Combining Application of Factor Analysis and SWOT to Survey Marketing and Advertisement: A Case Study of Pistachio in Kerman Province

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Abstract

Agricultural products export has main role among non-oil exports and pistachio is the most important exportable agricultural product in Iran. In this research we tried to deal with the most important weak and strong spots, opportunities and threats facing the advertisement of exporting pistachio in Kerman province. This has been done with the usage of factor analysis (PFA) in combination with SWOT (Strength, Weakness, Opportunity, Threat). The information has been collected from 30 people who are initiated into pistachio export in Kerman province. The results showed the most important factors in SWOT which have affect advertisement of pistachio export including Adroit and specialist manpower in the field of pistachio advertising and exporting in Kerman province, lack of an appropriate trade name for exporter, absence of sufficient budget in advertising from the exporter side and allocating facilities for advertising and marketing in specialized journals. The above mentioned factors have the correlation accounted for 78%, 78%, 88%, and 85% in SWOT, respectively. Among all these factors "Adroit and specialist manpower in the field of advertising and exporting of pistachio in Kerman province" have the highest rank and most effect on advertising for pistachio export. And in the end, analyzing the results yielded the following supplemental suggestions for Kerman province's pistachio advertisement improvement: Reducing wholesale of pistachio and moving towards a packaging at the international standards level, and improving the storage and transportation systems.

Keywords:Advertisement, Factor analysis, Kerman province, Marketing, Pistachio.

Introduction

What has gained an ever prominent momentum in the past decades has been the globalization of commerce and a trend towards international markets by different companies (Binshan and Walton, 1998). There is no doubt that foreign trade is one of the political aspects of any country's economy. In this regard, export plays a fundamental and decisive role in economic independence and its improvement; also the export promotion policy is a part of foreign commercial policy of all countries and achieving that is a goal for all of them (Beygzadehabbasi, 2007). Given the growth of population and increasing domestic consumption, oil-generated revenues will be greatly insufficient. But there is one way to satisfy the foreign currency necessities of the country and that is boosting non-oil exports. The significance of non-oil exports for our country is hidden to no one. The export of agricultural products play a pivotal role in non-oil section and the export of this sector are rather more stable compared with others (Amiri, 2009).

As one of the important products, Pistachio has a special position among Iranian agricultural products and is the most important exported items (Taboli and Yadollahi, 2011) and the international pistachio market is a bipolar market under the influence of Iran and the U. S. (Zijuan, 2011). With 300000 hectares out of a total of 440000 hectares of pistachio growing farms, Kerman

production of the country (The ministry of agriculture, 2009).

The export sector of Iran has not been able to expand partly due to lack of a proper marketing and commercial system. In most cases Iranian exported goods and services have failed to gain their rightful place in the international markets as a result of the lack of a proper advertisement system despite having a desirable quality that was higher than international standards (Aftab website). Fluctuation in patterns of Iranian pistachio demand in international markets is a mere example (Sedaghat, 2010). Strategic development is a complex and unpredictable process, analyzing different options and approaches in using the organizational resources in reaching the desired outcomes (Tavana *et al.*, 2012). One such approach is the SWOT matrix, presenting general trends, yet lacking the potential to quantify strategies (Kajanus *et al.*, 2012).

Advertisement is a communications apparatus which the enterprises incorporate in their strategies to inform, convince and remind customers about their productions and services. From the perspective of marketing, advertisement is a factor of promotion and promotion is a factor of marketing mix. It is noteworthy that other factors of promotion besides advertisement are: sales promotion, public relations, individual retail, and direct marketing. Thus, given the above, the

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position of advertisement in the marketing can be figured because as Philip Kotler, one of renowned scholars of marketing, points out some people mistakenly believe that marketing means advertisement and sales while it is not so and advertisement is a small piece of the marketing iceberg (Cutler, 2004).

As for the definition of advertisement, there have been a number of definitions proposed. Advertisements which is the plural for "advertisement" means "to deliver a message" and overall it relates to communicate messages to other people to change their knowledge, views and conducts.

Harold Lasswell, communication sociologist, defines advertisement as follows: In its broad sense, advertisement is the art to influence man's behavior by means of manipulating imaginations or reflections.

The results of a study by agriculture department of Colorado University on food industries is suggestive of the fact that the greatest obstacles of exports to other countries are lack of appropriate and suitable contact with importers and consumers (17.1%) and insufficient time for market expansion (16%) and also unfamiliarity with specialized markets (10.5%) (Bahmanshir *et al*., 2010). Sadeghi *et al*., (2010) have specifically tried to determine the most vital strengths, weaknesses, opportunities and threats facing exported pistachio of Kerman province, to suggest appropriate strategies using SWOT model.

Pourkalantarian and Mirzafarjouyan (2008) have tried to use principal factor analysis models to identify influential aspects on the success of specialized international export exhibitions and to categorize them. Sehat and Parizadi (2009) have incorporated the process of network analysis to analyze the strengths, weaknesses, opportunities and threats facing Iran Insurance Company.

