J. Appl. Environ. Biol. Sci., 5(7S)366-371, 2015

ISSN: 2090-4274
Journal of Applied Environmental and Biological Sciences
www.textroad.com

The Relationship between the Tendency to Export, Innovation, and Size of Organizations in Small and Medium Industries

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Received: March 19, 2015
Accepted: May 2, 2015

ABSTRACT

The purpose of the present study is to examine the relationship between tendency to export, innovation, and size of organizations in small and medium sized industries. The methodology includes survey research. The statistical population included all food and beverage industry staff in Tehran and using Morgan's table a sample size of 196 people was selected. Sampling method was stratified random. The data collection tool was questionnaire (14 questions). To check the validity of the questionnaire with respect to the nature of subject matter, in the process of producing the questionnaire the study used content validity, including the validity of the judgment (experts' opinion) and face validity. Cronbach's alpha coefficient was used to evaluate the reliability of the questionnaire. The amount obtained for the variables were above 0.7, indicating internal consistency of the items and confirming the reliability of the questionnaire. Research hypotheses were tested by inferential tests (bivariate regression and path analysis) using SPSS22 software. The results showed that size of the company has a positive impact on the tendency to export. Moreover, in small and medium enterprises innovation is dependent on export orientations of the companies.

KEY WORDS: Export, Innovation, Industry, Small, Medium.

1. INTRODUCTION

Development of small and medium industries is the key to economic development in the next decade. Investigations have shown that small and medium industries, through four channels of entrepreneurship, innovation and technological change, dynamic industry and, ultimately, creating job opportunities and increasing income affect the global economy. In addition, intense global competition, increased uncertainty and increasing demand for various products have caused more interest in such industries [1].

Due to widespread and immediate job creation, the use of local raw materials, rapid response to demand, a better distribution of income, collecting unused capital and labor resources and promoting balanced regional development, small industries have special importance in developing countries [2].

There are ideas and theories that confirm the superiority of small industries over big industries in terms of innovation. For the following reasons, experts consider the role of small industries more significant in creating innovation; the feelings related to innovation production are more controllable in the small companies, management structure of these companies cause the least resistance to innovation, bureaucracy in these companies is very low and usually innovation occurs in organizations with less bureaucracy, innovation in many small industries is regarded as a strategic goal. For example, the rate of innovation in small and medium companies in the United States is much higher than in other sectors even high-tech industries. It can be concluded that the success of small and medium sized companies depend on factors that are different in terms of industrial structure and innovation system of countries [3].

One way for industrial development, which in recent years has been considered by developing and even developed countries, is downsizing of the industries and relying on the development of small and medium sized industries as the engine of industrial and economic development [4].

Small and medium companies in most countries are faced with relatively similar problems. Here some of the problems associated with the companies are mentioned: lack of innovation tools such as well-equipped laboratories, highly skilled personnel, financial ability for international cooperation, relying more on environmental conditions than large industries, lower resistance to economic downturns, and having less access to information technology, reduces their power and capacity for innovation, financing for these companies compared to large companies is more difficult, especially since banks put them in harder situations in terms of collateral and imposing higher interest rates, lack of liquidity is also one of the reasons that resulted in the fact that only 40 percent of small and medium companies in the United States last for more than 6 years, they usually have lower accessibility to vast capital resources through banks and financial institutions. Some of these limitations include financial restrictions of technological developments, in the market that goods and services are provided and have no directive and determining role, lack of economic, financial and management knowledge, especially in time of establishment, cause problems for these companies. Due to the lack of supportive and effective authorities, small industries can't affect the environmental changes, and this issue increases the vulnerability of this group of industries, providing and maintaining the human resources are permanent problems for these enterprises, because most professionals tend to work in large companies and after obtaining the necessary training

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in small industries may leave [5], not only often these industries do not have the management experience, but also due to limited financial resources don't have the possibility of getting help from effective professional consultants, culturally specific conditions in some countries may do not consider these companies as producers, for example, our country often does not regard service industries as producer, in most cases, these small and medium companies lack any supporting organization for marketing and export and this increase export costs and the associated risks, entrepreneurs and founders of these industries when reach the retirement age, face the problem of finding a worthy successor so that some of these companies terminate because of this issue [6].

