Entrepreneurship and Development of Small-Scale Industries in Iran: Strategic Management Tools and Business Performance Assessment

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This paper examines the relationship between the development of Iranian Small-Scale Industries (SSIs) and entrepreneurial performance in terms of strategic management tools. SSIs have been recognized by the government as having a vital role to play in the development of an economy. SSIs could now offer highly valued expertise, goods and services, whereas larger firms were still forced to downsize due to stiff competition. However, there are five decision areas in a manufacturing plant—Quality of products, Industrial cost, Logistic support, ISO, and Management Effectiveness (QCLIM). Each factor has key decisions with various alternatives. Findings indicate that the influence of entrepreneurial performance on development of SSIs was noticeable and reflected the high quality of products, lower cost, skills management, production planning and material control in the development of Iranian SSIs. SSIs have to adopt strategic management tools to capture export market and to increase efficiency for the domestic customers.

Introduction

Iran has adopted a planning approach for the development of its industries, including small-scale sector. The first seven-year development plan was approved by the Iranian Parliament in 1949. Critics have described the plan as deficient in both, its basic planning methodology as well as in its objectives. In fact, the planning was considered as infrastructural projects, which were to be executed by the newly established government. The 1951-53 crises over oil nationalization and the subsequent loss of oil revenues made the actual implementation of the plan impossible (Karshenas, 1990). The second plan initiated in 1955, was largely financed out of oil revenues. Similarly, investments for inclusion in the plan were chosen without any particular systematic framework. The allocations of the plan in the industrial sector were concentrated in several major projects involving the construction or modernization of large textile, sugar and cement factories (Firoozi, 1979). Despite the

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far-reaching impacts, that the resumption in oil revenues was to have on the economy, the process of oil-induced economic development had certain ramifications. In general, an overview of the 1962-73 period and the industrialization process, show how oil-induced distortions not only impeded the process of diversified economic development, but actually created a productive structure that was inherently stagnant in Iran (Karshenas, 1990).

In effect, some of the measures imposed by the "Economic Stabilization Program," such as restrictions on the import of non-essential goods and high tariffs, facilitated the state's shift to import-substitution industrialization. In the 1950s, a rapid increase in the import of industrial products was indicative of "an immense gap between the structure of domestic demand and supply for industrial product" (Pesaran 1985 and Karshenas, 1990).

The third plan, as its predecessors, was essentially an investment program for the public sector, together with several forecasts of private sector activities. In terms of priorities, it is clear that economic growth was the dominant objective of the plan, with employment and income distribution objectives receiving relatively low marginal considerations.

While the first two years of the plan period were years of recession, the subsequent economic recovery together with enhanced development outlays resulted in a substantial increase in the domestic supply of goods and services during the latter part of the period. A significant portion of this increased output resulted from the maximum utilization of previously idle resources. Additionally, production began as several capital intensive plants, initiated in the second plan, came on stream.

The third development plan stressed the industrialization of the country as the first step to economic development and paved the way for the government's large-scale investment in heavy industries. It also motivated the private sector to invest in light industries. During this period, industries such as textile, vegetable oil, sugar, dried fruits, dates, tobacco, fisheries, carpet, leather, glass and fertilizers saw greater growth and special attention was paid to small and medium size industries.

The fourth plan was the most comprehensive and successful of all the development plans in Iran, by virtue of its concern for a more balanced growth strategy. This is reflected in the allocation of higher rate of credits to social sectors, and the introduction of regional, rural and urban development in the plan. The fourth plan targeted the following broad objectives: an increase in the rate of economic growth through a gradual increase in the relative importance of industry, a raise in productivity of capital and an introduction of advanced techniques of production, a more equitable distribution of income, a decrease in the dependence on foreign countries to meet basic requirements, and an attempt to diversify exports and an improvement in administrative services through the introduction of basic changes in the administrative system and advanced managerial techniques to all ministries, as well as public and private organizations (Plan and Budget Organization, 1968-73, p. 39).

