

A Study to Design and Explain the Export Development Model in Iran's Free Trade Zones

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Abstract: This study entitled “A Study to Design and Explain Export Development Model in Iran’s Free Trade Zones” is apart of a research report aimed at assessing the direct and indirect effects of export-development programs, imposed by the government as well as internal and external environmental factors on the exporting performance of exporter firms. Explanatory-mixed method approach was employed to identify and explain Export Development Model in Iran’s Free Trade Zones (FTZ). We extracted the main and secondary factors affecting the export development and related indicators after conducting in-depth interviews with 14 FTZ export experts, using qualitative content analysis, applying open and axial coding techniques. Statistical techniques were administered to confirm the reliability and validity of the questionnaire. The final questionnaire was distributed among 210 active economic firms in FTZ. Lisrel 8.54 was employed to evaluate the final model.

Key words: Export development, export performance, Free Trade Zones (FTZ), environment, design

INTRODUCTION

Today, the growth of export is considered the key for economic regeneration for governments (Griffith and Czinkota, 2012). In almost all developing countries, export development is on top of governments priorities and policies. This is similar to awareness and attention to the importance of exports in developed countries. Governments can play a key role in promoting foreign trade activities of domestic firms through export development programs (Cavusgil, 1990) because the complexity of business, international trade and the lack of sufficient technical knowledge may put the firm in a position of lack of competitiveness (Vernon, 1996). Therefore, on the one hand, knowledge and experience are critical factors for competitiveness in foreign markets and, on the other hand there are many problems for exports which prevent the realization of export sales. To this end governments have historically proposed some incentives for exports either in export support programs (Czinkota, 1994; Gencturk and Kotabe, 2001; Leonidou *et al.*, 2011) or in the form of institutions such as the Export Development Banks (AgZyme banks) (Griffith and Czinkota, 2012). Awareness, information, experience and resources are essential to overcome the problems in free commercial-industrial free zones. Export development programs are defined to meet such needs, help the process of learning in the international competitive environment, motivate the business environment toward the export objectives and create essential infrastructures

to facilitate the export. Studies show that few have been conducted concerning the export development programs and their effects on export performance in commercial-industrial free zones. Therefore, this study aims to identify factors affecting the export development in commercial and industrial firms in FTZs in order to remove barriers and strengthen positive factors. Such factors help to create and institutionalize a native model to promote export performance in FTZ. The research questions are:

- What is an appropriate model for export development in FTZ?
- What is the importance of each of effective main and secondary factors in export development in FTZ?
- What are appropriate solutions to develop export in FTZ in company, environment and organization levels?

Export development programs: Export development programs refer to all policies and public programs designed to help export activities of firms from advice, tax incentives and export financing to trade fair and help to increase sales (Gencturk and Kotabe, 2001). Most export development programs are basically designed to provide basic knowledge-export benefits, export market information, etc., through trade delegations, trade fairs, etc. and empirical knowledge and physical facilities required for export to potential and actual exporters (Leonidou *et al.*, 1998). Many companies are unable or

unwilling to widely pursue export due to lack of experience, limited resources or other problems. Export development programs are offered by the government, trade associations and other organizations in order to help overcome such limitations and play a key role in encouraging international business activities (Wheeler, 1990). Francis and Dodd (2004) believed that the aim of export development programs are to improve export performance through enhancing the capabilities, resources, strategies and competitiveness of firms reflected in contrast in enhanced export performance. Another major objective of export development programs can be country's foreign income increase to improve its trade balance (Brewer, 2009). Export development programs provide an available external source to obtain information, conduct business and acquire knowledge. They also create new capacity to cope with the export complexities (Gençtürk and Kotabe, 2001). Literature review shows that government programs are important to create awareness of opportunities and planning and increased capability of organization in line with exports. Reduced cost, information integration of target markets, export credits, reduced cost price, subsidies, etc. are directly provided by the export development programs. They directly influence the export performance of firms. In other words, export development programs aim at creating awareness from opportunities and planning and enhancing organizational capabilities in line with exports, providing some opportunities to dividing costs. There are various classifications for export development programs. For example, Leonidou and Constantine (1996) classified export development programs into four categories: export consultation and information. Marketing support and market information to attract customers and facilitate the provision of goods and services. The provision of export credits, export-related guarantees and export insurance and subsidies. Export-related training such as export laws and regulations, export procedures, international marketing. Czinkota (1994) divided export development programs into two groups: export services programs such as seminars, export consultations, export manuals for export credits. Market development activities such as support for international expositions, the analysis of target market, etc. Finally, Shamsuddoha and Ali (2006) divided development programs into two groups: market development activities. Credit supply and guarantee. The authors believe that these classifications cannot cover export development programs because there is a wider range of export development. Each of these classifications can alone affect the export performance of firms.

The role of free zones in export development: In the last 20 years, the concept of FTZ experienced changes so that it has a broader concept of trade, covering both

production and trade. Therefore, when it comes to free trade zone it can range from purely commercial region to region which produces and exports. Industrial development strategy change from import to export transformed the concept of "free trade zone". In export development strategy, production is aimed at exporting. Trade is performed without administrative policies and constraints. This is common a strategy in commercial-industrial zones (ShadiTalab, 1991). The experience of FTZ establishment in developing countries in Asia has shown that free zones can be at least employed as a trial tool to remove anti-developmental barriers and to gain noticeable new skills in developing countries obliged to observe unnecessary customs, currency and administrative formalities and restrictive regulations. Developing countries which established FTZ believe that FTZs can help combat poverty and

Table 1: The summary of export performance models

Author name	Model elements and indices
Nemkova <i>et al.</i> (2012)	Structure Export planning Export Innovation Type of Decision Environmental barriers Export resources
Kalantuneh	The effectiveness of sales in export Export dependence Innovation Industrial adaptability Market consistency Production adaptability strategies Export strategy
O'Cass and Julian (2003)	Unparalleled product, international experience, supporting the distributor, the commitment of resources Competition intensity Political-legal environment Access to distribution channels, customer acceptance Specific features Environmental characteristics Integration or adaptation strategy
Moghaddam and Foroughi (2012)	Marketing price strategy Marketing development strategy Place marketing strategy Product marketing strategy
Navarro	Commitment to export Understanding the competitive characteristics Understanding the export market Versatility with the marketing mix Quantity of exports Attitude toward the future of export
Shamsduha and Ali (2006)	Management perception from the market environment The use of export development programs Export commitment Export knowledge
Leonidou <i>et al.</i> (1998)	Management features Organizational factors Environmental forces Export targets Elements of export marketing strategy
Moshabaki and Khademi	Internal environmental factors External environmental factors Export development programs