Since pistachio has the first place among agricultural and non-oil materials export, and because it is a completely Iranian product and Iran has the bulk of its market share at hand, it seems essential to consider the export condition and the role of advertisement in the promotion of pistachio export. Moreover, no research was done that using principal factor analysis (PFA) on rating SWOT factors including strengths, weaknesses, opportunities and threats in pistachio export, it seemed essential to conduct such a study. Hence the main goal of the present study was to determine and identify the most important influential factors on strengths, weaknesses, opportunities and threats of advertisement in Kerman province's pistachio export via PFA.

Materials and Methods

A compound approach (explanatory survey method) was used to achieve the goals of the study which was aimed to analyze the current issues. In the present study, questionnaires have been extensively used as an instrument to collect data from those who are working in the pistachio export of Kerman province. In this study, dependable variables were analyzed that have positive influence on pistachio export of Kerman province including strengths, weaknesses, opportunities and threats.

Data analysis of the study was done via SPSS. In this study the PFA approach was incorporated to determine the most important factors influencing pistachio export of Kerman province.

Principal Factor Analysis is a broad term covering a range of mathematical and statistical techniques used to survey the nature of relationships between the variables of a given selection of variables. The main issue was to define a set of variables based on a series of smaller descriptive factors each of which is indicative of a certain characteristic (Bahmanshir *et al*., 2010).

With the PFA approach, the initial variables will become novel independent factors. (with correlation coefficient of zero for each couple of factors). The newly formed factors are a linear combination of the initial variables (Liu *et al.*, 2003). In this approach, instead of using the initial variables directly, first they were turned into factors which are in turn used instead of those variables. Since all the variables are included in shaping these factors, the corresponding data of the initial variables are presented through the factors with minimal loss (Johnson and Wichern, 1982).

In this approach, first a KMO (Kaiser Meyer Olkin) factor needs to be calculated. If the value is greater than 0.5, it is an indication of feasibility of this approach for the main data set (Shrestha and Kazama, 2007). The input data was standardized with a mean of zero and a standard deviation of one. Then the correlation matrix was calculated for the initial variables. This is a symmetrical matrix with the values on its main diameter as input variables' variance and all the rest as the input variables' covariance. This matrix yields the fluctuations in the sample and the correlation of P value for the variables. Since standardized data is used for this matrix, it is equal to the correlation matrix of the input variables (Noori *et al*., 2007). In the next phase, it was essential to calculate the special values and the special vectors of the correlation matrix. Any special value with its dedicated vector comprised the characteristics of a factor. Any factor, in turn, included a proportion of data from the initial variables and was equal to the numerical part of the data hidden in the initial variables. The bigger the special numerical values, the clearer it is that its respective factor have entailed a greater proportion of the initial variables' data (Seifi *et al*., 2011). Since all the initial variables are incorporated in forming any factor, it was difficult to analyze these factors. For this reason simpler methods of analyzing factors have been devised. This is the rotation of factors.

In present scientific studies varimax rotation such a method for better analysis of the results is called Principal Factor Analysis (Ouyang, 2005).

Research data process

The participants were all of the 60 active exporters of Kerman province based on the estimations of Iran's pistachio research institute records.

The sampling method used in this study was Random Sampling, since to all the participants

$$n = \frac{NZ^2_{\alpha/2} \ P(1-P)}{\varepsilon^2(N-1) + Z^2_{\alpha/2}P(1-P)}$$

In which:

N = the sample population

n = participants

Since P is unknown, it is assumed to be 0.5. This method makes the volume of the sample large enough and improves the reliability of the results

$Z_{(0.025)} = 1.96, \alpha/2 = 0.025, N = 60, \alpha = 0.05, \varepsilon = 0.1, P = 0.5$

Based on the sample population, 37 questionnaires were sent to Kerman province exporters of which only 30 were returned.

Results

The professional and educational data of respondents are listed below (Table 1). It is clear in this table that most of people involved in the pistachio industry of Kerman province have more than 10 years and bachelor degree. In the designed questionnaire there were five sections, the first one was dedicated to the respondents and the rest to the strengths, weaknesses, opportunities and threats of advertisements in Kerman province (SWOT factors), respectively. To assess each question there were five choices ranging from "very poor" to "very strong" in descending

method was used (Simeonov *et al*., 2003). Using given an equal chance to participate in the study. If the sample population is "N" and the participants are "n" the chances of selection of every subject in the population are equal to "n/N" (Azar & Momeni, 2005).

To determine the participants the following model is incorporated:

Z = the critical value of the normal standard variable, Z in the table is considered in relation to the safe level.

