

## An empirical study to determine the critical success factors of export industry

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### ABSTRACT

Exporting goods and services play an important role on economy of developing countries. There are many countries in the world whose economy is solely based on exporting raw materials such as oil and gas. Many believe that countries cannot develop their economy as long as they rely on exporting one single group of raw materials. Therefore, there is a need to help other sectors of industries build good infrastructure for exporting diversified products. In this paper, we perform an empirical analysis to determine the critical success factors on exporting different goods. The results are analyzed using some statistical non-parametric methods and some useful guidelines are also suggested.

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## 1. Introduction

There have been tremendous changes during the first decade of the new millennium on world's economy. We have been witnessed that Japan practically replaced its place with China in terms of economy since China has increased its GDP steadily. Therefore we can observe that there is a growing competition in world's global market. The key success for any company to survive on the market is to gain more market share by exporting more products to all different countries. The main challenge is to maintain good quality products with relatively suitable prices to satisfy customers and there are virtually tremendous efforts to determine the most important factors not only to hold present customers but also to absorb more clients through the global economy. One of the most important issues on the success of export is to determine the critical success factors (CSF) involved on the market. Lamont (1993) studied the CFS in exporting of agricultural products and determined six important issues in a case study of Dutch seed potato industry. Furthermore, this study maintained that management's perceived export advantages seem to be an important determinant of export performance. Lee and Son (1993) investigated various export strategies in Korea and found that research and development played a key role on the success of export. Dean et al. (2000) performed a

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study to compare the differences between the low and the high performance exporters. They studied the effects of selected firm-related and export strategy-related variables on three selected attributes of export performance of annual export sales, export growth, and percentage of total sales from export and reported a significant difference between the low and the high performance exporters. Alvarez (2007) performed an empirical study on the export of Chilean manufacturing plants and reported that labor skills and technological innovation were two most important factors that could boost export. Andraz and Rodrigues (2010) analyzed some causal relationships between exports, inward foreign investment and economic growth in Portugal and identified their direction. The study analyzed the impact of both foreign direct investment (FDI) and exports in the Portuguese economy from the year 1977 to the year of 2004. They reported that export and FDI helped the growth in long term. FDI is considered as the main reason for economic growth, both directly and indirectly, via exports for both long and short term cases.

In this paper, we present an empirical analysis to determine the critical success factors of the exporting industry for a province located in north region of Iran, Mazandaran. The study performs a comprehensive study on different important factors affecting the export of goods from Iran. This paper is organized as follows. We first give a brief introduction on Mazandaran province in section 2. Section 3 presents the details of our survey and discusses the results. Finally, conclusion remarks are given in the last section to summarize the contribution of the paper.

## **2. The proposed Survey**

Mazandran is one of the provinces of Iran which is located in north part of the country. The province has about 24, 000 square kilometer and it is surrounded by Caspian Sea from the north. The region has humid weather and it has over one million hectares of forest land and about 600,000 hectares of agricultural lands. The province is surrounded by five other provinces. Most people are involved in two agricultural and tourism industries. Many local people are also working on lands cultivating different kinds of agricultural products such as rice, beans, etc. The region produces about 50% of total production of rice and fruits in the country. Also, the region is number one in production of flower in the country. In recent years, there is a growing interest to promote tourism industry in this region. The country of Iran mainly relies on exporting oil as the main source of funding government budget. However, selling oil as a raw material itself cannot provide sustainable growth of economy. Therefore, it is publicly accepted that the only way to develop the economy of the country is to invest on other items such as agricultural products and the primary focus is to get foreign market share via exporting goods and services. In this study, we attempt to find the most important issues facilitating export industry in the region of Mazandaran. Next section we present some of the most important factors affecting exporting industry. Presently, there are about three million people live in the region creating a good labor market in the province. Population plays an important role on economy of a country and we aim to study the impact of relatively cheap labor market on boosting the export industry. There are many people who believe that highly populated countries cannot develop their economy but China with over 1.3 billion population has shown that the country not only meet the country's domestic demand but also it has been able to increase its export, significantly. A highly populated country could be a primary source of demand for goods which reduces the risk of exporting industry, substantially.