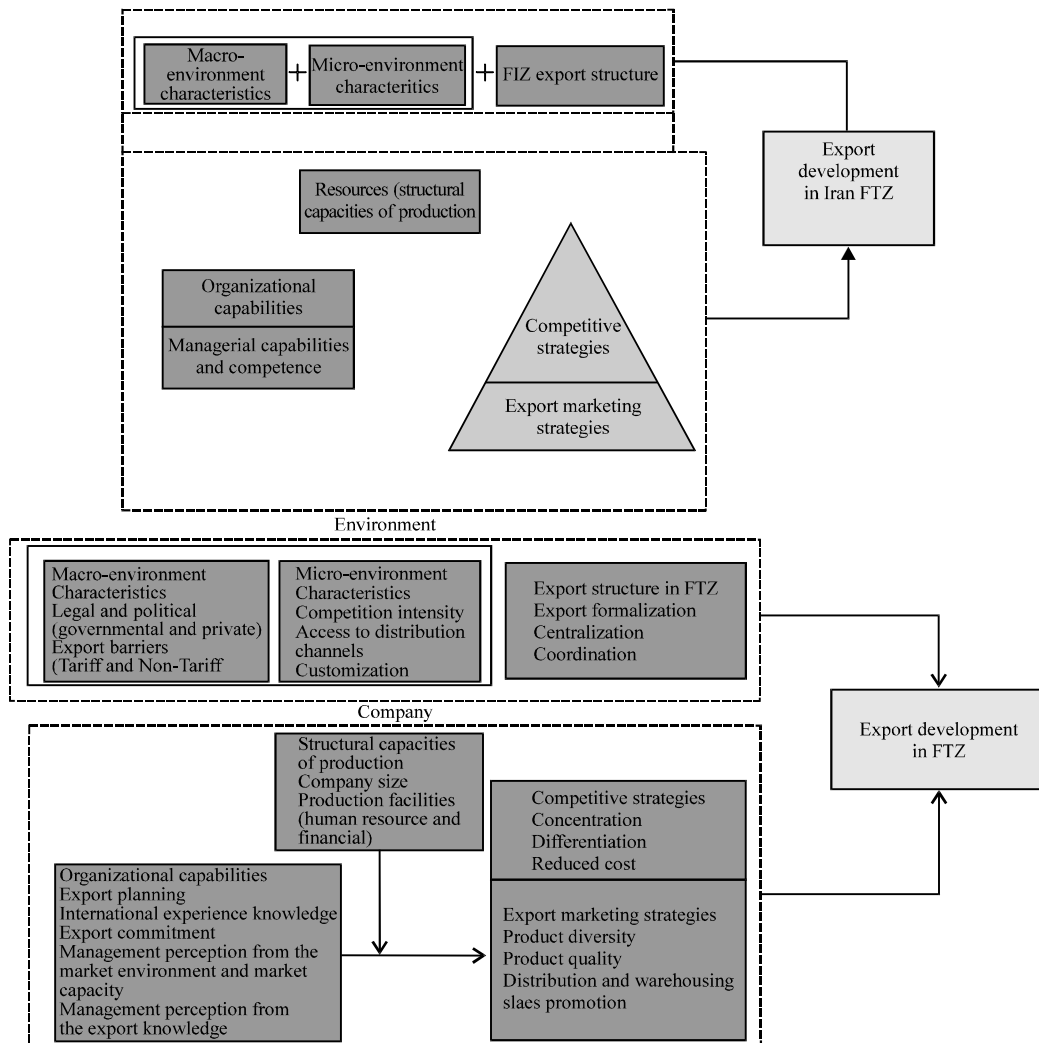


Fig. 1: Proposed model for FTZ export development

backwardness, import technology, management and capital and integrate domestic production factors with foreign technical knowledge. This would help the government concerning the development and in line with the global economy. These countries believe that free zones are the gate to global market and taking advantage of the relative merits of the domestic economy in international trade. The governments of such countries are convinced that economic development and outward-looking economy are an inescapable necessity. For most mentioned countries, economic development is a process that is associated with the country's withdrawal from the closed economy. They however, believe that free zones are gate to reach such objectives and they would accelerate the economic development. Table 1 shows the summary of studies concerning export performance.

Conceptual model from the literature: The conceptual model is based on the linear relationship and effect of export development programs on the one hand and non-linear effect of programs on export development through internal and external environmental factors on the other hand. Correct and applicable analysis is not possible without the introduction of objective and comprehensive model for the set of macro issues. According to the literature, export development programs provide an available external source to obtain information, conduct business and acquire knowledge. They also create new capacity to cope with the export complexities. Reduced cost, information integration of information in target markets, export credits, reduced cost price, subsidies, etc. are directly provided by the export development programs Fig. 1.

MATERIALS AND METHODS

Qualitative and quantitative method was employed in this study. As per qualitative aspect in-depth interview was used while questionnaires were administered in quantitative method. Different sample sizes were used in both sections. In qualitative section, the statistical population consisted of all managers working in FTZ managers and manufacturing companies (14 managers). In quantitative section, since managers and experts working in manufacturing companies were analyzed, a written survey was employed. Therefore, the statistical population consisted of all managers, experts and manufacturers involved in export in FTZ during the last few years. They were also actively working in 2014. The number of these companies was 450. Applying simple random sampling method, the sample size consisted of 210 firms. Cochran formula was utilized. Confirmatory factor analysis was employed to examine the structural validity. Content validity was utilized to test the questionnaire validity. The first draft questionnaire was devised to ensure the accuracy by literature review and effective factors in export performance. The supervisor, advisor and some experts in the field of FTZ export checked this draft questionnaire. Based on the comments, the questionnaire was modified and distributed among some companies to examine the reliability (pretest). According to the data, the reliability was evaluated and modified. According to the results, Cronbach's alpha was <0.7 for each of main and secondary dimensions. The questionnaire was finally readied.

RESULTS AND DISCUSSION

Data, collected through the interviews were analyzed to evaluate the model. Content analysis was employed to examine the measurement tool. After devising, distributing and collecting the questionnaires, the data were employed as input. SPSS21 and Lisrel 8.54 were employed to analyze and process the data (Table 2).

Demographic features: Table 2 shows the descriptive demographic characteristics including gender, marital status, age group, level of education, working experience and scope of activity.