P = the rate of success in sample population

ε = the ignorable error

α = the error value (rejection of zero error is called the first type, the probability of first type error is shown by α)

(Azar & Momeni, 2005). Thus assuming $\varepsilon = 0.1$ and also assuming the following information we can calculate the "n" as:

$$n = \frac{60 \ (1.96)^2 \ (0.5)(0.5)}{(0.1)^2(59) + (1.96)^2 \ (0.5)(0.5)} = 37$$

ranking. In this questionnaire the "very strong" choice had rank 5, and rank 1 was for "very poor" choice. The values of correlation coefficients were indicated between SWOT factors (Table 2). As is seen in this table, the correlation of strengths with other factors is fairly poor while that of other factors is quite high. The highest correlation is observed between weaknesses and opportunities while the threatening factors are the most influential on SWOT. These correlation coefficients were quite significant at p<0.01. In order to assess and determine the main SWOT factors that are strengths, weaknesses, opportunities and threats in the export of Kerman province's pistachio, the PFA approach was used that is thoroughly described in the following sections.

Table 1. Sample population characteristics

Variable	Status of variable	Frequency	Percentage
Work experience	Less than 5 years	6	20
	More than 5 years	7	23.3
	More than 10 years	17	56.7
Education	Diploma or lower	8	26.7
	Post-diploma	6	20
	Bachelor	10	33.3
	Postgraduate	6	6

Source: Research findings

Table 2. Correlation matrix for SWOT factors

Factors	Strengths	Weaknesses	Threats	Opportunities
Strengths	1	0.01	0.08	0.13
Weaknesses	0.01	1	0.88	0.83
Threats	0.08	0.88	1	0.88
Opportunities	0.13	0.83	0.88	1

Source: Research findings

Determining the principal factors of Strengths

The correlation matrix of strengths shows values of higher than 0.3 that is significant. The KMO value for strengths was calculated to be 0.532 that is an indication of feasibility of PFA approach. Via PFA, there will be 6 special values for each of them there are 6 special vectors. Using these vectors, the principal factors of the initial variables were generated. Characteristics of each factor are given below (Table 3). The first factor's value is 3.07 that comprise 51.1 percent of the total variance inherent in the data. The first five factors account for roughly 98 percent of the total variance hence can be considered principal factors. The results are shown in figure 1 from drawing the uploading factors diagram (Fig.1). In this study the principal factor analysis was used for determining principal factors. In this approach, usingVarimax rotation on factor coefficient matrix, special vectors were achieved as coefficients of every variable involved in formation of the respective factor (Table 4). In this approach, the principal variables are those with at least one of their coefficients used in the formation of the respective

factor and with relatively high values. The value of this coefficient depends on the conditions of the study, its complexity and scope and the involved parameters. For complex issues, lower values of this coefficient are enough. But for simpler and smaller issues, normally greater values are chosen. In this study, the coefficient's value is 0.8. According to the 0.8 criterion, it was clear that the variables of "Appropriate use of the name and reputation of Kerman's pistachio", "The superior quality of Kerman's pistachio compared to foreign competitors", "Expert manpower in the field of advertisement and export of pistachio in the province", "Using international advertisement agencies by the exporters" and "Easy and safe access to target markets" are identified as principal factors in strengths and another variable that is "Variety, elegance and precision in Kerman province's pistachio packing" is considered as an un-influential factor in strengths of advertisement in export of Kerman's pistachio (Table 4).

Table 3. Description of factors devised from principal variables of strengths

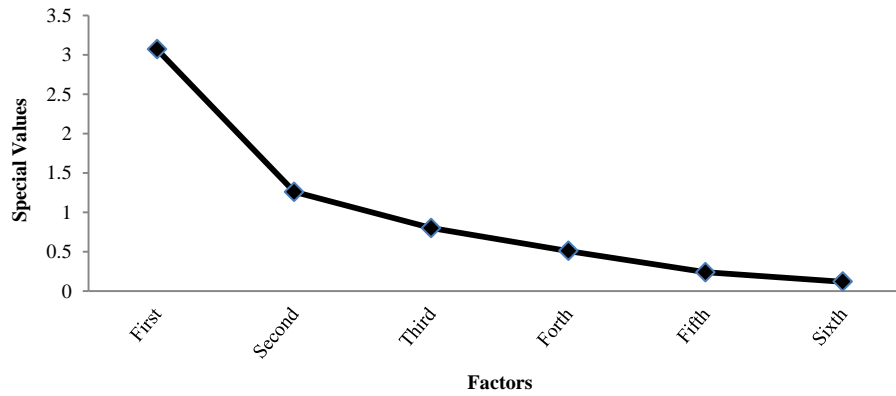| Factor	The value of each factor from 6	Percentage of information from principal variables	Cumulative percentage of principal variables' data
First	3.07	51.1	51.1
Second	1.26	21	72.1
Third	0.80	13.4	85.5
Forth	0.51	8.5	94
Fifth	0.24	4	98
Sixth	0.12	2	100