2. The reasons for the importance of small and medium sized enterprises in the economy:

The main reasons for the importance of small and medium sized enterprises in the economy can be expressed as follows:

- Small and medium sized enterprises help job growth more than large enterprises and in the long run can have very important share of total employment.
- During the transfer or sale of parts of large companies, small and medium sized enterprises can absorb their work force and be influential in their reconstruction and efficiency.
- Small and medium sized enterprises due to more flexibility in the development of products and services can provide more opportunities for savings.
- Small and medium sized enterprises increase the market competitiveness and prevent the monopoly of affairs by large companies.
- Small and medium sized enterprises can act as a platform for development of skills and entrepreneurial innovations. They play a significant role in providing services and goods and can greatly contribute to development of regional programs.
- Small and medium-sized enterprises, by playing different roles, help the increasing international trade or benefit from it. Providing products and services to large export companies, the export of new products and the provision of support services for international commercial transactions (such as domestic transportation, transportation and freight, customs brokerage) are among these affairs [7].

3. The role of small and medium sized enterprises in the global economy

As an introduction to the role of small and medium sized companies in the global economy, the following statistics are offered:

- More than ninety percent of the world's economic enterprises are small and medium-sized enterprises.
- All over the world, small and medium sized enterprises produce as much as 55 to 90 percent of the gross domestic product of the countries.
- More than 50 percent of the world's labor force are employed by small and medium sized enterprises.
- In Europe there are more than 16 million companies, and less than one per cent of them are large companies and the rest are small and medium sized enterprises. In addition, two-thirds of all employees in the area work in small and medium sized enterprises.
- Small and medium sized enterprises are the backbone of the economy of the Asia-Pacific region and 90 percent of companies, between 32 and 48 percent of employment and 60 to 80 percent of gross domestic product for the countries of this region are related to small and medium sized enterprises.
- Performance of the US economy in recent years is largely indebted to the development of small and medium enterprises which account for 43% of employment indicator [8].

4. The role of small and medium sized enterprises in Iran

The significance of economic enterprises, especially small-scale industries, in recent years has been growing in Iran. In the past two decades with the advent of modern technologies in production and communications, some changes emerged in the ability of industrial units, methods of production and distribution and organizational structure of enterprises which generally added to the importance of the small economic units [9]. More than 99 percent of economic enterprises in Iran are small and medium sized units. Obviously, any planning for economic and industrial development of the country, job creation, development of non-oil exports and innovation without the support of small and medium industries will not be possible [10].

According to a study by the Ministry of Industries and Mines on the role of small and medium-sized enterprises in non-oil exports in Iran, the country's total exports of goods and services by the year 2020 could exceed 108 billion dollars that the share of the industrial sector of the export of goods and services exceeded 56 billion dollars which is about 52 percent. In order to fulfill these expectations it will be required that some steps be taken to open the Iranian economy to expand exports. Therefore, considering the importance and vital role of the small and medium sized enterprises (SMEs) in Iran's economy it can be said that support and strengthening of enterprises in the social, economic, political and demographic dimensions can change the society; that is why in the Fourth Development Plan the government by supporting and creating appropriate links between economic enterprises has undertaken to reform the structure of economic enterprises. In recent years, in accordance with the Fourth Development Plan, due to the importance of economic enterprises and to protect them good credit and facilities dedicated has been dedicated to the enterprises [11].

5. Literature review of the research

Amid and Ghamkhari [12] carried out a study entitled "The impact of information technology on the development of exports of small and medium industries in Iran". Based on data analysis, information technology affect the amount of export of the industry and the priorities of this effect varies.

Javanmard and Sakhaee [13] did a study entitled "The relationship between individual skills, organizational learning, innovation and organizational performance in small and medium industries in in Markazi province". The results show that the individual skill has a positive relationship with organizational performance, and also the relationship between individual and organizational learning and innovation is direct and positive. Moreover, the impact of innovation on organizational performance was rejected.

Ardekani et al., [14] did a study entitled "The investigation and ranking of factors and components affecting new product development process (A case study of SMES managers in the food and beverage industry of Fars province)". . Results of this study indicate that five critical factors affecting the success of new product development of the companies include technological, supportive, marketing, intra-organizational, and commercialization factors. Also the results of the ranking of factors affecting success of the development of new products indicate that to encourage the production of appropriate and practical ideas and attractiveness of the product introduced to the market are the most important components.