Distribution of variables according to central indexes, dispersion and index of distribution: The indexes are

Table 2: Descriptive statistics for demographic characteristics

Variables	Values
Gender	
Female	77
Male	133
Marital status	
Single	64
Married	146
Age	
Younger than 30	62
30-40	101
41-50	44
Older than 50	3
Education	
Associate degree and lower	50
Bachelor degree	109
Master degree	49
PhD	2
Working experience	
<5 years	62
5-15 years	107
16-25 years	38
>25 years	3
Scope of activity	
National	88
Regional	89
Trans-regional	28
Global	-

divided into three groups: central index, index of dispersion and index of distribution. Table 3 (environment level) and 4 (company level) show research variables according to central indexes (Mean and Median), index of dispersion (Variance and Standard Deviation) and index of distribution (Skewness and Kurtosis).

Evaluation of fitting for measurement section of conceptual model: Model measurement section focuses on the latent variables (endogenous and exogenous) and manifest variable. Here, we aim at determining the validity and reliability of indicators. To examine the validity, t-value is assessed between each of latent variables. Critically, since main research variables are multidimensional, validity was examined in two stages: first, the internal correlation of main dimensions and the correlation between the main and secondary variables were tested using first order confirmatory factor analysis in order to ensure the significance of correlations. Then, the significance was examined between the main variables and their dimensions using second order confirmatory factor analysis. Combined reliability equation was employed to study the reliability of each of structures and the model as follows:

$$P_c = \frac{(\sum\lambda)^2}{(\sum\lambda)^2 + (\sum\theta)}$$

Table 3: Central index, index of dispersion and index of distribution for secondary dimensions for environment level

Variables	Dispersion		Central		Distribution	
	SD	Variance	Mean	Median	Skewness	Kurtosis
Secondary						
Competition intensity	0.74923	0.561	3.2133	3.2000	-0.115	-0.315
Access to distribution channels	0.71794	0.515	3.1367	3.1429	-0.062	-0.419
Customization	0.70468	0.497	3.2086	3.2000	0.045	-0.809
Political and legal	0.86537	0.749	3.3488	3.5000	-0.538	-0.145
Export barriers	0.71102	0.506	3.1905	3.4000	-0.689	0.768
Formalization	0.68400	0.467	3.3400	3.4000	-0.038	-0.826
Centralization	0.65025	0.423	3.3819	3.4000	-0.204	-0.522
Coordination	0.73348	0.538	3.3310	3.4722	-0.261	-0.636
Main						
Micro-environment characteristics	0.46232	0.214	3.1862	3.1905	-0.011	0.257
Macro-environment characteristics	0.66650	0.444	3.2696	3.3250	-0.491	0.248
Structure of FTZ export	0.49728	0.247	3.3513	3.3722	-0.093	0.074

Table 4: Central index, index of dispersion and index of distribution for secondary dimensions for company level

Variables	Dispersion		Central		Distribution	
	SD	Variance	Mean	Median	Skewness	Kurtosis
Secondary						
Company size	0.86522	0.749	3.4143	3.5000	-0.573	0.056
Production facilities	0.71962	0.518	3.3629	3.4000	-0.540	0.027
Export planning	0.73400	0.539	3.3700	3.4000	-0.221	-0.738
International experience knowledge	0.69970	0.490	3.2905	3.4000	-0.072	-0.605
Export commitment	0.77451	0.600	3.3067	3.3000	-0.032	-0.404
Management perception from the market environment and market capacity	0.71794	0.515	3.1367	3.1429	-0.062	-0.419
Management perception from the export knowledge	0.70468	0.497	3.2086	3.2000	0.045	-0.809
Concentration	0.68360	0.467	3.3410	3.4000	-0.038	-0.826
Differentiation	0.65025	0.423	3.3819	3.4000	-0.204	-0.522
Reduced cost	0.73348	0.538	3.3310	3.4722	-0.261	-0.636
Product strategy	0.73151	0.535	3.1857	3.2000	0.181	-0.664
Price strategy	0.66911	0.448	3.2848	3.3000	-0.192	-0.005
Distribution strategy	0.65052	0.423	3.2133	3.2000	0.280	-0.155
Promotion strategy	0.62980	0.397	3.2724	3.4000	-0.063	-0.352
Main						
Resources	0.75016	0.563	3.3886	3.5500	-0.682	0.151
Organizational capabilities	0.58450	0.342	3.3238	3.3667	-0.139	-0.752
Managerial capabilities	0.53624	0.288	3.1727	3.1786	-0.038	-0.206
Competitive strategy	0.49728	0.247	3.3513	3.3722	-0.093	0.074
Export marketing strategy	0.52470	0.275	3.2390	3.2000	0.131	-0.191

Where:

P_c = Combined reliability

λ = Indicator-related loads;

θ = Error variance of indices (FTZ δ or ϵ)

Σ = Total sum of indices for each latent variable

If the P_c is higher than 0.6, the component has an acceptable reliability. After checking the validity and reliability, standardized estimation coefficients were employed to prioritize the effect of each of dimensions on the main variable. Fitness indicator table was used to show the fitness.

First order confirmatory factor analysis for environment variable: Figure 2 shows the significance figures for the first order confirmatory factor analysis for the environment variable. As it can be seen, all paths are significant (the values for all parameters are >1.96). Therefore, the correlation is significant

among the main dimensions. Both main and secondary dimensions have reached the significance level.

Second order confirmatory factor analysis for environment variable: First order confirmatory factor analysis confirmed the internal correlation among the main dimensions as well as between the secondary and main dimensions. In order to examine the significance of relationship between the environment and its dimensions, second order confirmatory factor analysis was employed. Figure 3 shows the significance figures for the second order confirmatory factor analysis. Figure 4 shows the standardized estimation coefficients for the second order confirmatory factor analysis to prioritize the effects of each of dimensions on this variable. Table 5 lists the fitting indicators for the second order confirmatory factor analysis. According to this table, all indicators are in acceptable levels. Therefore, this structure has the essential validity.

