Identifying and Prioritizing Indicators of Macro-Environmental Factors in Entry of Semnan Plaster Plants into the Markets of Neighboring Countries

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ABSTRACT
The present study aimed to prioritize indicators of macro-environmental factors in entry of Semnan plaster plants into the markets of Iran’s neighboring countries. This study was an applied research. The statistical pollution included business unit managers and employees of Semnan plaster plants. The sample consisted of 30 people based on the purposive sampling. Data were collected by a questionnaire and analyzed using Expert Choice Software. The results showed that the macro-political factors (weight = 0.496), economic (weight = 0.287) and cultural (weight = 0.217) have the highest importance, respectively. In addition, sub-criteria were prioritized based on high tariff and nontariff barriers, political instability in foreign markets, exchange rate fluctuations, strict laws on foreign markets, unfamiliarity with foreign business, deteriorating economic conditions outside the country, differences in dialect, and cultural and social characteristics.

KEYWORDS
export, plaster plants, macro-environment

Introduction
After the Industrial Revolution, competitiveness of market, and continuous changes in the environment, companies found that they are not faced with growing economic systems and growing markets as in the past (Maleki et al, 2016). Thus, they must constantly offer solutions to deal with global competition and rapidly meet customers’ needs (Maleki and Kojouri, 2013), which require a full understanding of the environment. In a global economy, export is no longer a desire but a necessity (Haar and Buonafina, 1995). The export performance of a country is considered by economists and policy makers because exports as a source of demand have beneficial effects on gross domestic product and

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employment, improve the trade balance, and reduce the external deficit. At a
time when recession covers large parts of the economy, focus increases on
exports as a strategy to revive the economy (Bournakis and Tsoukis, 2016).
Macroeconomic variables may affect export performance across the country, and
productivity of exports can affect the rate of economic growth (Yang and Mallick,
2014). The foreign exchange market in Iran has reached better stability than in
the past. Moreover, facing situations of recession has made entrepreneurs and
business owners flexible, innovative and creative to cope with difficulties,
uncertain and changing market conditions; it provides high-quality and diverse
products which can compete in the international market. Iran’s neighboring
countries have become the origin of terrorist groups such as al-Qaeda, ISIL, Al-
Nusra, and some of the colonial countries due to political instability and
terrorism. This is a major obstacle on the way of economic development of the
region and the countries affected by war and a major disaster for the capital
markets of these countries. Furthermore, it causes insecurity and closure of
manufacturing units in countries, including Iraq, Afghanistan, Pakistan, and
has sharply raised demand in these countries.

According to the strategic situation in the Middle East due to political and
economic security better than other regional countries, plaster industry in
Semnan province of Iran has a special place in the region because of the quality
of mines, high purity and variety of products. In addition to meeting the needs of
Iran, plaster industry in Semnan province can supply products of all
neighboring countries of Iran. Forasmuch as Central Asian countries’ economic
conditions are better than war-torn countries and also because of their proximity
to Iran and variety of land and sea transport routes, they are considered as a
good destination for products of plaster plants. Semnan plaster plants can
compete with plants in Turkey, Saudi Arabia and other countries producing
plaster because of increasing knowledge for production of new products and
producing the most updated products needed for global markets. Forasmuch
Semnan Province is located in the center of Iran: costs of distribution and
transport are reduced for buyers.

In past centuries, Iran included major parts of its neighbors in terms of breadth.
In other words, most neighboring countries had Iranian nationality; therefore,
there are a lot of cultural similarities in Iran’s neighboring countries in terms of
value systems (beliefs, habits, attitudes and norms). This is a good opportunity
to meet their needs and adapt the manufactured products to the products of
factories closed down in the war-torn areas, manufacture new products of the
Central Asian countries, and consider all cultural requirements of neighboring
countries in terms of packaging. From the perspective of Islam, meeting the
needs of Muslims is considered as a necessity and an integral part of Islamic
brotherhood. Thus, it is necessary to have a good understanding of the values in
the region in order to enter into international markets using the common
cultural opportunities.