Source: Research findings

Fig.1.Uploading special values in extraction of principal factors of strengths

Table 4. Values of special vectors in principal factor analysis of strengths

Strengths variables	Factors				
	First	Second	Third	Fourth	Fifth
Appropriate use of the name and reputation of Kerman's pistachio	0.94	0.02	0.11	0.23	-0.04
The superior quality of Kerman's pistachio compared to foreign competitors	0.27	-0.06	0.22	0.90	0.23
Variety, elegance and precision in Kerman province's pistachio packaging	0.41	0.21	0.38	0.12	0.22
Expert man power in the field of advertisement and export of pistachio in the province	0.13	0.13	0.90	0.23	0.22
Using international advertisement agencies by the exporters	-0.04	0.34	0.27	0.30	0.83
Easy and safe access to target markets	0.03	0.96	0.11	-0.06	0.21

Source: Research findings

The correlation of strengths was indicated with the principal variables (Table 5).It is witnessed in this table that all the principal variables of strength are significantly meaningful at p<0.01. The factor of "Expert manpower in the field of advertisement and export of pistachio in the province" has the highest Pearson correlation coefficient and the lowest standard deviation. Thus this factor has the most significant influence on the strength of advertisement in pistachio export of Kerman province. Then the factors of "The superior quality of Kerman's pistachio compared to foreign competitors", "Using international advertisement agencies by the exporters", "Appropriate use of the name and reputation of Kerman's pistachio" and "Easy and safe access to target markets" were in next ranks of second to fifth in strength factors.

Table 5. The correlation of strengths with other principal variables

Index	Variables	Mean	Standard Deviation	Pearson correlation	t	p
Strengths	Appropriate use of the name and reputation of Kerman's pistachio	3.27	1.31	0.61	13.65	0.00
	The superior quality of Kerman's pistachio compared to foreign competitors	3.73	1.17	0.68	17.44	0.00
	Expert man power in the field of advertisement and export of pistachio in the province	1.8	1.03	0.78	9.57	0.00
	Using international advertisement agencies by the exporters	1.77	1.36	0.77	7.13	0.00
	Easy and safe access to target markets	2.63	1.25	0.55	11.58	0.00

Source: Research findings

Determining the principal factors of Weaknesses

Similar to the results of the previous section, here the extraction of principal factors influencing the weaknesses of advertisement was done in the export of Kerman province's pistachio. In this part, the KMO coefficient was calculated at 0.839 which is higher than 0.5.The features of 13 devised variables related to weaknesses are given (Table 6). As it is quite apparent in the table, the first 6 variables account for 91 percent of the total variance inherent in the data. This result is approved via a diagram of the uploading factors (Fig. 2). The principal factors were devised through PFA (Table 7). As was mentioned

regarding strength factors, the used criteria for principal factors was 0.8. It is quite obvious in this table that in the viewpoint of the respondents to questionnaire, "Lack of sufficient information about the evolution of the market", "Lack of an appropriate commercial name", "High costs of advertisement", "Lack of knowledge of environmental variables (economic, cultural, political and legal, etc.) which influence the advertisement proves" were the principal factors in weaknesses of pistachio exports with other factors playing a less influential role.

Table 6. Description of factors devised from principal variables of weaknesses

| Factor	The value of each factor from 13	Percentage of information from principal variables	Cumulative percentage of principal variables' data
First	8.51	65.47	65.47
Second	1.09	8.40	73.87
Third	0.78	6.03	79.9
Forth	0.59	4.58	84.48
Fifth	0.46	3.53	88.1
Sixth	0.38	2.97	90.98
Seventh	0.36	2.73	93.71
Eighth	0.28	2.11	95.82
Ninth	0.22	1.67	97.49
Tenth	0.15	1.12	98.61
Eleventh	0.08	0.59	99.20
Twelfth	0.06	0.46	99.66
Thirteenth	0.04	0.34	100

Source: Research findings
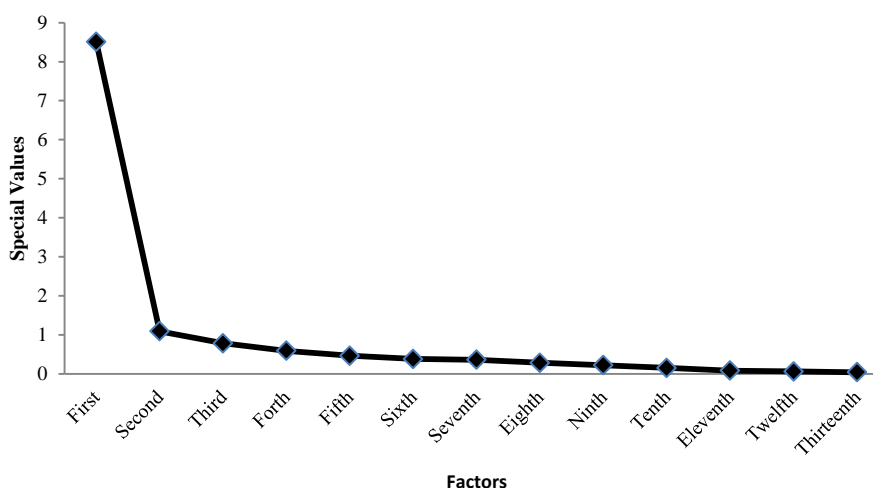
Fig.2. Uploading special values in extraction of principal factors of weaknesses