Unlike the industrial program of third plan, which emphasized the development of small and medium scale industries, the fourth plan aimed at heavy industrialization in fields such as aluminum, copper, lead, zinc, petrochemicals and engineering industries. Also, the industrial production of commodities such as steel, metal products, aluminum, tractors, military defense equipment, petrochemicals, paper, cement, synthetic fabrics, electronic and mechanical products, car tyres, foodstuff, glass, chinaware, bicycles, motor cycles, transportation vehicles, medicine and leather materials doubled in the same period because of the establishment and expansion of manufacturing capabilities. The rapid change in the government's investment priorities, accompanied by a shift in the pattern of industrial structure, clearly indicates the drive for import-substitution industrialization at that time.

The fifth development plan (1973-79) was initiated shortly before the global oil price hike, which tripled the predicted incomes. This sharp increase in financial resources was beyond the Iranian economy's absorption power and led to the saturation of Iran's domestic markets with imported goods—a phenomenon quite disadvantageous to the non-competitive industries established in the course of other development plans. Within the framework of this plan, 16.6% of the total investment expenditures were allocated to manufacturing industries, with the private sector having a major share.

The sixth development plan of the Islamic Republic (1989-1993) was aimed at stimulating the growth of real incomes, increasing the share of investment expenditures, reducing unemployment, finding ways for promoting economic capabilities, correcting the improper former management systems and setting in motion a financial disciplinary order.

The plan's industrial agenda included a combined set of policies such as replacing imports with domestic products, focusing on the promotion of exports and stressing economic self-sufficiency, in hand with developing non-oil exports. Most of these objectives were achieved, yet the official evaluations in the course of the execution of the plan showed that the annual average growth rate in most sectors was less than the predicted rate. At the same time, consumer industries such as power, gas, water and agriculture had grown more than the expected.

The seventh socioeconomic and cultural development plan envisaged projects aimed at expanding manufactured goods, balancing industrial productions, improving and developing domestic technologies, promoting efficiency and further beneficiary from the country's existing industrial facilities and potentials. To carry out these projects, it is necessary that a thorough coordination with the industry sector be achieved in order to ensure that domestic manufacturing activities are based on the principle of relative profit and the reduction of tariff rates. This has lead to greater motivation in domestic production, establishment of industrial units by the government and private sectors, privatization of non-strategic industries, lifting of restrictions for investment and greater support for foreign investors in order to encourage the transfer of technology and promote the country's industrial development. To this end, a comprehensive plan for establishing and developing small and big industries and their subsequent transfer to large and medium scale industries have been included in the plan (Iran's progress studies center, 2002).

The government policies under different plans emphasize on major industrial development and their importance, both for domestic and foreign markets. Much attention was not given for the development of SSIs.

The birth of Iranian manufacturing activity was confined to SSIs, and a wide range of commodities are produced in this sector alone. Production was aimed primarily at domestic markets, but merchants, mainly from Britain and Russia, had stimulated production for export to such an extent that, although the total production of SSIs was probably declining, it manufactured for nearly one quarter of the value of Iran's total export (Bharier, 1971, p. 170). Various attempts have been made to introduce the modern manufacturing industry in the closing years of 20th century. The present Iranian Government has stated that by 2020, Iran can become the best place in the Middle East to start and develop a business (Mahroo, 1997). The result of the increased attention with entrepreneurial activity and the promotion of entrepreneurial careers have also focused attention on the role and importance of the Small and Medium-Sized Enterprise (SME) in the Iran economy. The recent Global Entrepreneurship Monitor (GEM) reports claim that entrepreneurial activity is important for the vitality of the economy and for growth in GDP (Global Entrepreneurship Monitor, 2002).

Most of the Iranian companies consist of small and medium industries. However, there is a dearth of professional managers and entrepreneurs to manage them in the backdrop of the widening horizon of global competitiveness. A review of the effectiveness of the management and entrepreneurial development education has become a regular feature of those concerned about the growth of SSIs. The management of SSIs is complex, and the multiple problems that cause a company to be non-competitive can be directed at the manufacturing function—poor quality and reliability, late deliveries, high manufacturing cost and lack of proper inventory at the right place. Skinner (1969) suggests that there are five key decision areas in manufacturing: plant and equipment, production planning and control, labor and staffing, product design and organization, and management. Each area has key decisions with various alternatives. The area of production planning and inventory control covers a number of key factors, including inventory size and location and the degree of control.

