as the main factors or opportunities for development. While the 4 variables or factors (level of education of employees in industry of the province, unique talents and capacity of human resources, the technical field of higher education and managers' attitudes) and 5 variables (infrastructure, water, electricity and gas, marine resources, the land, the oil and gas deposits, aquatic animals and palms and resources with well-known brand), 3 variables (geographic location and weather conditions, proximity to the countries of the Persian Gulf and port capacity), 3 variables (access to appropriate distribution networks, speed access to new information and communications technology and extent of transportation and marine products), and 3 variables (presence of industrial estates, the domestic and foreign investment attraction and special economic zones) have further factor burden on first, second, third, fourth and fifth factor, respectively, so according to the literature review, these five factors are named as follows:

The first factor: the existence of efficient and competent manpower.

The second factor: the presence of rich deposits of natural resources.

The third factor: the unique geographical location of the province.

The fourth factor: the potential of the province in the field of communication and transportation.

The fifth factor: the potential of attracting investment and small industries.

5.2. Factor Analysis on Industrial Development Challenges of Bushehr

The results of Bartlett's test which is an approximation of the chi-square show that the factor analysis to identify the structure, the factor model is known to be appropriate and the hypothesis on correlation matrix to be known is rejected. Also, the result of the factor analysis as Kaiser Meyer (KMO) is equal to 0.78 closing to 1, representing a sufficient sample size for factor analysis. All the extracted factors (challenges faced by the industrial development of the province) are correlated which is bigger than 0.3 and are acceptable. Varimax rotation matrix (industrial development challenges) showed that due to the factor analysis on 11 factors or challenges to the development of industry over the province, four major development factors were identified as the main factors and challenges. While 3 variables (lack of marketing systems for export products, international trade barriers and weakness of private sector organizations in the sphere of production and trade), 3 variables (presence of bureaucracy, lack of coordination between executive agencies and the existence of cumbersome regulations), 4 variables (non-implementation of land use plans, delays in completion of infrastructure projects, vulnerability to industries in face of natural disasters and the distribution of industrial units) and one factor (non-bank financial support from industry) have further factor burden on first, second , third and the fourth, therefore, according to the literature review, these four factors are named as follows:

The first factor: business and commerce problems.

The second factor: the administrative and legal problems.

The third factor: delays in the construction, inappropriate completion and deployment of industrial projects.

The fourth factor: lack of banks' financial support towards the industry.

6. Suggestions

- Appropriate planning to increase the province's capacity in the field of road transport as one of the most important opportunities of industrial development of the province
- Efficient use of natural resources of the province and prevention of waste of resources
- The Supreme Council of the province Bushehr with the provincial development plan and the proposed to the Cabinet and Islamic Council Parliament in order to solve the problems, in every ten years once, on the spending the province's budgets throughout the provincial production itself.
- Increasing the quality of human capital and its compliance with the requirements of the labor market
- Domestic and foreign investment attraction for industrial development of the province and the establishment of small industries and early returns
- Dealing with problems of administrative, legal, and commercial and encouraging the banks to support the industries of the province and accelerate the construction and completion of industrial projects
- Due to the unique geographical location of the province, it is prioritized the proper use of the marine industry, fisheries, palms gardens and petrochemical industry.

References

[1] Arabshahi, S. (2007). Development Management, Tehran, Ostadi Publishing.

[2] Boschma, R. A.. (1998). The industrial rise of the Third Italy: open window of locational opportunity?", 38th congress of the European Regional Science Association, University of Twente Factulty of Public Administration and Public Policy , P. O. Box 217.

[3] Dahlman, C. (2007). Technology, globalization and international competitiveness: Challenges for developing Countries", Industrial development for the 21st century, Department of economic and social affairs of United Nations.

[4] Hashemi, A. (1995). Barriers of underdevelopment Middle East, Middle Eastern Studies.

[5] Jakopin, E.(2009).Challenges of Industrial development of Serbia", Panoeconomicus, 4, p. 507-525.

[6] Larson, T.,& Skidmore, D. (2009). International political economy: the quest for power and wealth, translated by Ahmad Saee and Mahdi Taghavi, Tehran, Ghomes Publishing.

[7] Mobarak, A. (2001). The challenges of sustainable Industrial Development in Egypt", United Nations Industrial Development organization (UNIDO), A country paper for the word summit on sasainable Development (WSSD), October.

[8] Mosleh, A. (2014).The strategic priorities of Bushehr province, Shams Publishing.

[9] Planning Deputy Governor of Bushehr. (2011). Statistical Yearbook of Bushehr province.

[10] Wei-wei, H. (2010). SWOT Analysis and countermeasures of Industrial Development in Three Gorges Reservior Area", Asian Agricultural Research, Vol.2, No. 4, p.52-56.

[11] Zarrabi, A., & Varesi, H.R. (2012). The use of Fuzzy multivariate Decision techniques in valuation and spatial analysis of development indices, applied research of Geography Science journal, Vol.12.