Table 7. The values of special vectors in principal factor analysis of weaknesses

Weaknesses variables	Factors					
	First	Second	Third	Fourth	Fifth	Sixth
Lack of sufficient information about the evolution of the market	0.16	0.16	0.18	0.22	<u>0.91</u>	0.15
Lack of appropriate information giving systems	0.08	0.58	0.67	0.21	0.24	0.12
Lack of knowledge of global markets	0.16	0.62	0.24	0.61	0.15	0.34
Lack of suitable packing compared to the rivals	0.20	0.34	0.28	0.71	0.33	0.46
Lack of an appropriate commercial name	0.37	<u>0.83</u>	0.19	0.19	0.08	0.09
Unavailability of subsidies and facilities of export to the exporters of pistachio	0.55	0.08	0.32	0.68	0.15	0.55
Not using modern technologies in order to speed up the international trade process	0.54	0.16	0.69	0.33	0.11	0.12
Not having an active presence in the national and international exhibitions	0.75	0.17	0.35	0.26	0.11	0.56
Lack of knowledge on the part of exporters of modern techniques of advertisement	0.43	0.33	0.66	0.34	0.21	0.43
High costs of advertisement	<u>0.81</u>	0.42	0.19	0.18	-0.03	0.75
Lack of knowledge of environmental variables (economical, cultural, political and legal, etc) which influence the advertisement proves	<u>0.84</u>	0.22	0.11	0.13	0.26	0.22
Not having directed advertisement process in Kerman's pistachio export	0.44	0.67	0.34	0.18	0.33	0.34
Lack of exact statistical data in pistachio advertisement sector of Kerman province	0.45	0.37	0.51	0.39	0.27	0.27

Source: Research findings

The correlation is given between weakness and all other principal factors (Table 8). As is witnessed in this table, all the principal factors related to personal traits of the staff were meaningful at p<0.01. The highest value of correlation coefficient was related to "High costs of advertisement" and the lowest standard deviation belonged to "Lack of an appropriate commercial name".

Table 8. The correlation of weaknesses with other principal variables

Index	Variables	Mean	Standard Deviation	Pearson correlation	t	p
	Lack of sufficient information about the evolution of the market	3.56	1.15	0.59	19.12	0.00
	Lack of an appropriate commercial name	3.37	0.96	0.78	13.16	0.00
Weaknesses	High costs of advertisement	3.5	1.45	0.82	10.37	0.00
	Lack of knowledge of environmental variables (economical, cultural, political and legal, etc) which influence the advertisement proves	3.67	1.69	0.76	13.88	0.00

Source: Research findings

With ranking of Pearson correlation coefficients and standard deviation, the factors of "Lack of an appropriate commercial name", "High costs of advertisement", "Lack of sufficient information about the evolution of the market" and "Lack of knowledge of environmental variables (economic, cultural, political and legal, etc.) which influence the advertisement proves" were first in fourth ranks, respectively Determining principal factors of Threats

Similar to the previous two sections, the value of KMO coefficient of threat factors was 0.65 which is higher than 0.5. The description of 12 devised variables out of all variables related to this factor (Table 9). The first seven variables account for almost 96 percent of the total variance in the data set (Table 9).The same results were approved by drawing a diagram of the uploaded factors (Fig. 3). The principal factors were determined via PFA approach (Table 10). As mentioned regarding the last two variables, 0.8 was set as the criteria for choosing principal factors. It is shown in the table that to the respondents the 5 factors of "A higher inflation rate than that of global community", "Not having an active private sector", "The fact that Iran hasn't yet joined WTO", "No budget for advertisements on part of exporters" and "Lack of management for a suitable distribution and lack of specialized personnel as solicitors" are considered principal factors of threats in advertising for pistachio exports with other variables having less influence.

Table 9. Description of factors devised from principal variables of threats

| Factor	The value of each factor from 12	Percentage of information from principal variables	Cumulative percentage of principal variables' data
First	7.78	64.88	64.88
Second	1.07	8.91	73.79
Third	0.85	7.06	80.85
Forth	0.73	6.09	86.94
Fifth	0.54	4.51	91.45
Sixth	0.34	2.83	94.28
Seventh	0.19	1.59	95.87
Eighth	0.16	1.36	97.23
Ninth	0.12	1.04	98.27
Tenth	0.11	0.94	99.21
Eleventh	0.08	0.64	99.85
Twelfth	0.02	0.15	100

