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Explanation of Factors Affecting the Export of Flowers in Iran: A Case Study in Alborz Province

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Abstract

Developing countries are continually looking for sustainable economic growth. In this regard, recognition of effective factors on the economic growth is highly significant. The availability of suitable climate and numerous fields and closeness to several main autobahns and crossing of railway from Alborz province and also the existence of only one airport for freight in country in this province have created high capacity for emergence of big center for production and exportation of flowers in the province. By overcoming on the existing difficulties for production, marketing and distribution we can transform this province as one of the flowers and plants exporting center. This research has been done by the target of studying the effective factors on flowers export of Iran and after the investigation of current status of production and distribution of ornamental flowers and plants in Iran; it explains the factors and effective organizations on the development of the exportation. The required information has been collected through interview with the experts and questionnaire from the manufacturers, distributors and the related specialists in Alborz province. In this research, we have used the research method knowledge and SPSS software for investigation of hypothesis and obtaining the outcomes. By studying the literature of the research and observing different exportation models we have suggested a model for the research that the effective factors on the exportation of the flowers and plants has been explained through it. The factors have been divided into two general categories, the internal and the external factors. The internal factors include the features of the product and the characteristics of the company and the external factors include the features of the major environment, the features of the market and the features of the industry. By utilizing the questionnaire and interview, such factors have been explained, and by determining the significant factors and determination of interfering organizations in such matter, we have presented solutions for it. The outcomes indicate that all the mentioned factors are effective with significant difference from the average in development of flowers exportation, the internal factors are more effective than the external factors, and the most effective factors are respectively related to the product, major environment, market, industry, and finally the characteristics of the organization. After explanation of the outcomes, the suggestions which are tried to be practical are mentioned.

Keywords: industrial production of flower, flower export, exporting models, the export performance, flower marketing.

Introduction

The outcomes of the researches indicate that planting flowers and plants or receiving presents like flowers can bring joy and happiness more than anything else can for human beings. Buying flowers, planting flowers and plants and generally looking at flowers causes the flourishing of delight, comfort and refreshing feel, positive thinking and staying away from grief. (Haviland-Jones, 2002) the expression of the term “Flower” refers to the cut branch or the flower buds (that

usually are with a part of stems and leaves) that is separated from the main plant. Generally, for interior decoration, this product has been used. The common utilization of cut branch flower is to put in vase and different decorations. Specifically, the marketing of this product must be considered in special ceremonies of target market countries and determined time periods of the year (Khandan, 2011). Regarding to the nature of flower and its high sensitivity towards the environmental status, one of the essential points about the way of domestic and international transportation among the elements of supplying continuum of flowers is attention on the types of distribution channels, accuracy in utilization of appropriate facilities and proper investment in this matter. (Farsijani et al, 2011) which currently, there is no appropriate supplying continuum (Figure 1).