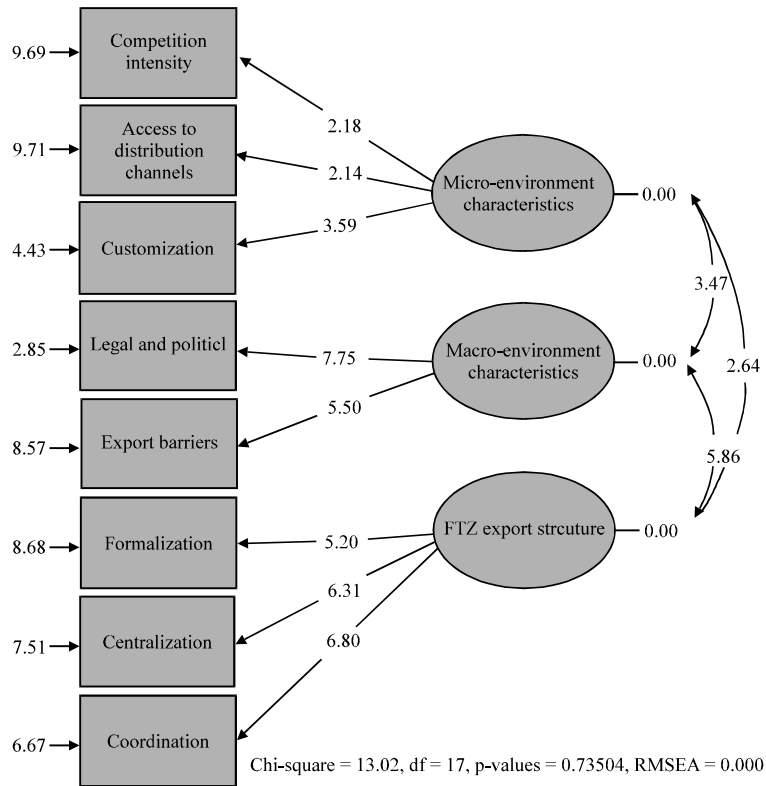


Fig. 2: Significance values for the first order confirmatory factor analysis for environment

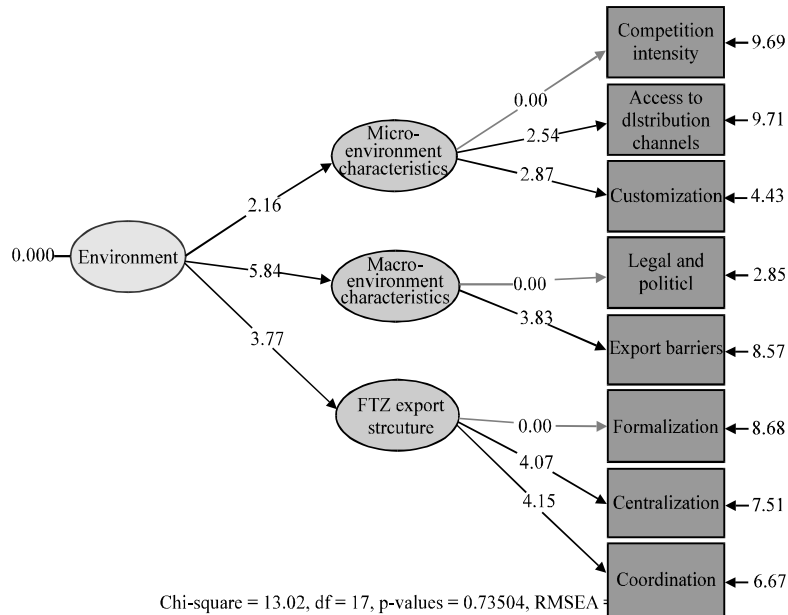


Fig. 3: Significance values for the second order confirmatory factor analysis for environment

In order to facilitate the interpretation of results, the estimated parameters are listed in Table 6. The mixed reliability was reported 0.83 for the environment. Since, it is higher than 0.6, it is reliable.

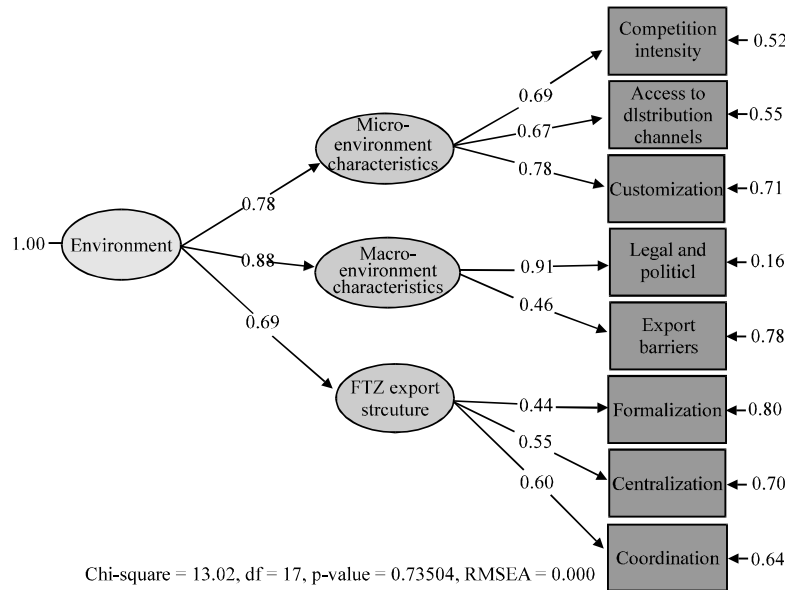


Fig. 4: Standardized estimation coefficients for second order confirmatory factor analysis for environment

Table 5: Fitting indicators for the second order confirmatory factor analysis (environment variable)

Fitting indicator	Desired values	Results
χ^2/df	<3.00	0.676
GFI (Goodness of Fit Index)	>0.90	0.980
RMSEA (Root Mean Square Error of Approximation)	<0.08	0.000
RMR (Root Mean Square Residual)	<0.05	0.018
NFI (Normed Fit Index)	>0.90	0.940
NNFI (Non-Normed Fit Index)	>0.90	0.990
CFI (Comparative Fit Index)	>0.90	0.990

Table 6: The results of the second order confirmatory factor analysis (environment variable)

Variables/ dimensions	Path coefficient		Squared multiple correlation (R ²)	Error variance
	t-values	(β)		
Environment				
Micro-environment characteristics	2.16	0.78	0.61	0.39
Macro-environment characteristics	5.84	0.88	0.78	0.22
Structure of FTZ export	3.77	0.69	0.47	0.53

First order confirmatory factor analysis for company variable: Figure 5 shows the significance figures for the first order confirmatory factor analysis for the company variable. As it can be seen, all paths are significant (the values for all parameters are >1.96). Therefore, the correlation is significant among the main dimensions. Both main and secondary dimensions have reached the significance level.