Another important factor which needs to be carefully monitored is to create different promotion for export. There are different promotion plans in the world to support export such as currency, custom, tax, etc. Normally a good combination of all these factors could be a good promotion for industries but it does not have to last for long term since it could remove creativity on the market. Custom regulation is one of the most controversial issues and it could have both good and bad effects on industry. On the negative side, when the government increases the level of custom, there will a big problem to be a member of world trade organization. On the positive side, it could also increase black market since smuggling of goods become more prevalent on the economy. Custom used to be a good

source of funding the government but presently it is considered mostly as a tool to support producers on preventing dumping. Fiscal and monetary policy is another supporting tool to help boost export. Any change on the monetary regulation could significantly have both positive and negative impact on the market. Whenever we increase the supply for money on the country, there will be more demand for products. However we could expect a higher level of inflation on the economy. The monetary policies such as subsidizing raw materials have significant impact on the export. For instance, government could indirectly provide marketing facilities through embassies in different countries.

Inflation is another important factor which could significantly influence export and it has both direct and indirect effects. Any increase on the level of prices due to inflation in the country could jeopardize export since exporters cannot easily increase their prices on international market. On the other hand, people may not be able to easily purchase goods since they are unable to increase their income and this is the indirect effect of inflation. There are some other inter-company related issues which have significant impact on marketing product on global economy such as packaging, marketing, etc.

### 3. Survey questionnaire

The survey of this research gathers different well known people who have been actively working on the field of exporting industry for the past ten years.

**Table 1**

Important factors on boosting export

Title	Priority
Comprehensive production planning	1
Stability of rules and regulations	2
Availability of funding resources	3
Suitable packaging	4
Governmental monetary regulations	5
Access to raw materials and necessary standards	6
Currency regulations	7
Good knowledge on exporting industry and its regulations	8
Tax exemption	9
Availability of the infrastructure	10
Standard and Quality	11
Custom regulation knowledge	12
Good production plan for exporting products	13
Existence of a union for export affairs	14
Good coordination among different organizations	15
Good knowledge on export potentials	16
Good background knowledge of export among society	17
Good cooperation of banking industry	18
Good exporting experience	19
Pricing strategy	20
Transportation System	21
Importing versus exporting strategy	22
Levels of bureaucracy	23
Cost of exporting goods	24
Exporting products in batch	25
Experienced human resources	26

Table 1 summarizes some of the most important questions which are believed to have impact on exporting issue with the level of their priorities. These factors are gathered using brain storming

discussions. The priorities for Table 1 have been determined using some experts who were active in exporting goods and services. In order to measure the relative importance of various factors, we have distributed a survey questionnaire among 500 people who had at least ten years of export related experiences. Therefore, the following formula is used to calculate the minimum number of sample size (Siegel, 1956),

$$n = \frac{N \times z_{\alpha/2}^2 \times p \times q}{\varepsilon^2 \times (N - 1) + z_{\alpha/2}^2 \times p \times q}, \quad (1)$$

where  $N$  is the population size,  $p = 1 - q$  represents the yes/no categories,  $z_{\alpha/2}$  is CDF of normal distribution and finally  $\varepsilon$  is the error term. Since we have  $p = 0.5$ ,  $z_{\alpha/2} = 1.96$  and  $N = 500$ , the number of sample size is calculated as  $n = 470$ . In order to understand the experts' opinions we use Likert (Likert, 1932) scale from one to five described in Table 2

**Table 2**

Likert ranking of the questionnaire

Rank	1	2	3	4	5
Meaning	Completely disagree	disagree	No opinion	agree	Completely agree

Based on the preliminary brain storming among expert people we choose 15 most important questions summarized as follows,

1. Packaging plays an important role on developing export industry and any loan facilities could help in this regard.
2. International exhibitions could provide suitable tools on introducing products. The government system could help private sectors participate in such places by providing loans with low interest rate.
3. Sustainable quality on exports could build a mutual trust among foreign customers and successful units of exporters must be promoted.
4. Exporters with international quality certificates could access to better exporting market. Government could support exporting units to get the necessary licenses by providing loans.
5. Logistics is one of the most important components of a supply chain and there must be special loan offers to support the establishment of such units.
6. There must be good connections between domestic banks and international ones so that exporters could easily transfer funds.
7. Commodity market, options and derivatives could help exporters lower the risk of any unwanted fluctuation on different prices and exchange rates. Such market must be available for domestic exporters.
8. Establishing a union between producers and exporters could boost export.
9. Sustainable tax exemption could create steady growth on export.
10. Any regulation such as custom reduction for importing production facilities against exporting industry will definitely help export industry.