Young (1987) proposes a list of classical factors that fits well with Skinner's structure of decision-making capacity: facilities, technology, vertical integration, workforce, quality, production planning and material control, and organization. A new set of factors is necessary to compete effectively in today's dynamic, global marketplace. These factors are important because the way manufacturing is used to compete effectively has also changed. Now, the competition is on the basis of quality, time, service, flexibility and availability. According to Young, the new strategy factors are: shorter new product lead time, more inventory turns, shorter manufacturing lead time, higher quality, greater flexibility, better customer service, less waste, and higher return on assets. All these factors result from a new direction in the use of manufacturing, as the basis for competitive advantage as a strategic management tool.

Among the various strategic policies suggested for the socio-economic development of Iran, small-scale entrepreneurship has received considerable attention in the recent years. It is argued that the expansion of the SSIs can lead not only to the flow of additional goods and services in the inner cities, but also create employment opportunities in historically disadvantaged communities. Research confirms the employment generation potential of small-scale ventures. Between 1991 to 2006, SSIs (with 10 to 49 employees) generated three million new jobs in Iran (Statistical Center of Iran, 2006). According to President of Iran, in 2007, SSI was the dominant agent of the long period of Iranian economic development. It has driven the historic rise of the service sector, and has never ceased generating business innovations. It is an enormously powerful economic force. He also responded with a policy that focused on entrepreneurship and SSIs, in order to promote economic growth. More than 70% of the new jobs in Iran are created by SSIs.

The development of the industry is often considered as the ultimate criterion for research in entrepreneurship and SSIs, in both empirical studies[1] and theoretical models.[2] In fact, entrepreneurship is considered to be central to the determinants of small and medium performers (O'Farrell and Hitchens, 1989 and Roper, 1998). Such an emphasis on entrepreneurship is not only of major concern to the academics but also very appealing as it tries to identify the most important factors leading to venture success (Herron and Robinson, 1993).

Various types of entrepreneurial characteristics have been recommended and their relationship with the development of SSIs examined. One of them is human capital factors like skills, experience and management, and particularly, technical know-how (Dyke *et al*., 1992 and Tan and Tay, 1995). These relationships may in turn affect the entrepreneur's ability to seek resources, logistic support, industrial cost, and business opportunities.

Apart from the entrepreneurial characteristics, the relationship is also affected by contextual factors like industry and market conditions, economic performance and external support.[3] has pointed out that the organization factors like firm age, sales volume, number of employment, resources and capabilities[4] also contribute for development. As has been observed, different factors have been found to influence industrial development to a different extent, where the result is often mixed and inconsistent. Herron and Robinson (1993) observed that same studies often fail to link either personal characteristics with the state of entrepreneurship or with venture performance.[5] They have highlighted the importance of psychological characteristics, managerial skills, industrial cost, product quality, logistic support, industrial factors (sales volume, number of employment, age of industry), as well as background and experience factors for the development of SSIs. Past studies have highlighted that firm development is influenced by the entrepreneurial characteristics, quality of products, logistics, management skills, cost, market share and external environments.

In addition to the industry life cycle theory, industries adapt their managerial capacities strategy to develop through deferent stages of company and market maturity (Burgelman and Sayles, 1986). In this view, generic issues of firm age and size are considered as the key drivers for changes in organizational and managerial capabilities (Van and Poole, 1995). Specifically, firm age and size are linked to complexity—firm activities and external interfaces expand and become more sophisticated as firms develop (Covin and Slevin, 1997). Development firms successfully change their management capabilities, their processes (high quality, low cost and logistic support), and decision rights (Pugh *et al*., 1968). A review of the literature showed various success dimensions on the basis of SSIs development: management capabilities, quality of products, logistic support, low cost, age and size of industry and market share. However, the importance of SSIs in Iran's economy has been increasingly recognized. That

[1] Ibrahim and Goodwin, 1986; Reuber and Fischer, 1992; Barkham, 1994 and Box *et al.,* 1994.

[2] Hofer and Sandberg, 1987; Keats and Bracker, 1987; Herron and Robinson, 1993 and Ahmadpoor, 2002.

[3] Hofer and Sandberg, 1987; Stuart and Abetti, 1987; Herron and Robinson, 1993 and Lussier, 1996.