Second order confirmatory factor analysis for company variable: First order confirmatory factor analysis confirmed the internal correlation among the main dimensions as well as between the secondary and main

dimensions. In order to examine the significance of relationship between environment and its dimensions, second order confirmatory factor analysis was employed. Figure 6 shows the significance figures for the second order confirmatory factor analysis. According to the figures, estimated parameters are significant for all paths, showing the validity. Figure 7 shows the standardized estimation coefficients for the second order confirmatory factor analysis to prioritize the effects of each of dimensions on this variable. Table 7 lists the fitting indicators for the second order confirmatory factor analysis. According to this table, all indicators are in acceptable levels. Therefore, this structure has the essential validity.

In order to facilitate the interpretation of results, the estimated parameters are listed in Table 6. The mixed reliability was reported 0.85 for the company. Since, it is >0.6 it is reliable.

The evaluation of structural model fitting: Since, the first and second confirmatory factor analysis confirmed the validity and reliability of research model, the structural model is tested by the first and second confirmatory factor analysis.

First order confirmatory factor analysis for the structural model: Figure 8 shows significance figures for first order confirmatory factor analysis for the structural model. As it can be seen, all paths are significant (the values for all parameters are >1.96). Therefore, the internal correlation is significant among the main dimensions. Both main and secondary dimensions have reached the significance level.

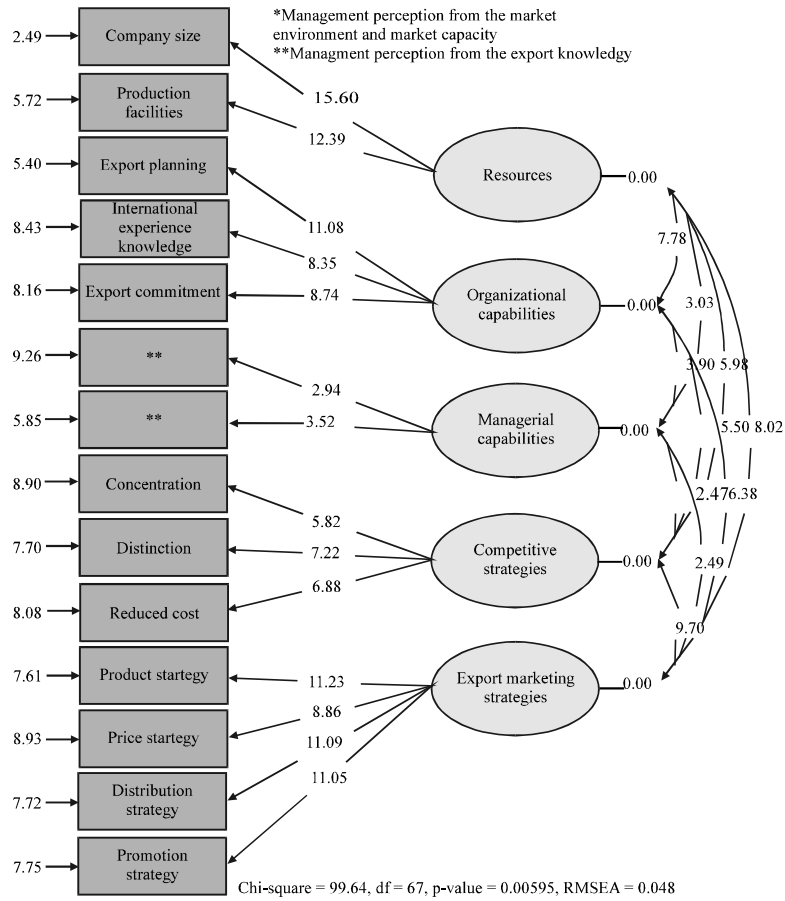


Fig. 5: Significance values for the first order confirmatory factor analysis for company

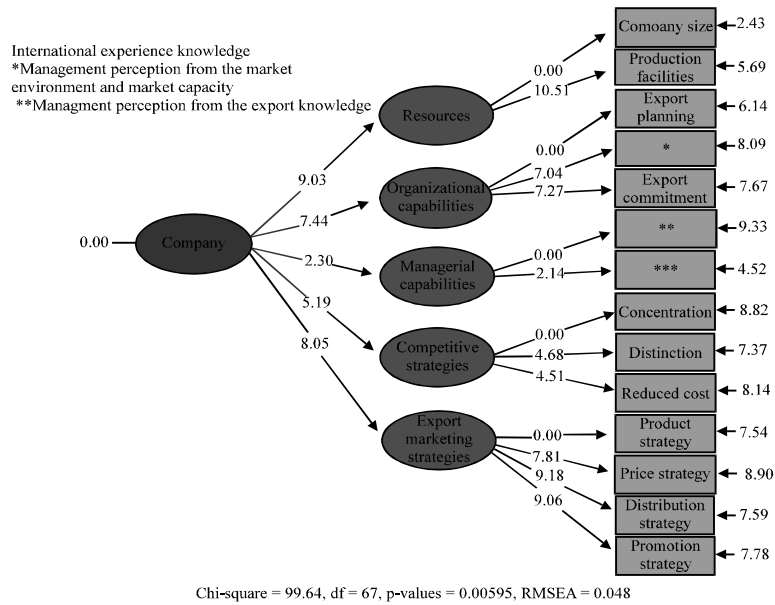


Fig. 6: Significance values for the second order confirmatory factor analysis for company