According to the above-mentioned issues, the present study aims to prioritize
indicators of macro-environmental factors in entry of Semnan plaster plants into
the markets of neighboring countries.

A review of the literature and theoretical framework
One of the basic themes in economic policy is increasing the proportion of Iran’s economy and improving its position in international trade and the global economy (Abrishami et al, 2009). International trade exchanges occur in the macro environment, leading to a lot of opportunities and threats. So, activists in this field must monitor all aspects of it and react to them (Faraji and Siyavashani, 2012).

For exporting companies, fluctuations in the environment are considered as the biggest concern because of the difficulty to predict changes in external market (Garcia et al, 2016). Environmental Management is a term used for environmental planning, protection, monitoring, evaluation, research, education, protection, and efficient use of resources an important factor for sustainable development. Environmental analysis is a useful tool for understanding the growth or decline in market share and potential opportunities for any business (Gupta, 2013). Some environmental factors are well controlled by managers, while others cannot be changed and should be considered in decision-making. Environmental factors can be divided into two categories: environmental elements that affect all companies in an industry (macro environment) and environmental elements that affect only one company (micro environment). Controlling macro environment is much more difficult than the micro environment (Blythe, 2014).

One of the factors for the choice of market that most researchers agree on it is the market assessment based on some criteria, including economic factors (income level), political factors (political instability), social and cultural factors (linguistic barriers, factors related to religion, culture, education), and foreign trade policies (tax barriers, tariff barriers, etc.) (Miecinskiene et al, 2014). Strategic planners consider the variables related to environmental scanning for a better understanding of opportunities and threats created by these companies to achieve competitive advantages (Itani et al, 2014). Studies stated that environmental factor is considered as the most important one for the success in exports (Sadeghi et al, 2012).

Development and promotion of exports by the government can be analyzed from two perspectives that complement each other. The first perspective is related to the economic logic of export development and responds to the question why the government interferes in the market for export development. The second perspective focuses on the political dimensions such as Export Development Plan (Kanda et al, 2016). Entry into international markets through exports or other strategies requires an understanding of cultural, economic, political, social, legal, and financial differences (Akdogan, 2011).

**Economic environment**

Generally, economic environment considers the level of demand in the economy and provides citizens with good living standards and a degree of trust in the future (Blythe, 2014). Economic conditions are considered as one of the factors affecting performance of companies and no country can control them (Marandu, 2009). Sales in foreign markets put a company at risk, such as currency fluctuations or changes in trade policies within the country without such risks (Vanoorenberghe et al, 2016).
Exchange rate is considered as one of the explanatory variables in economic policies. It continuous and excessive fluctuations in exchange rate blur the prediction of prices in the future and disrupt resource allocation (Basirat et al, 2013), leading to an impact on exports (Basirat et al, 2013; Milner and Zgovu, 2006; Ho, 2012; Sekkat, 2016). Fixing the exchange rate through prudent monetary policies enables firms to develop strategic focus. Currency fluctuations, fluctuations in financial, foreign dependence, political instability, economic and environmental performance are considered as important factors affecting export performance (Haar and Buonafina, 1995). Increasing the exchange rate reduces imports and increases export of domestic products (Heidari and AhmadZadeh, 2015).

**Socio-cultural environment**

Social environment is defined as beliefs, values, and norms that shape consumer demands and preferences (Kotler and Keller, 2012). Cultural environment refers to a set of beliefs and behaviors, such as language, religious beliefs, traditional ways of working, gender roles, buying behavior, etc., in a society in which the company operates (Blythe, 2014).

For centuries, learning foreign languages is a benefit for society and knowledge of foreign languages means better job opportunities, conditions, access to the latest information, and modern technology (Ezmale and Rimsane, 2014).

Ways of doing business in different countries are different and unfamiliarity with them creates stressful conditions for exporters (Leonidou, 2004).

**Political and legal environment**

Legal and political environment includes regulatory agencies, governmental agencies, and pressure groups that affect the behavior of organizations and individuals through creating different limits for them (Kotler and Keller, 2012). The government and governmental policies are considered as a vital source for export companies because of the ability to control over resources and policies. Thus, it is important to pay attention to politics, law, and society in both origin and destination countries (Villa et al, 2015).