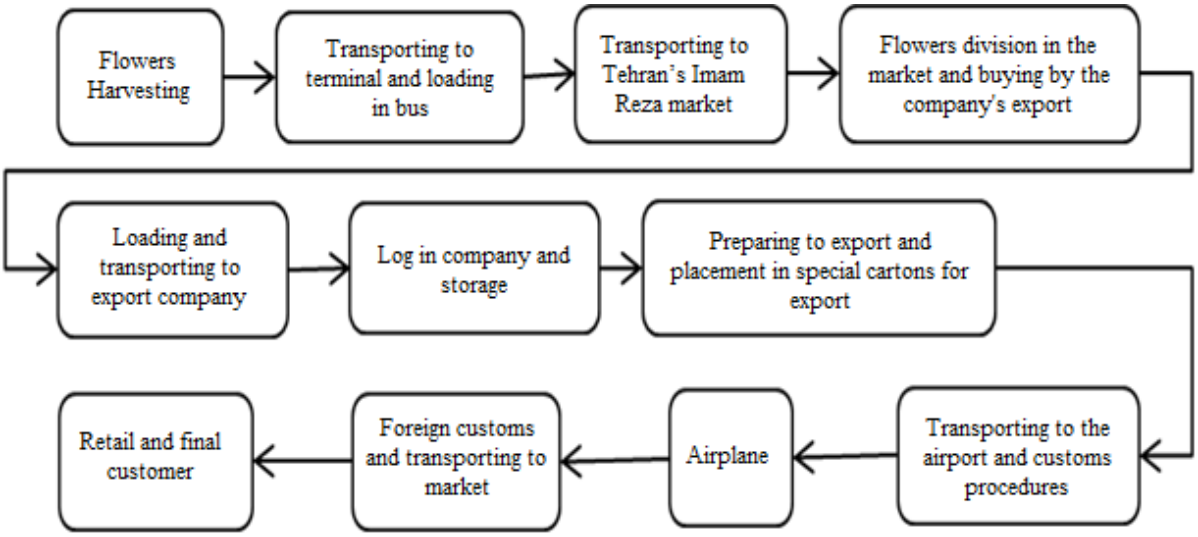

Figure 1. Iran's export flowers supply chain (Mostashar Nezami, 2012)

Lack of proper management and lack of use from the existing capacities cause that Iran cannot achieve appropriate capacity for the presence of Iran in international markets such a way it really is. While based on the ideas of specialists, Iran is able to export one million dollars flowers and plants. Hence, by having climate diversity and the talents for growing variety kinds of decorative plants is strongly potential for raising any types of plants. Regarding that the annual production of flowers and plants in the world is one billion and three hundred million flowers, only in Iran there have seven thousands and six hundred hectares of the fields of the country are under the production of flowers and plants, and annually thirty six million vase flowers and two hundred millions decorative plants have been produced. According to the provided statistics although Iran is ranked seventeen country in production of flowers and plants, it is ranked 107 in exportation of such product.

In addition to the mental and morale impacts leading to the enhancement of hope coefficient toward life and morale nourishment, increase the productivity coefficient of the individuals within workplace and increase of mutual understanding within families and societies that is caused for the sake of them, lots of economic benefits including high demand for workforce (10 to 12 persons directly, and 3 to 6 persons indirectly for raising each hectare of flowers), gaining money, and high productivity of water in this industry (Mostashar Nezami, 2012).

The status of Iran is economically significant due to being located near high flower ad plants consuming countries. The northern and southern neighbors of Iran are the perfect buyers of

decorative plants. Iran by having a balanced, stable and permanent market can find its real position in this industry. But why it hasn't been found such position?

The fundamental problem in such market is the flowers and plants organizing issue that the terminals have been very effective in this matter and also running and optimizing the transportation situation and adding freezer containers to land fleet, seaways and air cargoes in the airports have a positive effect in flowers and plants exportation.

Currently, Iran unlike it is ranked as 17 in the production of decorative flowers and plants, it has be ranked as 107 in flowers and plants export; while our country by having 4 seasons in different parts of Iran during a year and also its virgin nature not only can produce one billion flowers also it can obtain the business of flowers and plants export of the region and the market of other countries.

Until now, by a scientific method it has not been determined that which manufacturers and salespersons and organizations have taken part in emergence of such difficulties. In this research by utilizing the knowledge of research method we investigate the limiting factors of flowers export development.

Data collection

1. Questionnaire: in order to investigate the population of distributers (Flower sellers), a questionnaire have been designed and by using the methods of sampling the data have been collected. We used census method and sampling has not been done.
2. Interview: some interviews have been done for investigation of the ideas of the related specialists within the Agricultural organization of Alborz province, with individuals who are expert in the field of flowers and plants and the masters of the university and those who have successful experience in the province in such field.
3. The study of the documents: in order to investigate the other experiences of production centers of flowers we have studied the reports and existing documentaries to achieve an appropriate model from them. The investigation of successful experiences of other companies which have been collected in a form of article or interview, are the solutions of this research as useful documents.

Scope of the study (in terms of time and space)

Population and statistical sample

Field of research: the theme of the research field is the scope of export development in flowers industry.

Time periods of research: regarding to the statistical limitation, 1999 to 2009 have been considered as the study period in this research.

Research location: the geographical realm of Alborz province, institutions and the relate organizations in flowers export industry.