Source: Research findings
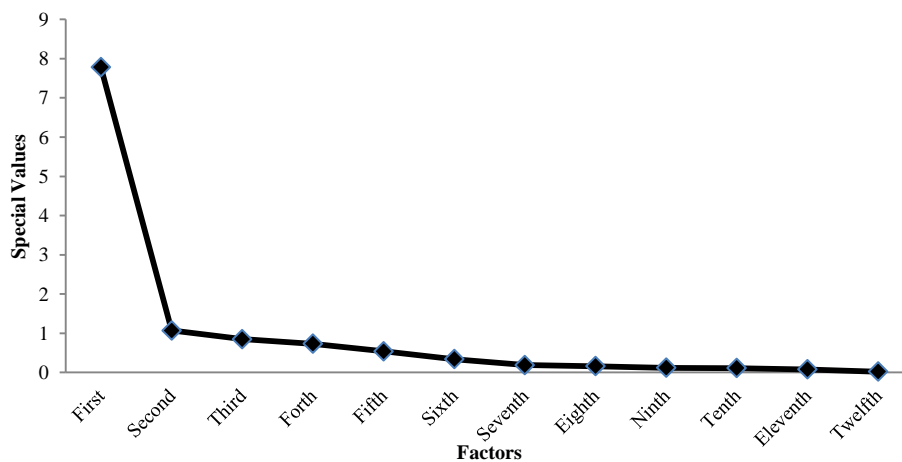
Fig.3. Uploading special values in extraction of principal factors of threats

Table 10. The values of special vectors in principal factor analysis of threats

Threats variables	Factors						
	First	Second	Third	Fourth	Fifth	Sixth	Seventh
A higher inflation rate than that of global community	0.14	0.10	0.002	0.97	0.04	0.12	0.02
Not having an active private sector	0.17	0.20	0.91	-0.02	0.21	0.19	0.002
The fact that Iran hasn't yet joined WTO	0.27	0.87	0.21	0.09	0.14	0.23	0.07
The increase in global competition and presence of new rivals	0.58	0.59	0.23	0.15	0.34	0.25	-0.15
Lack of specialized managers who are experienced in advertisement	0.42	0.23	0.31	0.06	0.79	0.07	0.04
No budget for advertisements on part of exporters	0.85	0.25	0.19	0.003	0.19	0.29	-0.05
Lack of knowledge of pricing approaches of the competitors in international markets	0.72	0.39	0.04	0.18	0.21	0.28	0.37
Not using international advertisement agencies	0.67	0.14	0.21	0.06	0.39	0.46	0.15
Effective advertisement campaigns for foreign competitors	0.45	0.49	0.44	0.33	0.27	-0.25	0.27
Lack of management for a suitable distribution and lack of specialized personnel as solicitors	0.85	0.17	0.07	0.30	0.33	0.03	0.02
Increase the costs of pistachio advertisements	0.75	0.38	0.40	0.15	0.07	0.16	0.04
Lack of attention on the part of pistachio exporters to the needs of the customers	0.42	0.33	0.26	0.24	0.05	0.74	-0.002

Source: Research findings

The correlation of threats with principal variables is given (Table 11). As is observed, all the principal variables of personal traits of the staff were meaningful at $p<0.01$. The highest correlation coefficient belonged to "No budget for advertisements on part of exporters" and the lowest standard deviation was observed for "A higher inflation rate than that of global community". With ranking ofPearson correlation coefficient and standard deviation, the factors of "No budget for advertisements on part of exporters", "Lack of management for a suitable distribution and lack of specialized personnel as solicitors", "Not having an active private sector", "A higher inflation rate than that of global community" and "The fact that Iran hasn't yet joined WTO" were first in fifth places, respectively.

Table 11.The correlation of threats with other principal variables

Index	Variables	Mean	Standard Deviation	Pearson correlation	t	p
	A higher inflation rate than that of global community	3.97	1.30	0.44	16.72	0.00
	Not having an active private sector	3.13	1.36	0.63	12.64	0.00
	The fact that Iran hasn't yet joined WTO	3.83	1.51	0.77	13.9	0.00
Threats	No budget for advertisements on part of exporters	3.73	1.41	0.88	14.47	0.00
	Lack of management for a suitable distribution and lack of specialized personnel as solicitors	3.76	1.43	0.86	14.42	0.00

Source: Research findings

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Determining principal factors of Opportunities

The value of KMO coefficient of opportunity factors was 0.884 which is indicative of PFA feasibility. The first 5 variables account for almost 95 percent of the total variance in the data set

(Table 12). The same results were approved by drawing a diagram of the uploaded factors (Fig.4).

Table 12. Description of factors devised from principal variables of opportunities

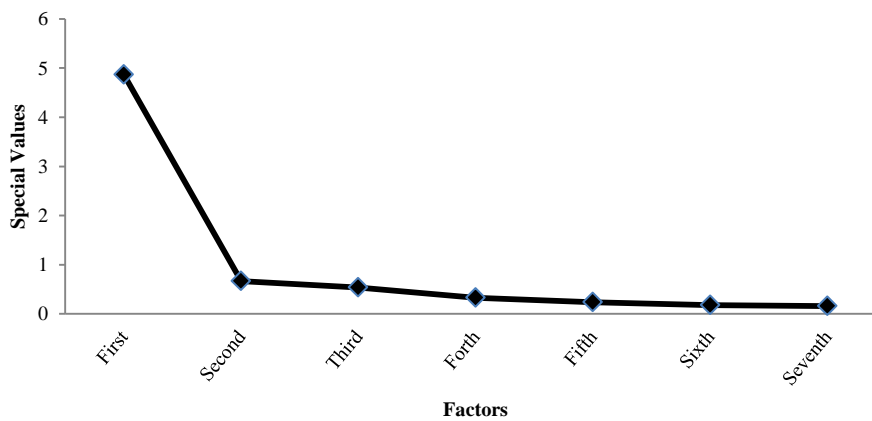| Factor	The value of each factor from 7	Percentage of information from principal variables	Cumulative percentage of principal variables' data
First	4.87	69.59	69.59
Second	0.67	9.54	79.13
Third	0.54	7.69	86.82
Forth	0.33	4.76	91.58
Fifth	0.24	3.51	95.09
Sixth	0.18	2.61	97.7
Seventh	0.16	2.30	100