[4] Stuart and Abetti, 1987; Mullins, 1996; Glancey, 1998 and Nakos *et al.*, 1998.

[5] For example, many entrepreneurial characteristics were constantly found to be positively related to firm development (Ibrahim and Goodwin, 1986; Montagno, Kuratko and Scarella, 1986; Stuart and Abetti, 1987; Dyke *et al*., 1992; Barkham, 1994; Reuber and Fischer, 1994 and Yusuf, 1995.

the economy can grow faster in the 21st century depends on expansion and improvement of SSIs because SSIs play a vital role in job creation and innovation, The development of modern SSIs has been one of the most significant and characteristic features of industrial development (Iran Small Industries and Industrial Park Organization, 2004). Of course, the increase in the number, production, employment and export of SSIs over a period of time could be common considering the role played by small enterprises in the country. In the small sector, a comparison between 2004 and 2005, indicates a growth of 23% of the total export, 20% of output of the manufacturing sector, 35% indirect investment, 18.4% value-added and 4% for creating employment. In addition, the SSIs have emerged as the most dynamic sector of Iran's industrial economy accounting for over 80% of industrial sector. Hence, expansion activities of SSIs and measures to increase products of this sector of the country's economy would soon open new horizons for the export of SSIs products.

In Iran, although the rise in the price of oil has increased the country's revenues, there are still other issues such as employment, investment for setting up new establishments, renovation of industrial machinery, improvement of products quality, skills management, on time logistic and implementation of economic projects in different parts of the country, which are lagging. Therefore, the aim of this study is to investigate whether or not a relationship exists between entrepreneurship performance (Quality of products, Industrial cost, Logistic support, ISO, and Management Effectiveness (QCLIM)) and SSIs development (Sales volume, Number of employment, Age of industry (SEI)).

Methodology

The population of the study consists of 12,836 small firms in Iran. The firms that had 50 employees or less than that (according to the definition of SSIs in Iran) were included in the sample. Ten most active provinces in industry activities were selected. These provinces represented 78.6% of total SSIs, 74.3% of total value-added, 69.2% of total investment, and 77.2% of employment in the SSIs in 2004 (Statistical Center of Iran, 2006).

The questionnaire was mailed to the selected 210 companies, of which 180 responded to the questionnaire. Therefore, the study is based on information provided by 86% of the organizations, for the analysis to investigate whether or not a relationship between QCLIM and SSIs development exists as measured by sales volume, employment growth, and age of industry (SEI). The design allowed a correlation research method that explored the relationship among different variables to gain a better understanding of factors that contribute to a more complex understanding of the topic (Mertens, 1998, p. 93). The correlation research method also allowed the researcher to explore and analyze the relationship between two or more variables at a time (Gall *et al*., 1996, p. 114). In addition, the method provided information concerning the degree of the relationship among the variables studied (Gall *et al*., 1996). Hence, a Canonical Correlation Analysis (CCA) was used to determine whether a relationship existed between QCLIM and the development of SSIs.[6]

[6] CCA was introduced by Hotelling (1936), while studying the relationship between two sets of variables in instructional research. As this study investigated a relationship between a set of independent variables (QCLIM) and a set of dependent variables (SEA), the use of CCA was appropriate (Gardner *et al*., 2006). CCA is a well-known statistical technique used to identify and measure the association between two sets of random vectors using specific matrix function of variance-covariance matrices of these variables. This is also one of the most general methods for data reduction in multivariate analysis.

Consequently, in order to improve the analysis quality of the variable with lower scale of measurements (nominal and ordinal) and also the linearity of variable distribution according to Jacoby (1999) and Hal Book (2001), an alternating squares optimal scaling procedure is used.

Empirical Results

Since the main objective of this study is to investigate the existing relationship between QCLIM and development of SSIs through a CCA, the result and findings of CCA in this study are presented in the following steps:

The first step in CCA is the generation of a correlation matrix. Table 1 presents the correlation matrices between the two sets of variables.