Data collection tools

In order to finalize the theoretic courses, the technical books, thesis and articles related to the subject have been used.

The questionnaire of this research was created based on the main concepts of the research and has been standardized. This questionnaire includes 40 main questions that the necessary data for testing hypothesis were collected through them. The questions of such questionnaire have been obtained from the investigation of the mentioned literature and also the performed interviews with managers, manufacturers and experts that for selection of such individuals' snow ball sampling have been utilized.

In providing main questions Likert scale has been used, and the respondents rate each one of the questions started from very low to too much. The effective general dimensions on flowers and plants export development in the research method re as follows: 1. Company features, 2. Characteristics of the products, 3. Industry characteristics, 4. Market characteristic, 5. Major environment features.

Assessing validity of data collection tools

Content Validity: the questionnaire have been given with a "Rate us Letter" to two of related teachers in the field of Pardis gardening and agricultural and natural resources of Tehran university and one of the gardening PHD students and also the main exporter of Alborz province (Mostashar Nezami , 2012). After receiving the ideas and their explanations, the questionnaires have been modified and have been sent again for them to evaluate the technical and scientific content of flowers and gardening. After revising the final edition that has been modifications including the omitting of one of the questions, rewriting five questions and adding 6 new questions. This edition has been distributed among the teachers in the field of export development for validity evaluation, and after modification of the questions, change in three questions, and changes and modifications of five questions, the questionnaire has been modified the content for the necessity validity.

Face validity

Twelve questionnaires were distributed among the experts and it has been requested from the respondents to give their ideas about the questionnaire. By getting the ideas of the respondents, some changes have been done for questionnaire modification.

Assessing reliability of data collection tools

The reliability coefficient has been measured by Cronbach's Alpha method, and the resulted variables as mentioned in below table, are bigger than 0.7, so it is determined that the related questionnaire has high reliability.

Table 1. Research questionnaires validity test

The alpha coefficient	Number of questions
0.75	40

Descriptive statistics of the variables

In this part we have investigated the descriptive statistics of related questions to questionnaire and the research variables and the number of responders to each question, the average and the diversion criterion of the given score to each question and the lowest and the highest given score to each question and the variable have been indicated (Table 2).

Table 2. Descriptive statistics of the variables

Variable	Number	Minimum	Maximum	Average	Standard deviation
Factors related to product	85	1.71	4.43	3.4276	0.56535
Organizational factors	85	2.17	4.67	3.7549	0.53365
Industry	85	2.33	4.67	3.5435	0.47601
Market	85	2.5	4.5	3.6231	0.45067
Macro environment	85	2.77	4.69	3.6394	0.44803
All internal factors	85	2.11	4.4	3.5912	0.46521
All external factors	85	2.7	4.45	3.602	0.34166

Inferential statistics to evaluate research hypotheses

In this part, the investigation of research hypothesis has been done, and the data have been analyzed by using appropriate statistical tests.

The investigation of the normality of research variables

In this research, in order to determine the data normality and the investigation of the type of appropriate tests for analyzing them, Kolomogrov-Smirnov test has been used and the outcomes have been listed blow (Table 3).

Table 3. The investigation of research variable normality

		M_1	M_2	M_3	M_4	M_5	M_6	M_7
Number of samples		85	85	85	85	85	85	85
Distribution's parameters	**Mean**	3.4276	3.7549	3.5435	3.6231	3.6394	3.5912	3.602
	SD	0.56535	0.53365	0.47601	0.45067	0.44803	0.46521	0.34166
Maximum deviation		0.16	0.123	0.117	0.129	0.073	0.106	0.072
	Positive	0.082	0.064	0.101	0.054	0.063	0.04	0.071
	Negative	-0.16	-0.123	-0.117	-0.129	-0.073	-0.106	-0.072
t		1.471	1.135	1.078	1.185	0.671	0.973	0.661
Sig.		0.264	0.152	0.196	0.121	0.759	0.3	0.775

H0: distribution of considered variable is normal.

H1: distribution of considered variable is not normal.