Source: Research findings

Fig. 4. Uploading special values in extraction of principal factors of opportunities

The principal variables with 0.8 criterion level were designated for opportunities (Table 13). As is clear in the table, the respondents chose four factors of "Having active research institutes", "Paying attention to effective environmental factors of advertisement and export of pistachio", "Identifying and segregating new markets" and "Providing facilities for advertisement and marketing from the funds of export initiatives, especially in expert magazines" as principal opportunity factors of advertisement for pistachio exports with other factors playing less influential roles.

Table 13. The values of special vectors in principal factor analysis of opportunities

Opportunities variables	Factors				
	First	Second	Third	Fourth	Fifth
A great reputation (global fame) of Kerman province's pistachio	0.75	0.04	0.43	0.19	0.36
Having active research institutes	0.26	0.22	0.22	<u>0.88</u>	0.24
Paying attention to effective environmental factors of advertisement and export of pistachio	0.21	<u>0.92</u>	0.14	0.20	0.18
Using a customer-oriented approach in production and export of Kerman's pistachio	0.34	0.30	0.30	0.34	0.76
Identifying and segregating new markets	<u>0.83</u>	0.32	0.17	0.28	0.18
Providing facilities for advertisement and marketing from the funds of export initiatives, especially in expert magazines	0.39	0.22	<u>0.80</u>	0.26	0.26
The internal and external exhibitions for Kerman's pistachio	0.66	0.50	0.38	0.18	0.14

Source: Research findings

The highest correlation coefficient belonged to "Identifying and segregating new markets" and the lowest standard deviation to "Paying attention to effective environmental factors of advertisement and export of pistachio" (Table 14). With ranking of Pearson correlation coefficients and standard deviations, the factors of "Providing facilities for advertisement and marketing from the funds of export initiatives, especially in expert magazines", "Identifying and segregating new markets", "Paying attention to effective environmental factors of advertisement and export of pistachio" and "Having active research institutes" were first in fourth ranks.

Table 14. The correlation of opportunities with other principal variables

Index	Variables	Mean	Standard Deviation	Pearson correlation	t	p
	Having active research institutes	3.26	1.46	0.79	12.25	0.00
	Paying attention to effective environmental factors of advertisement and export of pistachio	3.73	1.17	0.71	17.44	0.00
	Identifying and segregating new markets	3.7	1.51	0.88	13.40	0.00
Opportunities	Providing facilities for advertisement and marketing from the funds of export initiatives, especially in expert magazines	3.63	1.32	0.85	15.01	0.00

Source: Research findings

Determining the most important SWOT factors in pistachio exports.

The conceptual model of SWOT factors in Kerman province's pistachio exports was shown in figure 5. Based on the results of the previous sections and it is seen in this figure, the factors of strengths and threats have five main variables and the weaknesses and opportunities have 4 main variables. The most important SWOT factors involved in the advertisement of Kerman province's pistachio were "Expert manpower in the field of advertisement and export of pistachio in the province", "High costs of advertisement", "No budget for advertisements on part of exporters" and "Providing facilities for advertisement and marketing from the funds of export initiatives, especially in expert magazines' funds by the exporters, especially in dedicated journals" that have correlation coefficients of 0.78, 0.82, 0.88 and 0.85 with SWOT. Among these

factors, the factor of "Expert manpower in the field of advertisement and export of pistachio in the province" has the highest rank and was found