Revani and Kelabi [15] did a study entitled "The conceptualization of entrepreneurial strategies in the marketing of small and medium entrepreneurial enterprises in food market". The findings suggest that innovation is a continuous and constant process that enables small and medium entrepreneurial companies to distinguish their products from larger competitors. Innovative strategies in marketing of these companies include: strategy of flexibility in approaches to marketing, strategy of improving processes, strategy of customer focus, strategy of alliance of innovation in marketing, strategy of market focusing, and strategy of distinction and uniqueness.

Rahmani Yushanlooyi et al., [16] carried out a study entitled "Identification and prioritization of barriers to export and providing solutions for development of export of small and medium enterprises (SMES) in the food industry in Western Azerbaijan". The results of this study showed that among the six identified factors, rules and regulations, banking system and getting health licenses have the highest importance, respectively, and have highest regression coefficient on the structures of obstacles to the development of exports. Other factor is lack of marketing plans for export, followed by specialized education and cultural level of society, respectively. And two hypotheses about the issue of cultural level of society towards the issue of export and lack of specialized education were rejected.

6. The Conceptual Model of Research

The theoretical framework of this study is derived from a study by Yushanluyi Rahmani et al. [16]. They examined the size of the organization, tendency to export and innovation as key variables in the form of an analytical model. In this regard, the size of organization can affect amount of exports and innovation, and hence, can be considered as independent variables. The result of innovation affects the amount of export, both of which will be introduced as dependent variables. Thus the conceptual model of the research is outlined as follows:

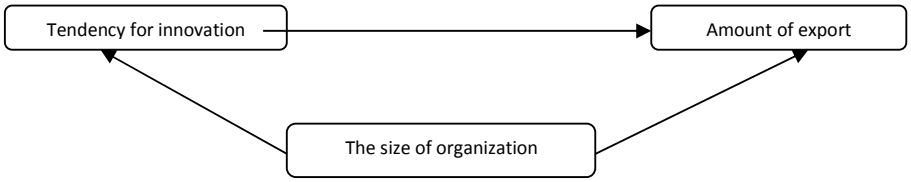

Fig. 1. Conceptual model of research

7. Research Hypotheses

First hypothesis: the relative contribution of the impact of the size of organization on the amount of exports is significant and positive.

The second hypothesis: the relative contribution of the impact of tendency for innovation on the amount of exports is significant and positive.

8. Research Methodology

The method used in this research was survey method. In terms of objective, it was applied and in terms of process of implementing was cross-sectional and descriptive-correlational. The research population included all food and beverage industry staff in Tehran. Morgan table was used to estimate a sample size of 196 people and finally 209 questionnaires were distributed. Sampling method is stratified random. The data collection tool was questionnaire. The questionnaire contains 14 questions about the relationship among elements of the model. Out of 14 questions, 8 questions were related to innovation in small and medium industries, two questions related to size of the organization, 4 questions related to tendency to export in small and medium industries. Questionnaire was set in the form of Likert's five scale, ranging from strongly disagree, disagree, neutral, agree, to strongly agree. To check the validity of the questionnaires with respect to the importance of subject matter, content validity including judgment validity (expert opinion) and face validity were used in the process of making questionnaires. Cronbach's alpha coefficient was used to check the reliability of the

questionnaire. The amount obtained for the variables were above 0.7 which indicates the internal consistency of the items and confirming the reliability of questionnaires. To test the hypotheses, inferential test (bivariate regression and path analysis) was performed using SPSS22 software.

9. Findings

9.1. Testing Hypotheses

According to Table 1, the obtained F (179.479) which is significant in the error level of less than 0.05 shows regression equation is significant. The value of the correlation coefficient (R=0.7) indicates that there is a strong and positive relationship between the size of organization and amount of export, adjusted coefficient of determination (R2.adj=0.462) indicates the variable of size of the organization explains 46.2 percent of the changes of the variable of the amount of export. Standardized regression coefficient (β=0.681) as well specifies the share of variable of the size of organization in predicting the changes of the dependent variable. This means that for every one unit increase in the size of the organization the amount of exports increases for 68.1%. Also t-statistics and the level of error smaller than 0.05 for that indicates the variable have significant statistical effect in explaining the changes in the variable of amount of export. Thus the first hypothesis was confirmed.