As it is indicated in above Table, the level of meaningfulness of the test for all the required variables is more than the acceptance error level (0.05), therefore, the H_1 is rejected and H_0 have been approved, and it has been determined that all the variables are normal and for their investigation we must use parametrical tests. In this research, we have used T-test in order to investigate the research hypothesis and Friedman test for prioritizing the variables.

Research Hypothesis Testing

In this part, we investigated the research hypothesis and we have used the average of single sample test for evaluating them.

Main Hypothesis 1: The internal factors are effective on the flowers export development.

Table 4. Descriptive statistics for variables related to the first main hypothesis

Number	Mean	SD	Tool's error
85	3.5912	0.46521	0.05046

Table 5. One-sample mean test to evaluate the first main hypothesis

t	df	Mean difference	Sig.
21.621	84	1.09123	0.000

H_0: $\mu = 2.5$

H_1: $\mu \neq 2.5$

According to what has been indicated in above Table, the number related to the meaningfulness level of the research is 0.000 and this amount is less than the acceptable error level for the test (0.5); therefore, the H_0 with probability of 95% is rejected and against hypothesis is

accepted at the level of 5% error level, and it is determined that the average of answers to the questions related to internal factors is not equal with 2.5 which is the average limit, and since according to the recorded information in table 10-4, this average is 3.59 and this number is higher than the average level; therefore, this result have been taken that according to the ideas of the members of the research population, the internal factors are effective on the development of flowers export and the researcher's first hypothesis has been accepted (Table 4, 5).

First Derivative Theory: the factors related to the product are effective on the development of flowers export.

Table 6. Descriptive statistics of variables related to the first sub-hypothesis

Number	Mean	The standard deviation	Tool's error
85	3.7549	0.53365	0.05788

Table 7. One sample mean test to evaluate first sub hypotheses

Test statistic	Degrees of freedom	Mean difference	Level of significance
21.680	84	1.25490	0.000

H_0: $\mu = 2.5$

H_1: $\mu \neq 2.5$

According to the mentioned information in above table, the number related to the meaningfulness level is 0.000 and this number is less than the acceptable error level for the test (5%); therefore the H_0 with probability of 95% is rejected and against hypothesis is accepted at the level of 5% error level, and it is determined that the average of answers to the questions related to internal factors is not equal with 2.5 which is the average limit, and since according to the recorded information in table 12-4, this average is 3.75 and this number is higher than the average level; therefore, this result have been taken that according to the ideas of the members of the research population, the factors related to the product are effective on the development of flowers export and the researcher's first derivative theory has been accepted (Table 6, 7).

Second Derivative Theory: the factors related to the company are effective on the development of flowers export.

Table 8. Descriptive statistics of variables related to the second sub-hypothesis

Number	Mean	The standard deviation	Tool's error
85	3.4276	0.56535	0.06132

Table 9. One-sample mean test to evaluate the second sub-hypothesis

Test statistic	Degrees of freedom	Mean difference	Level of significance
15.126	84	0.92756	0.000

H_0: $\mu = 2.5$

$H1$: $\mu \neq 2.5$

According to the mentioned information in above table, the number related to the meaningfulness level is 0.000 and this number is less than the acceptable error level for the test (5%); therefore the H_0 with probability of 95% is rejected and against hypothesis is accepted at the

level of 5% error level, and it is determined that the average of answers to the questions related to factors related to the company is not equal with average limit, and since according to the recorded information, this average is 3.42 and this number is higher than the average level; therefore, this result have been taken that according to the ideas of the members of the research population, the factors related to the company are effective on the development of flowers export and the researcher's second derivative theory has been accepted (Table 8, 9).

Second Main Hypothesis: External factors are effective on the development of flowers export.