Table 1: Correlation Matrix for SSIs Development

Sl. No.	Variables	Independent Variables (IVs)					Dependent Variables (DVs)		
		1	2	3	4	5	6	7	8
1	Quality	1.000	0.468**	0.495**	0.529**	0.273**	0.534**	0.545**	0.521**
2	Cost	0.468**	1.000	0.507**	0.596**	0.160*	0.723**	0.514**	0.573**
3	Logistic	0.495**	0.507**	1.000	0.516**	0.191*	0.495**	0.540**	0.502**
4	ISO	0.526**	0.596**	0.516**	1.000	0.102	0.645**	0.560**	0.556**
5	Management	0.273**	0.160*	0.191*	0.102	1.000	0.158*	0.259**	0.185*
6	Sales	0.534**	0.723**	0.495**	0.645**	0.158*	1.000	0.431**	0.599**
7	No. of Employees	0.545**	0.514**	0.540**	0.560**	0.259**	0.431**	1.000	0.404**
8	Age of Industry	0.521**	0.573**	0.502**	0.556**	0.185*	0.599**	0.404**	1.000

Note: ** correlation is significant at the 0.01 level (2-tailed); and * correlation is significant at the 0.05 level (2-tailed).

In Table 1, correlation matrix was subdivided into four parts: the correlation between the Independent Variables (IVs), the correlation between the Dependent Variables (DVs), and the two matrices between the IVs and the DVs. The correlation analysis also show that there are significant and substantial level of correlations among IVs and DVs of the contract. Therefore, the assumption regarding within-set multicollinearity is met.

The second step of canonical correlation was to derive one or more canonical functions. Each function consists of pair of varieties, one representing the IVs and the other representing the DVs. The test statistics employed are Wilk's Lambda, Pillai's Criterion, Hotelling's trace and Roys (Table 2). The usual one is Wilk's Lambda, which test the significance of the first canonical correlation. As shown in Table 2, the significance of *F* here was lower than 0.01 ($P < 0.01$). The result indicated that there was significant variability between the set of

Table 2: The Statistic Significance of the Overall Model

Test Name	Value	Approx. *F*	Hypoth. DF	Error DF	Sig. of *F*
Pillai's C	0.85206	13.80473	15.00	522.00	0.000
Hotelling's T	3.48981	39.70264	15.00	512.00	0.000
Wilk's L	0.20912	24.16386	15.00	475.22	0.000
Roys	0.77294	–	–	–	–

Note: $P < 0.01$.

predictor variables and the set of DVs. This means that there was a reliable relationship between QCLIM and development of SSIs.

The third step in CCA was the canonical squared correlation. As shown in Table 3, the ratio of Eigenvalues is the ratio of explanatory importance of the three canonical correlations (labeled 'roots') which are extracted for these data. As usual, the first canonical correlation, the covariate (QCLIM) canonical variable, explains about 77.3% (0.879 * 0.879) of the variance in dependent (sales, number of employees, age of industry) canonical variables.

Table 3: The Canonical Squared Correlation

Root No.	Eigenvalue	Pct.	Cum. Pct.	Canonical Cor.	Sq. Cor.
1	3.40416	97.54720	97.54572	0.87917	0.77294
2	0.08413	2.41061	99.95634	0.27856	0.07760
3	0.00152	0.04366	100.00000	0.03900	0.00152

The fourth step in canonical correlation was the canonical coefficients. Two sets of canonical coefficients are required for each canonical correlation, one set to combine the IVs and other to combine the DVs. Table 4 shows the canonical correlation coefficients for both sets.

Table 4: Standardized Canonical Coefficients for Independent Variables (IVs) and Dependent Variables (DVs)

Variable Sets		Function No.		
		1	2	3
Set 1: IVs	Quality	–0.25664	–0.34578	–0.62401
	Cost	–0.44138	1.00301	–0.16247
	Logistic	–0.17971	–0.69648	–0.46382
	ISO	–0.33482	–0.00749	0.86217
	Management	–0.06909	–0.36702	0.79252
Set 2: DVs	Sales Volume	–0.41381	0.85756	0.37319
	No. of Employees	–0.33025	–0.65745	0.50358
	Age of Industry	–0.22495	–0.32346	–0.93271

Table 4 presents the standardized canonical coefficients for first function of DVs across both sets of variables. For the DVs, the first canonical dimension is most strongly influenced by sales volume (0.86), followed by number of employees (–0.66) and age of industry (–0.93). For the IVs, the first function was comprised of industrial cost (1.00), followed by ISO (0.86), and type of management (0.79), quality of products (–0.63), logistic support (–0.70), respectively.