Businesses may lose a large part of their sales due to government regulation, poor infrastructure, corruption, and crime (Bah and Fang, 2015). Some foreign markets suffer from political instability caused by the economy (low per capita income, large external debt), social (religious, ethnic tensions), political (authoritarian regimes, conflicts with neighbors) and military factors that can affect the operation of exporters outside the country (Leonidou, 2004).

Export incentives are considered as an important tool for export development in developing countries. The countries are faced with relatively high export costs due to weak institutions and infrastructure (Davaakhhuu et al, 2014). Plans promoting the development of the government can have a positive impact on export performance (Durmusoglu et al, 2012).

One of the ways for export development is implementation of tariff protection (Ghasemi, 2008; DaSilva and et al, 2001). This policy provides opportunities for obtaining relative advantages, strength, and competitiveness in the international arena through the increased access of the export sector to foreign
raw materials without payment of interest and customs duties, and reducing production costs (Ghasemi, 2008).

According to previous studies and theoretical foundations, the research conceptual model is shown in Figure 1.

![Figure 1: Research Conceptual Model](image)

**Research Methodology**

The present study aimed to prioritize indicators of macro-environmental factors in entry of Semnan plaster plants into the markets of neighboring countries. This study was an applied research. The statistical pollution included business unit managers and employees of Semnan plaster plants. The sample consisted of 30 people based on the purposive sampling. Data were analyzed using the analytic hierarchy process (AHP). AHP is one of the most comprehensive systems designed for multiple attribute decision making because it provides the possibility of formulating the problem hierarchically. This process involves the different options in the decision making and provides the possibility of sensitivity analysis on criteria and sub-criteria. Furthermore, AHP facilitates calculations and judgments based on Pairwise Comparison. One of the advantages of this technique in multi-criteria decision making is determining the compatibility and incompatibility of decision making. AHP is based on the obvious principles and is theoretically strong.

AHP solves difficult and complex problems by analyzing and converting them into simple ones. This technique is widely used for economic and social issues. In recent years, it has been used in managerial affairs.

Forasmuch as AHP is based on group decision-making, compound matrix should be composed based on the paired comparison matrices. Therefore, after forming the hierarchical tree and determining the levels of the problem, the compound matrix of pairwise comparison was formed for level 2 and level 3.

Data were collected through a questionnaire. After giving the necessary explanations, the participants were asked to complete the questionnaires in person. To complete a questionnaire, it was necessary to consider the criterion at
the top of each table. According to the criterion, the more important element (red or black) was determined. If the black element was more important, the amount of its importance would be determined compared to the red one. The number 1 was considered as equal importance, 3 as slightly favorable, 5 strongly favorable, 7 as very strongly favorable, 9 as completely favorable, and the numbers 2, 4, 6 and 8 as the favorability between these numbers.

Table 1: Measures in AHP

| Preferences | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

One of the strengths of AHP method is self-control system that uses a compatibility rate to consider the degree of validity and reliability of pairwise comparisons matrices. The inconsistency rate for each should be less than 0.1. After comparisons, the EC value of questionnaires was calculated using Expert Choice software. Then, the weight of each criteria and sub criteria was determined.

The analysis of demographic data indicated that most respondents have a bachelor's degree with 10 to 15 years of work experience; 5-10 years of presence in the industry; and 2-5 years of export company. They were newly entered companies in the international markets. They need to understand export environment for the continuation and survival of export activities. Table 2 shows demographic data.

Table 2: Demographic characteristics of statistical sample

<table>
<thead>
<tr>
<th>characteristics</th>
<th>frequency</th>
<th>percentage frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education level</td>
<td>Diploma and below diploma</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Associate Degree</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Bachelor's degree</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Master's degree or higher</td>
<td>13</td>
</tr>
<tr>
<td>Organizational position</td>
<td>Senior Manager or company owner</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Director of research and development (R &amp; D)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>production manager</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Sales and Marketing Manager</td>
<td>6</td>
</tr>
</tbody>
</table>
The first level of the decision tree is the objective, which is prioritizing the business environment in Semnan plaster plants. The second level of the decision tree includes three factors: political, economic, and cultural. Table 3 shows the obtained weights for each of the main indicators. According to the obtained data, political, economic, and cultural factors had the highest weight, respectively. In addition, inconsistency rate was 0.00273 that was less than 0.1, and indicates compatibility between pairwise comparisons.