Table 10. Descriptive statistics of variables related to the second main hypothesis

Number	Mean	The standard deviation	Tool's error
85	3.6020	0.34166	0.03706

Table 11. One-sample mean test to evaluate the second main hypothesis

Test statistic	Degrees of freedom	Mean difference	Level of significance
29.738	84	1.10203	0.000

H_0: $\mu = 2.5$

H_1: $\mu \neq 2.5$

According to the mentioned information in above table, the number related to the meaningfulness level is 0.000 and this number is less than the acceptable error level for the test (5%); therefore the H_0 with probability of 95% is rejected and against hypothesis is accepted at the level of 5% error level, and it is determined that the average of answers to the questions related to external factors is not equal with 2.5 which is the average limit, and since according to the recorded information in table 11, this average is 3.60 and this number is higher than the average level; therefore, this result have been taken that according to the ideas of the members of the research population, the external are effective on the development of flowers export and the researcher's second main hypothesis has been accepted (Table 10, 11).

Third Derivative Theory: Factors related to Market are effective on the development of flowers export.

Table 12. Descriptive statistics of variables related to the third sub-hypothesis

Number	Mean	The standard deviation	Tool's error
85	3.6231	0.45067	0.04888

Table 13. One-sample mean test to evaluate the third sub-hypothesis 3

Test statistic	Degrees of freedom	Mean difference	Level of significance
22.976	84	1.12311	0.000

H_0: $\mu = 2.5$

H_1: $\mu \neq 2.5$

According to the mentioned information in above table, the number related to the meaningfulness level is 0.000 and this number is less than the acceptable error level for the test (5%); therefore the H_0 with probability of 95% is rejected and against hypothesis is accepted at the

level of 5% error level, and it is determined that the average of answers to the questions related to factors related to Market is not equal with 2.5 which is the average limit, and since according to the recorded information in table 12, this average is 3.62 and this number is higher than the average level; therefore, this result have been taken that according to the ideas of the members of the research population, the factors related to Market are effective on the development of flowers export and the researcher's third derivative theory has been accepted (Table 12, 13).

Fourth sub-hypothesis: Factors related to industry are effective on the development of flowers export.

Table 14. Descriptive statistics of variables related to the fourth sub hypothesis

Number	Mean	The standard deviation	Tool's error
85	3.5435	0.47601	0.05163

Table 15. One-sample mean test to evaluate the fourth sub hypothesis

Test statistic	Degrees of freedom	Mean difference	Level of significance
20.211	84	1.04353	0.000

H_0: $\mu = 2.5$

H_1: $\mu \neq 2.5$

According to the mentioned information in above table, the number related to the meaningfulness level is 0.000 and this number is less than the acceptable error level for the test (5%); therefore the H_0 with probability of 95% is rejected and against hypothesis is accepted at the level of 5% error level, and it is determined that the average of answers to the questions related to factors related to industry is not equal with 2.5 which is the average limit, and since according to the recorded information in table 16, this average is 3.54 and this number is higher than the average level; therefore, this result have been taken that according to the ideas of the members of the research population, the factors related to industry are effective on the development of flowers export and the researcher's fourth derivative theory has been accepted (Table 14, 15).

Fifth sub-hypothesis: Factors related to major environment are effective on the development of flowers export.

Table 16. Descriptive statistics for variables related to the fifth sub hypotheses

Number	Mean	The standard deviation	Tool's error
85	3.6394	0.44803	0.04860

Table 17. One-sample mean test to evaluate the fifth sub-hypothesis

Test statistic	Degrees of freedom	Mean difference	Level of significance
23.447	84	0.000	1.13944

H_0: $\mu = 2.5$

H_1: $\mu \neq 2.5$

According to the mentioned information in above table, the number related to the meaningfulness level is 0.000 and this number is less than the acceptable error level for the test (5%); therefore the H_0 with probability of 95% is rejected and against hypothesis is accepted at the

level of 5% error level, and it is determined that the average of answers to the questions related to factors related to major environment is not equal with 2.5 which is the average limit, and since according to the recorded information in table 18, this average is 3.63 and this number is higher than the average level; therefore, this result have been taken that according to the ideas of the members of the research population, the factors related to major environment are effective on the development of flowers export and the researcher's fifth derivative theory has been accepted (Table 16, 17).

Research variable prioritization

In this part, it is tried to rank the effective factors on the development of flowers export generally and also to distinguish their sub-categories and the priority of each one of these factors are descriptively determined by the individuals of the population.