The *F*-test below, in Table 5 shows that the first canonical correlation is significant but the second and third is not.

Table 5: The Statistical Significance of the Variance Percentage of the Functions

Roots	Wilk's L	Hypoth. DF	Error DF	Sig. of *F*
1 to 3	0.20912	24.16386	15.00	0.000
2 to 3	0.92100	1.81678	8.00	0.073
3 to 3	0.99848	0.08838	3.00	0.966

Table 6 shows the statistical significance of the effects on the three dependent variables.

Table 6: The Statistical Significance of the Three Dependent Variables						
Variables	**Sq. Mul. R.**	**Adj. R.sq.**	**Hypoth. Ms.**	**Error Ms.**	***F***	**Sig. of *F***
Sales Volume	0.61335	0.60224	35.67237	0.64620	55.20361	0.000
No. of Employees	0.46993	0.45469	27.09701	0.87831	30.85128	0.000
Age of Industry	0.45861	0.44305	26.06668	0.88426	29.47856	0.000

SPSS then regresses each dependent variable on the set of covariate variables. The output factors set (QCLIM) significantly explains the variance of the factors set (SEI). All the relationships between the factors are approved when the significant of '*t*' is lower than 0.05 ($P < 0.05$). As shown in Table 7, for instance, the Beta indicates that the correlation among sales and quality (15%), cost (46%), and ISO (26%) were positive. Since the *t*-values (sig. 2-tailed) were 2.50, 7.62, and 4.01 for quality, cost, and ISO, respectively, they are significant at the 0.05 level. In addition, an increase of 1 unit in quality in *B*, increases the sales volume by 16%.

Table 7: The Importance of the Three Dependent Variables (Regression Analysis)							
Dependent Variable: Sales Volume							
Covariate	***B***	**Beta**	**Std. Err.**	***t*-Value**	**Sig. of *t***	**Lower-95%**	**CL-Upper**
Quality	0.161	0.151	0.064	2.501	0.013	0.03401	0.28823
Cost	0.463	0.473	0.060	7.621	0.000	0.34341	0.58341
Logistic	0.048	0.045	0.063	0.760	0.448	–0.07719	0.17404
ISO	0.279	0.258	0.069	4.013	0.000	0.14198	0.41668
Management	0.027	0.006	0.226	0.122	0.903	–0.41993	0.47548
Dependent Variable: No. of Employees							
Covariate	***B***	**Beta**	**Std. Err.**	***t*-Value**	**Sig. of *t***	**Lower-95%**	**CL-Upper**
Quality	0.227	0.214	0.075	3.02	0.003	0.079	0.375
Cost	0.140	0.143	0.070	1.97	0.050	0.000	0.280
Logistic	0.230	0.217	0.074	3.10	0.002	0.084	0.377
ISO	0.255	0.237	0.081	3.14	0.002	0.094	0.415
Management	0.513	0.112	0.264	1.94	0.054	–0.008	1.030
Dependent Variable: Age of Industry							
Covariate	***B***	**Beta**	**Std. Err.**	***t*-Value**	**Sig. of *t***	**Lower-95%**	**CL-Upper**
Quality	0.209	0.198	0.075	2.70	0.006	0.060	0.357
Cost	0.266	0.275	0.071	3.74	0.000	0.125	0.406
Logistic	0.160	0.151	0.074	2.15	0.033	0.013	0.307
ISO	0.218	0.205	0.081	2.68	0.008	0.058	0.379
Management	0.168	0.037	0.265	0.63	0.525	–0.354	0.692

The correlations in Table 8 is the structure correlations, which show the DVs load on each of the three canonical variables for the development set of variables in the three canonical correlations. Here, the dependent canonical variables, in the first to their canonical correlation is related to development of SSIs, that means they helped for the development of small-scale industries.

Table 8: Correlation between Dependent and Canonical Variables			
Variables	Function No.		
	1	2	3
Sales Volume	–0.87791	0.47657	0.04646
No. of Employees	–0.76098	–0.53385	0.36866
Age of Industry	–0.76915	–0.09743	–0.63160

Table 9 shows that for the first canonical correlation, the independent canonical variable explains 64.72% of the variance in the dependent canonical variable. The independent canonical variable is able to predict 50.20% of the variance in the individual original DVs.