Table1. Bivariate regression between the variable of size of the organization and amount of exports

Sig	t	Sig	F	β	R2.adj	R	variable
0.000	13.397	0.000	179.479	0.681	0.462	0.7	Amount of expert The size of organization

According to Table 1, the obtained F (33.272) which is significant in the error level of less than 0.05 shows regression equation is significant. The value of the correlation coefficient (R=0.4) indicates that there is a slight and positive relationship between innovation and amount of export, adjusted coefficient of determination (R2.adj=0.134) indicates the variable of innovation explains 13.4 percent of the changes of the variable of the amount of export. Standardized regression coefficient (β=0.372) as well specifies the share of variable of innovation in predicting the changes of the dependent variable. This means that for every one unit increase in innovation the amount of exports increases for 37.2%. Also t-statistics and the level of error smaller than 0.05 for that indicates the variable have significant statistical effect in explaining the changes in the variable of amount of export. Thus the second hypothesis was confirmed.

Table2. Bivariate regression between the variables of tendency to innovation and amount of export

Sig	t	Sig	F	β	R2.adj	R	variable
0.000	5.768	0.000	33.272	0.372	0.134	0.4	Amount of export Tendency to innovation

9.2. Path Analysis

Path analysis is a method to study the direct and indirect effects of independent variables on the dependent variable is a causal mechanism. In the theoretical model of this study, a mediator is predicted. In order to study the overlapping effects (decreasing or increasing) of a number of variables that can be proven theoretically, path analysis were used. As can be seen all path coefficients of the variables are shown in Figure 2. Accordingly, in Table 3, all the paths leading to the dependent variable are identified and calculated to obtain the overall effect of independent variables. According to Table 4 the results indicate that all path coefficients are significant with 95% confidence intervals and error level which is smaller than 0.05. The impact of tendency to innovation is (0.372). Regarding the size of the organization, the impact factor equals (0.815)

Table 3. Path analysis

variables	dependent variable → independent variable
Tendency to innovation	**Amont of export → tendency to innovation** **Direct impact = 0.372**
Size of organization	**Amount of export → size of organization** **Direct impact = 0.681** **Amount of export → tencency to innovation → size of orgaziation** **indirect impact = 0.362 ×0.372= 0.134**

Table4. The direct, indirect and overall effects of the independent variables

Total	Type of impact		Independent variable
	indirect	direct	
0.372	-	0.372	**Tendency to innovation**
0.815	**0.134**	**0.681**	**Size of organization**

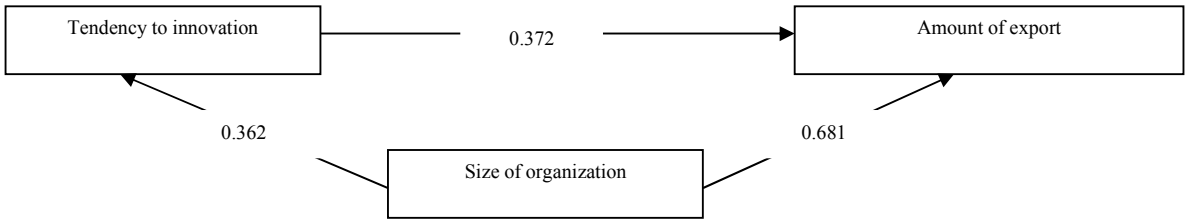

Fig.2. Diagram of Path Analysis of Factors Affecting Exports

10. FINDINGS

Based on the results of testing the first hypothesis with 95 percent certainty it can be said that the size of company has a positive effect on the tendency to export. The relationship between the size of the company and tendency to export has a statistical and strong significance. Therefore size of the company play a role in the tendency of export in small and medium enterprises. Such results show that the size of the company can be an important predictor of the company's export activities. Yushanluyi Rahmani et al. [16] found the same result in their statistical population and showed that there is equality of opportunity and facilities for biotechnological large and small companies for optimal performance in the international arena and the size of companies would not be a limiting factor in the attempts to export. This is inconsistent with the result of the present study and rejects it.

Based on the results of the test of the second hypothesis, it can be said that in small and medium enterprises innovation is dependent on export orientation of the company. That means that, in the statistical population studied here the tendency of export of enterprises are significantly related to innovation. The statistical analysis of the data obtained in this study indicates that theoretical reasons regarding the relationship and the link between innovation and the tendency to export are approved. Yushanluyi Rahmani et al. [16] in their experimental studies confirmed the existence of such a relationship. According to the analysis of their main model provided convincing evidences, which showed significant positive correlation between innovation and the desire to export in the studied companies. They stated that innovation strengthens the tendency to export.

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