Table 18. Friedman test to evaluate total significance of ranking in related factors

Number	85
Test statistic	5.188
Degrees of freedom	1
Level of significance	0.023

The investigation of the obtained results from Friedman Test indicates that the number related to the meaningfulness level of the test is lower than the acceptable error level, therefore it is determined that by the probability of 95% prioritizing among the variable is meaningful. In below table the priority of each one of the factors comparing with each other are determined descriptively (Table 18).

Table 19. Ranking the overall factors affecting the development of the flower's export

Factors	**Mean**	**grade**
Internal	1.62	1
External	1.38	2

As it is indicated in the table, according to the members of the population, the internal factors on the development of the flowers export is at the first level and the external factors are ranked in second place (Table 19).

Table 20. Friedman test to evaluate total significance of ranking in related sub factors

Number	85
Test statistic	27.485
Degrees of freedom	4
Level of significance	0.000

The investigation of the outcomes derived from Friedman test indicates that the related number to the meaningfulness level of the research is less than the acceptable error level; therefore it is determined that with probability of 95% the prioritizing is meaningful among the variables. In below table the priority of each factors in comparison with others have been descriptively determined by the members of the population in this research (Table 20).

Table 21. Ranking the sub factors affecting the development of the flower's export

Effective factors	Mean	Grade
Product	3.66	1
Macro environment	3.18	2
Market	2.92	3
Industry	2.74	4
company	2.49	5

According to the indicated information in above table and the ideas of the members of the population about the development of the flowers export, the factors related to product is the first, major environment as the second one, Market ranked three, industry ranked four and the factors related to the company ranked fifth (Table 21).

Conclusion and recommendations

The outcomes resulted from the measurements and analysis indicates that all the required variables are normal and by utilizing parametric test they have been analyzed. In reply to the main question of the research in Part C, the hypothesis and derivative theories have been investigated and it has been determined that both internal and external factors are effective on the development of flowers export. Also the sub-categories of them, the factors related to company and the product, the sub-categories of internal factors and the factors related to the market, industry and major environment, and the sub-categories of the external factors that are investigated as the derivative theories are effective on the development of flowers export. Bu utilizing Friedman test and meaningfulness of the man factors ranking it is determined that the internal factors with average of 1.62 as the first place and the external factors with the average of 1.38 placed second in the ranking. According to the indicated information in table 25-4 and the ideas of the members of the population about the development of the flowers export, the factors related to product is the first, major environment as the second one, Market ranked three, industry ranked four and the factors related to the company ranked fifth. Regarding to such outcomes, it is suggested to focus on the development of flowers export and put our best concentration on the quality improvement of the product and by support of the government and the effective organizations in major environment in and out of the country to assist the flourishing of such industry. By controlling the domestic market and resisting the importation of flowers and emerging electronic data bases of manufacturers, the service companies, raw materials, consultants and also the exporters to consider the improvement of the relation between them. Regarding to that the inflation and the types of transportations that have significant effect on the export development, it is suggested to utilize the data bases that its description is about the motivational determined rates of energies, the rate of freight and .. for manufacturers and successful exporters. The companies must create an integrated collection by emergence of acceptance and change the traditional attitude and put priority on the e-commerce. By following a mutual strategy they produce export-oriented flowers such as Maryam, Glayol, Mikhak, Zhebra, etc. Regarding that these flowers are appropriate pricing for export and are cheaper in our country.

The most important activity of the government in flower industry and improvement to export-oriented production, can be the identification of manufacturers, exporters, service companies, consultant companies in the field of flowers and plants, and other organizations in production and flower export and emerging a comprehensive database for recognizing such companies to each other

and introducing the type of activity and the capacities of the companies. In the next pat, by leaning and flowing up their potential from the e-commerce by registering and creating new user account in the website to study, sell and consulting in the sub-categories of the same gateway. Then we can open an auction market with the cooperation of involved organizations such as municipal that help much for the decorative plants for providing services and products to the different organizations and to create an auction market among the manufacturers, flower producers and the exporters. By creating a competitive market, he price of the flowers will become cheaper and the companies with competitive advantages will achieve higher quality activity and more benefit.

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