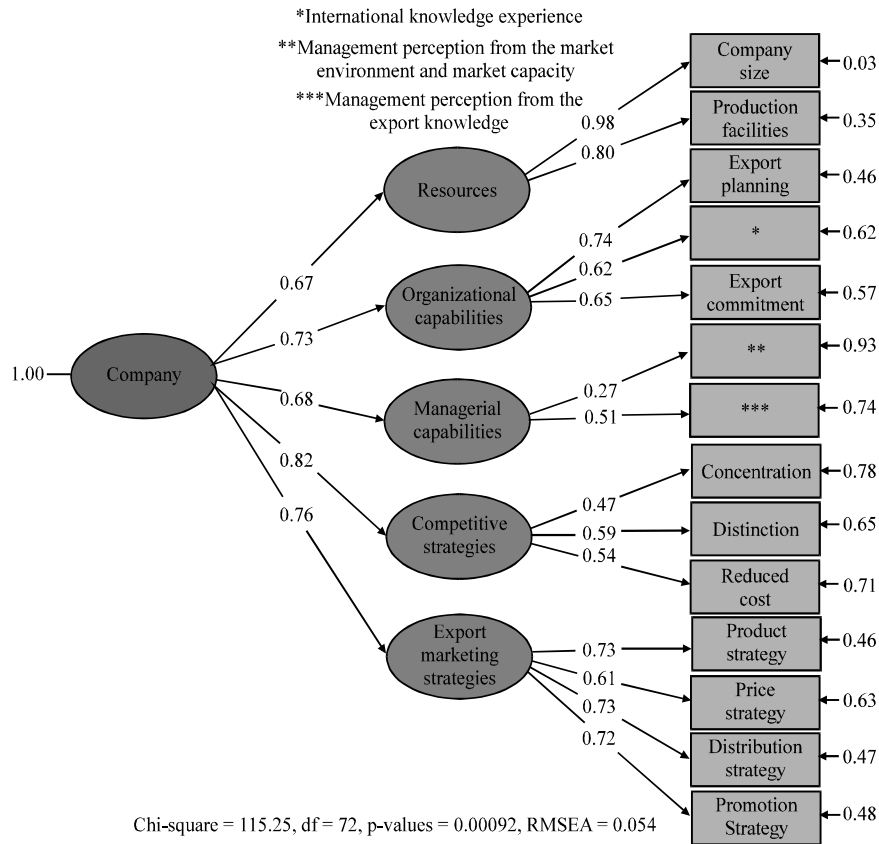


Fig. 7: Standardized estimation coefficients for second order confirmatory factor analysis for company

Table 7: Fitting indicators for the second order confirmatory factor analysis (company variable)

Fitting indicator	Desired values	Results
X ² /df	<3.00	1.601
GFI (Goodness of Fit Index)	>0.90	0.930
RMSEA (Root Mean Square Error of Approximation)	<0.08	0.054
RMR (Root Mean Square Residual)	<0.05	0.028
NFI (Normed Fit Index)	>0.90	0.920
NNFI (Non-Normed Fit Index)	>0.90	0.960
CFI (Comparative Fit Index)	>0.90	0.970

Second order confirmatory factor analysis for company

variable: First order confirmatory factor analysis confirmed the internal correlation among the main as well as between the secondary and main dimensions. In order to examine the significance of relationship between FTZ export programs and its dimensions, second order confirmatory factor analysis was employed. Figure 9 shows the significance figures for the second order confirmatory factor analysis. According to the figure, estimated parameters are significant for all paths, showing the validity. Figure 10 shows the standardized estimation coefficients for the second order confirmatory factor Analysis to prioritize the effects of each of dimensions on this variable. Table 9 lists the fitting indicators for the

second order confirmatory factor analysis. According to this table, all indicators are in acceptable levels. Therefore, this structure has the essential validity.

In order to facilitate the interpretation of results, the estimated parameters are listed in Table 10. The mixed reliability was reported 0.89 for the FTZ export programs. Since, it is higher than 0.6, it is reliable. The results of first and second order confirmatory factor analysis show that the proposed model is reliable to study the FTZ export programs.

First question (What is an appropriate model for export development in FTZ?):

The researcher decided to use mixed approach in order to introduce a native model for FTZ export due to lack of appropriate criteria to study the effective factors in export performance development and improvement in FTZs. In the first step, effective factors in export performance development were identified in order to reach a credible model. Then, these factors were examined. Thematic analysis was the best method to identify effective factors from the perspective of FTZ export experts. After identifying the sample size in qualitative section in-depth interviews (open-ended

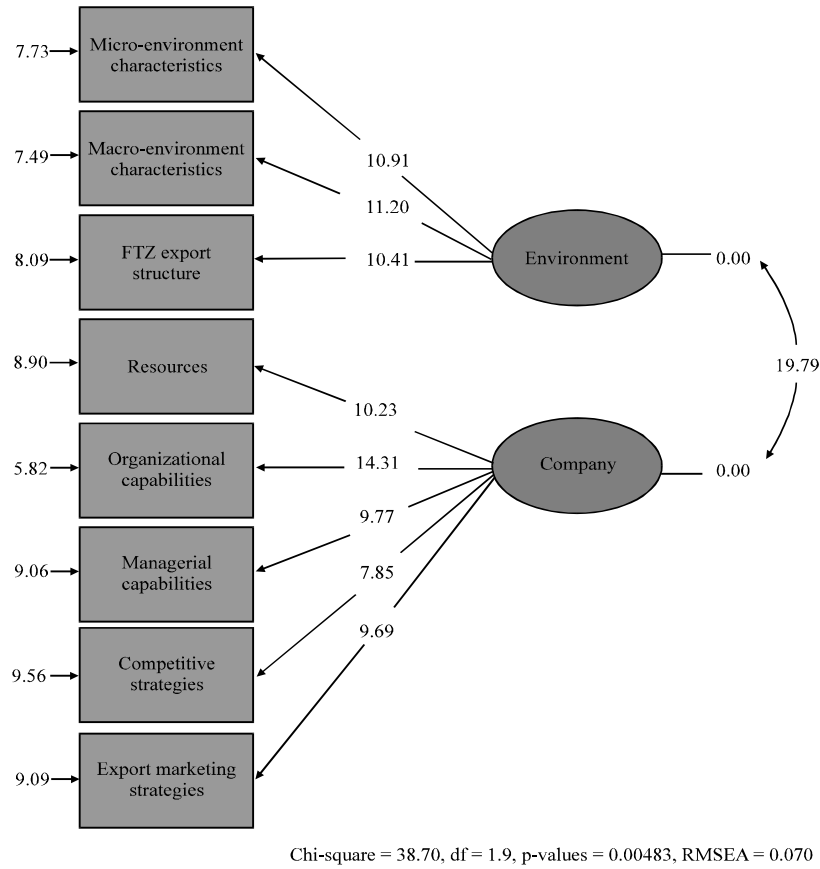


Fig. 8: Significance values for the first order confirmatory factor analysis for FTZ export programs