Table 3: prioritization of macro-environmental factors in entry of Semnan plaster plants into the markets of neighboring countries

<table>
<thead>
<tr>
<th>Main criteria</th>
<th>Weight</th>
<th>Prioritization</th>
<th>Inconsistency rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Political</td>
<td>0.496</td>
<td>1</td>
<td>0.00273</td>
</tr>
<tr>
<td>Economic</td>
<td>0.287</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Cultural</td>
<td>0.217</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>
Sub-criteria decision tree exists in the next level. The weight of sub-criteria for political factors is shown in Table 4. According to the obtained information, high tariff and nontariff barriers, political instability in foreign markets, and strict laws on foreign markets had the highest weight, respectively. In addition, inconsistency rate was 0.00298 that was less than 0.1, and indicated compatibility between pairwise comparisons.

Table 4 - weight of sub-criteria for political factors

<table>
<thead>
<tr>
<th>Sub-criteria</th>
<th>Weight</th>
<th>Prioritization</th>
<th>Inconsistency rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Political instability in foreign markets</td>
<td>0.390</td>
<td>2</td>
<td>0.00298</td>
</tr>
<tr>
<td>Strict laws on foreign markets</td>
<td>0.190</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>High tariff and nontariff barriers</td>
<td>0.420</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

The weight of sub-criteria for economic factors is shown in Table 5. According to the obtained information, fluctuations in exchange rate and deteriorating economic conditions outside the country had the highest weight, respectively.

Table 5 - weight of sub-criteria for economic factors

<table>
<thead>
<tr>
<th>Sub-criteria</th>
<th>Weight</th>
<th>Prioritization</th>
<th>Inconsistency rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deteriorating economic conditions outside the country</td>
<td>0.357</td>
<td>2</td>
<td>0.000</td>
</tr>
<tr>
<td>Fluctuations in exchange rate</td>
<td>0.643</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

The weight of sub-criteria for cultural factors is shown in Table 6. According to the obtained information, unfamiliarity with foreign business, the difference in dialect, cultural and social features had the highest weight, respectively. In addition, inconsistency rate was 0.00325 that was less than 0.1, and indicated compatibility between pairwise comparisons.

Table 6 - weight of sub-criteria for cultural factors

<table>
<thead>
<tr>
<th>Sub-criteria</th>
<th>Weight</th>
<th>Prioritization</th>
<th>Inconsistency rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unfamiliarity with foreign business</td>
<td>0.569</td>
<td>1</td>
<td>0.00325</td>
</tr>
<tr>
<td>Cultural and social features</td>
<td>0.175</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>difference in dialect</td>
<td>0.256</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

Table 7 shows weight of the sub-criteria for the main criteria (political, economic and cultural) according to the objective (business environment). According to the
results, high tariff, nontariff barriers, political instability in foreign markets, and fluctuations in exchange rate had the highest weight, respectively. In addition, inconsistency rate was 0.0029 that was less than 0.1, and indicated compatibility between pairwise comparisons.

Table 7: prioritization of sub-criteria based on the objective

<table>
<thead>
<tr>
<th>Sub-criteria</th>
<th>Weight to objective</th>
<th>Weight to preference</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Political factors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Political instability in foreign markets</td>
<td>0.229</td>
<td>2</td>
</tr>
<tr>
<td>Strict laws on foreign markets</td>
<td>0.112</td>
<td>4</td>
</tr>
<tr>
<td>High tariff and nontariff barriers</td>
<td>0.247</td>
<td>1</td>
</tr>
<tr>
<td><strong>Economic factors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deteriorating economic conditions outside the country</td>
<td>0.080</td>
<td>6</td>
</tr>
<tr>
<td>Fluctuations in exchange rate</td>
<td>0.143</td>
<td>3</td>
</tr>
<tr>
<td><strong>Cultural factors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unfamiliarity with foreign business</td>
<td>0.108</td>
<td>5</td>
</tr>
<tr>
<td>Cultural and social features</td>
<td>0.033</td>
<td>8</td>
</tr>
<tr>
<td>difference in dialect</td>
<td>0.048</td>
<td>7</td>
</tr>
</tbody>
</table>