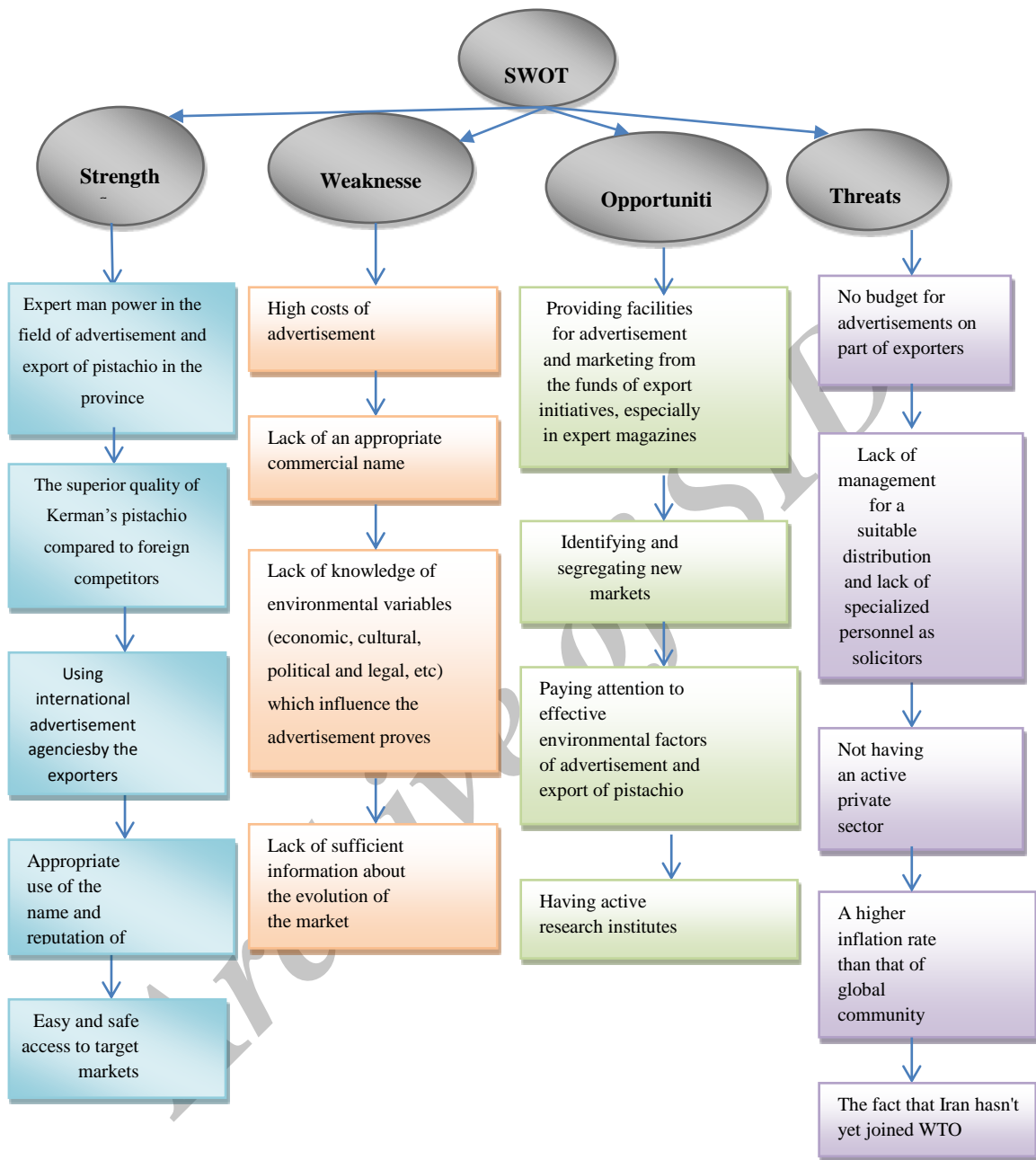to be the most influential factor in export of Kerman's pistachio.

Fig.5. The most important SWOT factors in pistachio exports

Discussion

Given the importance of assessment of factors involved in advertisement of pistachio export, in current study the relationship between SWOT factors including strengths, weaknesses, opportunities and threats with their related variables have been investigated and we used questionnaires to achieve this goal. First, the correlation of SWOT factors were measured,

showing high indices for weaknesses, threats and opportunities together with no significant value for strength with other factors. According to correlation between these factors, the principal factor analysis method (PFA) was used to analyze and determine the main influential factors in advertisement for pistachio export. Among all factors, high values of KMO coefficient were a sign of implementation of PFA technique to

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achieve the principal SWOT factors in advertisement. As for the main factors of strength, weakness, threat and opportunity, respectively 5, 6, 7 and 5 variables accounted for 98, 91, 96 and 95 of the total variance in data. The factors of strength and threat had 5 main variables and the other two, i.e. weakness and opportunity factors had 4 main variables (Fig.5).

Assessing the Pearson correlation coefficients and standard deviation of the aforementioned factors, show that "Expert manpower in the field of advertisement and export of pistachio in the province" has the highest rank as the most influential factor in advertisement for pistachio exports. Finally, it is noteworthy that further such studies can make the bed for a better knowledge on the managements' part of the different influential factors on advertisement of pistachio exports. Also, positive effects of such studies will result in a more informed attitude towards assessment of unknown, effective factors in pistachio exports.

Finally, analyzing the results yielded the following supplemental suggestions for Kerman province's pistachio advertisement improvement:

1. Reducing wholesale of pistachio and moving towards a packaging at the international standards level.

2. Improving the storage and transportation systems.

3. Identification card (commercial card) should be issued for the exporters of pistachio who have enough scientific and practical knowledge about pistachio.

4. Detailed control of the quality of the packaged pistachio (vacuumed) by the responsible parties.

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