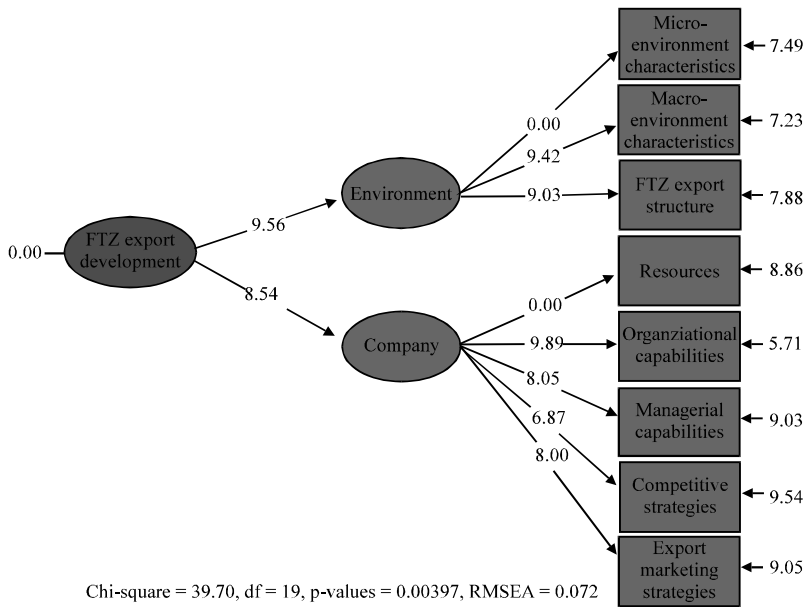


Fig. 9: Significance values for the second order confirmatory factor analysis for FTZ export programs

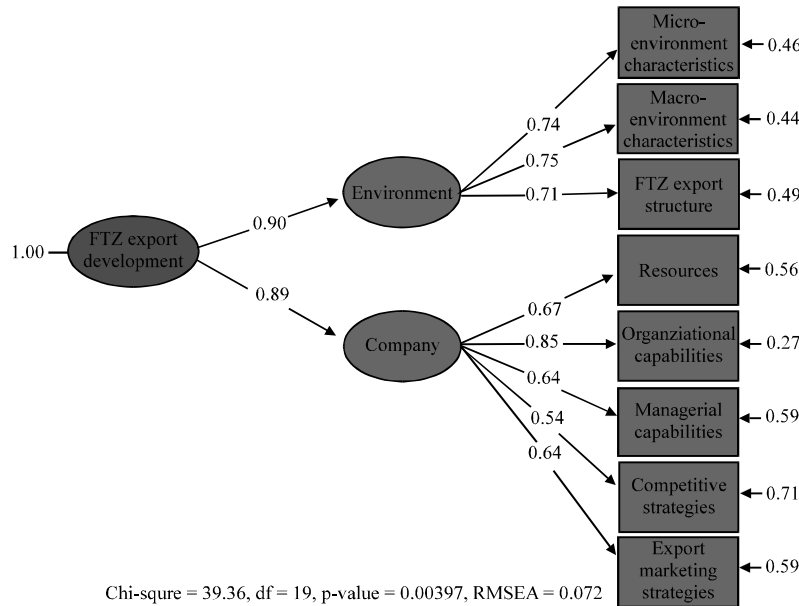


Fig. 10: Standardized estimation coefficients for the second order confirmatory factor analysis for FTZ export development

Table 8: The results of the second order confirmatory factor analysis (company variable)

Variables/ dimensions	t-values	Path coefficient (β)	Rating	Squared multiple correlation (R ²)	Error variance
Company					
Resources	9.03	0.67	5	0.45	0.55
Organizational capabilities	7.44	0.73	3	0.53	0.47
Managerial capabilities	2.30	0.68	4	0.47	0.53
Competitive strategy	5.19	0.82	1	0.67	0.33
Export marketing strategy	8.05	0.76	2	0.58	0.42

Table 9: Fitting indicators for the second order confirmatory factor analysis (structural model)

Fitting indicator	Desired values	Results
χ ² /df	<3.00	2.072
GFI(goodness of fit index)	>0.90	0.950
RMSEA (Root Mean Square Error of Approximation)	<0.08	0.072
RMR (Root Mean Square Residual)	<0.05	0.026
NFI (Normed Fit Index)	>0.90	0.960
NNFI (Non-Normed Fit Index)	>0.90	0.970
CFI (Comparative Fit Index)	>0.90	0.980

Table 10: The results of the second order confirmatory factor analysis (FTZ export development)

Variables/ dimensions	t-values	Path coefficient (β)	Rating	Squared multiple correlation (R ²)	Error variance
FTZ					
Environment	9.56	0.90	1	0.81	0.19
Company	8.54	0.89	2	0.79	0.21

questions) were conducted. The 14 interviews were conducted of which each took 50 min. Each single interview was analyzed by extracting verbal statements and frequency. The results were cross checked with the opinions of export experts, managers of manufacturing companies and scholars. As a result, we obtained the conceptual model (2 main factors, 8 secondary factors, 22 sub-factors, ad 69 indicators). Based on the mentioned interviews, effective main factors in export in FTZ are as follows in company level: resources (structural capacities of production) including company size (2 questions) and Production Facilities (3 questions); organizational capability including export planning (1 question), international experience knowledge (2 questions) and export commitment (2 questions); managerial competencies and capabilities including management perception from the market environment and market capacity (3 questions), management perception from the export knowledge (4 questions); competitive strategy including concentration strategy (3 questions), differentiation strategy (4 questions) and reduced cost (4 questions); export marketing strategies including product strategy (4 questions), price strategy (4 questions), distribution strategy (4 questions) and promotion strategy (2 questions). In total, company factors are 5 secondary factors and 42 indicators. In company level, company capabilities consist of two types capabilities: organizational capabilities and managerial capabilities and competences. Secondary capability factors consist of 5

secondary sub-factors and 13 indicators. These factors are highly regarded in qualitative section. Organizational capabilities consist of 3 secondary sub-factors: export planning, international experience knowledge and export commitment. Management competences consist of 2 secondary sub-factors: management perception from the market environment and market capacity and management perception from the export knowledge. They are allocated more indicators than other secondary factors. These factors mainly emphasize the leadership capabilities of managers and their effects on export performance improvement in line with export development in FTZs directly and indirectly. The second identified factor is company strategies through content analysis in company level including two sets of strategies in two levels (operational managers and senior managers). These factors are effective in qualitative stage. Company strategies consist of two sections: competitive strategies (3 secondary sub-factors), concentration strategy, differentiation strategy and reduced cost strategy covering 11 indicators. Export marketing strategies also consist of 4 secondary sub-factors in operational level and 14 indicators. Export marketing strategies secondary sub-factors consist of product strategy (diversity and quality), price strategy and ability of financial facilities. Distribution strategy consists of distribution and warehousing. Promotion strategy consists of sales promotion and service provision. Strategies can be highly effective in export development in company level.