After determining prioritization, business environment factors were analyzed based on the performance sensitivity. This method shows any available information about how alternatives behave against each of the sub-criteria. This is actually the most intensive display of information about prioritization of alternatives. Performance diagram is composite image of sensitivity that shows the performance of alternatives for each criterion (Sameti and asghari, 2003). Diagram of the analysis for performance sensitivity is shown in Figure 1. The vertical axis represents the final weights of criteria. The horizontal axis represents the main criteria. The vertical columns in the diagram represent the weight of each criterion. The line in the diagram represents the sub-criteria weight. As displayed in the diagram, political factors, economic, and cultural factors are considered as the most important macro-environmental factors in entry of Semnan plaster plants into the international markets, respectively.
In today's environment, it is very important to understand the political, economic and cultural changes in the world. Companies have the ability to position their products in a highly competitive environment. The present study aimed to prioritize indicators of macro-environmental factors in entry of Semnan plaster plants into the markets of Iran's neighboring countries. According to the research findings, political factors, economic, and cultural factors were considered as the most important macro-environmental factors, respectively.

The results of the study are consistent with the results of the studies conducted by Miecinskiene et al. (2014) and Akdogan et al. (2011). For sub-criteria, high tariff and non-tariff barriers in accordance with the findings of Ghasemi (1387) and DaSilva (2001), political instability in foreign markets in line with Leonidou Research (2004) and Haar and Buonafina (1995), fluctuations in exchange rate according to research by Mlinar and Zgovu (2006), Basiri et al. (2013), Sekkat (2016), Ho (2012), strict laws on foreign markets in accordance with the findings of Bah and Fang (2015), unfamiliarity with foreign business in accordance with the findings of Leonidou research (2004), deteriorating economic conditions outside the country according to research by Marandu (2009), differences in dialect according to research by Azmal and Reims (2014), a cultural and social characteristics according to research by Blythe (2014) had the highest importance, respectively. Functional and rational policy must be used to maintain the obtained opportunity in the region. Chambers of Commerce should make more efforts to reduce tariffs in destination countries and offset part of the costs of customs by granting export incentives. Instability in the region has provided factories, such as Semnan Plaster Plants, with an unexpected opportunity. Therefore, products of factories closed down in war torn regions, such as Iraq and Afghanistan, must be analyzed to produce better quality products with similar packing and based on legal and cultural requirements of neighboring countries. Furthermore, an acceptable brand must be created based on the beliefs and culture of the target market; for example, Semnan Plaster
Plants have created a brand of “Almizan and Amin” that demonstrates fairness and trusteeship in the production.

According to exchange rate fluctuations, it is suggested that managers are familiar with export procedures through evaluation of the rules, consultation with trade lawyers in destination countries about facilitating the export process, and holding training classes. Challenges to enter this market can be removed by introduction of merchants by Chamber of Commerce. In addition, potential business can be actualized by participating in specialized exhibitions on the construction industry.

Economic conditions in neighboring countries have caused public sectors to develop more than private sectors. Thus, investments are directed only to meet the urgent needs and sometimes high risk leads to individual unwillingness to invest in development projects. Therefore, it is suggested the Chamber of Commerce establishes better relations with the counterparts in the destination government to introduce products and companies to the target market and also removes differences in dialect using local agents in the target market and giving them commission.

Social and cultural characteristics having the lowest score in this study represent the lowest barrier because of high levels of similarity between socio-cultural characteristics in the region. Therefore, this obstacle can be solved by producing products based on regional needs.

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