11. Best exporters must be rewarded continuously either financially or non-financially.
12. Research & development organizations need to be established to detect the target market.
13. Any joint venture between domestic and foreign corporation could boost export.
14. Small and medium business units play an important role on having better exporting market.
15. Marketing plays an important role on gaining more foreign market share.

We have performed a non-parametric analysis on these 15 questions and all computations were executed using MINITAB 8. Table 3 summarizes the details of the results of our computations.

**Table 3**

The details of the non-parametric test results

Question number	Average	Standard deviation	Cronbach alpha
1	4.713	0.455	0.8631
2	4.745	0.438	0.8622
3	4.787	0.411	0.8654
4	4.670	0.537	0.8654
5	4.713	0.478	0.8650
6	4.617	0.489	0.8591
7	4.617	0.551	0.8579
8	4.734	0.444	0.8628
9	4.770	0.444	0.8518
10	4.734	0.490	0.8564
11	4.840	0.368	0.8615
12	4.745	0.462	0.8503
13	4.436	0.587	0.8571
14	4.521	0.563	0.8585
15	4.532	0.502	0.8552

The median rate for all 15 questions was 4 which mean the people confirm all 15 statements. The average weight was greater than 4.5 for all cases which also confirmed the results suggested by median. The numbers for Cronbach alpha for all statements of the questionnaire were from 0.8503 to 0.8650 which validated the overall test results. In summary, it seems that government could help export industry by setting suitable regulations such as providing loans with low interest rates, tax exemption, etc. On the other hand, producers and exporters could collaborate to build a better supply chain on exporting industry. Finally, exporting industry is a complicated industry and only people with long term commitment on providing products with high quality should participate. In other words, a mutual trust between customers and producers could be created only when they receive good products with outstanding packaging, guarantee and reliable after-sales services.

#### 4. Conclusion

Exporting goods and services has been one of the most important factors on developing the economy of countries. Today, globalization has become a necessary issue as part of the countries' economy and most countries attempt to join world trade organization to increase their exports. Therefore, there is a need to modify the regulation in order to meet the necessary requirements. We have performed an empirical study to find the most important obstacles on boosting exporting industry in one of the provinces of Iran called Mazandaran. Based on the results of this study, the government could help

producers develop their exporting business by reducing tax, providing low interest loans, supporting marketing planning abroad, etc. There are also various parameters which could be considered by producers such as having an active union, maintaining a high level of quality for long term, using a good packaging, etc.

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## References

- Andraz, J. M., & Rodrigues, P. M. M. (2010). What causes economic growth in Portugal: exports or inward FDI?, *Journal of Economic Studies*, 37(3), 605-622.
- Lee, M., Son, B. (1993). Korean strategies for export markets. *Long Range Planning*, 26(6), 99-106.
- Ling-yee and Ogunmokun (2001) performed a comprehensive study on the effect of export financing resources and supply-chain skills and reported that these two factors could contribute to lower the costs and increase the export competitive advantages.
- Dean, D. L. D., Mengüç, B., & Myers, Ch. P. (2000). Revisiting firm characteristics, strategy and export performance relationship: A survey of the literature and an investigation of New Zealand small manufacturing firms. *Industrial Marketing Management*, 29(5), 461-477.
- Lamont, I. T. J. (1993). Export success determines in the new product development process for exported agricultural products: Evidence from the Dutch seed potato industry. *Agricultural Systems*, 41(4), 455-474.
- Likert, R. (1932). A Technique for the Measurement of Attitudes. *Archives of Psychology*, 140, 1-55.
- Alvarez, R. (2007). Explaining export success: Firm characteristics and spillover effects. *World development*, 35(3), 377-393.
- Ling-yee, L., & Ogunmokun, G. O. (2001). Effect of export financing resources and supply-chain skills on export competitive advantages: implications for superior export performance. *Journal of World Business*, 36(3), 260-279.
- Siegel, S. (1956). *Nonparametric statistics for the behavioral sciences*. NY: McGraw-Hill.