Another identified factor in company level is resources or structural capacities of production. This factor is one of underlying differences with other similar studies. It is in fact, considered innovation of this study. This factor which distinguishes itself from other secondary factors in company level consists of 2 secondary sub-indicators including company size and production facilities and 5 indicators. Based on mentioned interviews, main effective factors in FTZ export in environment level are micro-environment characteristics including competition intensity (4 questions), access to distribution channels (3 questions) and customization (4 questions). Macro-environment characteristics consist of legal and political (5 questions) and export barriers (4 questions). Structure of FTZ export consists of formalization (1 question), centralization (1 question), coordination (3 questions). In total, environment consists of 3 secondary factors and 27 indicators. Environment factor identified in qualitative analyses is macro-environment characteristics which influences the export development as exogenous variable. This factor consists of two secondary sub-factors including legal and political (government and export) and export barriers (Tariff and Non-Tariff) covering 11 indicators. Along with

this factor, micro-environment characteristics was also identified which consists of 3 secondary sub-factors including competition intensity, access to distribution channels and customization (communication and customer preferences). This factor covers 9 indicators. Along with micro and macro environmental factors, FTZ export structure which is within the environment level influences the export development independently. This factor is another underlying differentiation of this study. As an exogenous variable it consists of 3 secondary sub-factors including export formalization, centralization and coordination. Since, companies perform most of their export activities in FTZ, paying attention to this factor can play a key role in FTZ export development. In other words, this factor in environment level plays the environment level next to the company. Although, environment is generally defined in two factors (micro and macro), export structure in FTZ is also highly regarded due to its distinctive features. This factor consists of 7 effective indicators. In total, multi-level features of this study is one of distinctive properties of this study.

Second question (what is the importance of each of effective main and secondary factors in export development in FTZ?): The results of Fridman test show the priority of factors affecting the development of export in FTZ. Table 11 shows the summary and priority of effective factors in export development concerning the importance.

According to Table 11, the priorities of main dimensions are not equal in environment level. Based on the average rating, FTZ Export Structure (2.15) scored the top. Macro-Environment Characteristics (2.02) and Micro-Environment Characteristics (1.82) rated the second and third, respectively.

According to Table 12, the priorities of main dimensions are not equal in environment level. Based on

Table 11: The results of Fridman test to prioritize the main dimensions in environment level

Factors	Test statistics	
	Average rating	Priority
Micro-environment characteristics	1.82	3
Macro-environment characteristics	2.02	2
FTZ export structure	2.15	1

Table 12: The results of Fridman test to prioritize the main dimensions in company level

Factors	Test statistics	
	Average rating	Priority
Resources	3.41	1
Organizational capabilities	3.09	3
Managerial capabilities	2.60	5
Competitive strategies	3.12	2
Export marketing strategies	2.78	4

Table 13: The results of Fridman test to prioritize secondary dimensions in company level

Factors	Test statistics	
	Average rating	Priority
Company size	8.49	1
Production facilities	8.07	2
Export planning	8.00	3
International experience knowledge	7.50	6
Export commitment	7.48	7
Management perception from the market environment and market capacity	6.70	13
Management perception from the export knowledge	6.93	10
Concentration	7.75	4
Differentiation	8.07	2
Reduced cost	7.72	5
Product strategy	6.73	12
Price strategy	7.35	8
Distribution strategy	6.88	11
Promotion strategy	7.34	9

Table 14: The results of Fridman test to prioritize secondary dimensions in environment level

Factors	Test statistics	
	Average rating	Priority
Competition intensity	4.39	5
Access to distribution channels	4.01	8
Customization	4.18	7
Political and legal	5.00	1
Export barriers	4.27	6
Formalization	4.68	3
Centralization	4.86	2
Coordination	4.60	4

the average rating, resources (3.41) scored the top. The other priorities are as follow: competitive strategies (3.12), organizational capabilities (3.09), export marketing strategies (2.78) and managerial capabilities (2.60).

According to Table 13, the priorities of secondary dimensions are not equal. The priorities are as follow: company size (8.49), production facilities and differentiation (8.07), export planning (8.00), concentration (7.75), reduced cost (7.72), international experience knowledge (7.50), export commitment (7.48), price strategy (7.35), promotion strategy (7.34), product strategy (6.73), and management perception from the market environment and market capacity (6.70).

According to Table 14, the priorities of secondary differentiation (8.07), export planning (8.00), concentration (7.75), reduced cost (7.72), international experience knowledge (7.50), export commitment (7.48), price strategy (7.35), promotion strategy (7.34), product strategy (6.73) and management perception from the market environment and market capacity (6.70). Dimensions are not equal. The priorities are as follow: political and legal (5.00), centralization (4.86), formalization (4.68), coordination (4.60), competition intensity (4.39), export barriers (4.27), customization (4.18) and access to distribution channels (4.18).

The results of Fridman test concerning the effective factors in export development show that the priorities of main and secondary factors are not equal. The priority shows the importance of significance to apply each of effective factors in FTZ export development.

Third question (what are appropriate solutions to develop export in FZT in company, environment and organization levels in Iran?):

Ignoring export development programs means government and private sector investment loss. Familiarizing firms with incentive and supportive programs by the government and encouraging firms to use export development programs are highly effective in export performance promotion in FTZ. Strengthening the business relationship with the organizational structure in FTZ and creating more and more effective communication tools can play a key role in the effectiveness of export development programs. One solution is to communicate with university centers in order to promote the society's information toward government's supportive programs. Involving export firms in policy making through related associations can be an appropriate solution to identify more effective recognition of firms' needs and to devise and revise new plans and programs. Export development programs need to be more appealing, flexible and timely due to complexity, dynamism and uncertainty of export conditions. A native and unique model is required to study the export performance of any industry. As it can be seen, effective factors in export performance are unique in any FTZ. Therefore, given the level of competitiveness within the free zones, the level of technological development and the volume of exports of companies in the free zones, identifying the gap between international supply and demand, the competitiveness of goods in regional and global markets, government policies in support of manufacturing enterprises in the free zones are all effective factors in analyzing the situation of export performance in the free zone.

CONCLUSION

In the proposed model, we managed to extract 69 indicators (2 main factors and 8 secondary factors) for the export development. Therefore, the researchers obtained a tested theoretical model with comprehensive native characteristics. In this model, some indicators were taken into account such as micro-environmental characteristics, macro-environment characteristics, FTZ export structure, resources, organizational capabilities, managerial capabilities and competencies, competitive strategy and export marketing strategy within two main factors (environment and company).

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