Table 9: Variance in Dependent Variable Explained by Canonical Variables				
Canonical Variables	**Pct. Var. Dep.**	**Cum. Pct. Dep.**	**Pct. Var. Cov.**	**Cum. Pct. Cov.**
1	64.71333	64.71333	50.01964	50.01964
2	17.38697	82.10030	1.34919	51.36883
3	17.89970	100.00000	0.02723	51.36605

Table 10 exhibits that the correlation between covariates and canonical variables is strongly influenced by quality (74.79%), industrial cost (86.33%), logistic support (71.63%), ISO (83.35%), and type of management (27.82%).

Table 10: Correlation Between Covariates and Canonical Variables			
Covariates	Canonical Variables		
	1	2	3
Quality	–0.74790	–0.32538	–0.25747
Cost	–0.86327	0.42504	–0.04847
Logistic	–0.71629	–0.43312	–0.25899
ISO	–0.83351	0.01128	0.27727
Management	–0.27829	–0.43482	0.59593

Variance in covariates are explained in Table 11. The table shows that the dependent canonical variable explains 40.04% of the variance in the independent canonical variable. The dependent canonical variable is able to predict 51.80% of the variance in the individual original IVs.

Table 11: Variance in Covariates Explained by Canonical Variables				
Canonical Variables	**Pct. Var. Dep.**	**Cum. Pct. Dep.**	**Pct. Var. Cov.**	**Cum. Pct. Cov.**
1	40.03591	40.03591	51.79680	51.79680
2	1.02946	41.06537	13.26658	65.06338
3	0.01727	41.08265	11.35452	76.41790

Conclusion

Iranian economy is considered as a transition economy where continuing strong labor force growth unmatched by commensurate real economic growth is driving up unemployment higher than the official estimate of 11% (World Fact Book, 2008). In the early 21st century, the service sector contributed the largest percentage of the GDP, followed by industry (mining and manufacturing) and agriculture. In 2008, about 55% of the government's revenues came from oil and natural gas, and 31% from taxes and fees (Government of Iran, 2008). As the SSI base is high, therefore, the United Nations classifies Iran's economy as a semi-developed one.

Iran's economy is largely state-owned. However, the government continues in its drive towards privatization and economic liberalization. According to Article 44 of the Constitution, the economy of Iran consists of three sectors, state, cooperative, and private. In recent years, the role of the private sector has been further expanded.

Iran has a long tradition of producing artisan goods, including Persian carpets, ceramics, copperware and brassware, glass, leather goods, textiles, and woodwork. Iran's rich carpet-weaving tradition dates from pre-Islamic times, and contributes substantially to rural incomes.

The study revealed that the first canonical correlation, the covariate (QCLIM) canonical variable explains about 77.3% of the variance in dependent (SEI) canonical variables, and the second explains about 8%. The remaining canonical correlation was effectively zero. As indicated by the CCA, the combination of quality of products, industrial cost, logistic support, ISO, management effectiveness (QCLIM), showed significant correlations with sales volume, number of employees, and age of industry (SEI).

There is a positive relation existing between QCLIM and the development of SSIs in Iran. It is suggested that the sustained growth of SSIs will be of critical importance in the coming years due to the problems faced by the Iranian economy in terms of slowdown in employment generation activity. More focus is needed in the exchange of information technologies, product quality, paying attention to national and international standards, lower cost, and markets. This will take place only when a global understanding emerges on the need for protecting a country's SSIs from hostile international competition and promoting them aggressively through public-private management. The quality of product, industrial cost, logistic system, and ISO were used as the predicators of SSIs success. The result of Pearson's correlation showed a significant relationship between independent and dependent variable at 1% level. In addition, *t*-test revealed the significant relationship between type of management and success of SSIs at 5% level. As has been observed, SSIs play a vital role in the Iranian economy for the future growth of its industries and exports. The strategic management tools are very important to improve and maintain higher standard quality products to the required needs of large scale and MNCs stipulation. Therefore, the Iranian government has to make concerted efforts through its planning approach to adopt strategic management tools in industrial production for domestic markets and capture export markets. ◎

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