

Investigating the Factors Affecting the Competitiveness of Small and Medium Companies in Sanandaj

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Abstract

The present study is conducted to investigate the factors affecting the competitiveness of small and medium companies in Sanandaj city, Iran. 177 small and medium companies were investigated and 130 questionnaires were prepared by using stratified random sampling and 121 experts and administrators have responded to the questionnaire. According to the theoretical principles, samples are provided that the research findings confirmed the model and result of path analysis showed the direct effect of variables of industry and specialized environment on companies' competitiveness. In the present study in order to analyze the data obtained from the questionnaires, due to the statistical needs the social sciences statistical software, structural equation of partial least squares model methods were used in form of descriptive and correlations statistics. Finally, these factors were prioritized by using the Friedman test. According to the obtained results from this research, the mean of the existing competitors' rate was 4.41 which has the lowest rate in affecting the competitiveness of small and medium companies. But we can see the highest rates of influencing the competitiveness of small and medium companies in the management dimension with the mean rate of 7.70. Therefore, the highest and lowest influencing rate can be seen in both industry and specialized environment sectors by comparing the mean of rates.

Keywords: competitiveness, small and medium companies, industry, specialized environment, Friedman test

Introduction and statement of problem

Development of small and medium industries is economic development key in the next decade and future belongs to the small and medium companies. The new diversity and speed in economic activity indicates the deep and fundamental changes in the structures and nature of these activities at the beginning of the 21st century. Today, in most countries a significant part of economic activities is carried out by small and medium companies. Intense global competition, increasing uncertainty and growing demand for diverse products have led to paid more attention to these industries. Recently many countries have found that small manufacturing units are able to play a major role in the national economy (Farahi et al, 2009). One reason for paying attention to the competitiveness index is that one of the main concerns of countries in today's complex and changing condition refers to the enhancement of the competitiveness power and consequently increasing the prosperity and welfare level in the country. Different countries to increase their competitiveness force should first identify the factors affecting competitiveness and by analyzing the current situation and after identify their strengths and weaknesses begin to improve the competitiveness state and so increase the prosperity in the country (Alavi vafa, 2011). Given that in most countries of world a significant part of economic activity is done by small and medium companies, governments with various plans should always think to logically support these companies to enhance their competitiveness so that they can gain the compete power in the world competitive markets (Salar Zehi & Dezhkam, 2012). Therefore, this paper based on the theoretical foundations tries to investigate the factors influencing the competitiveness of small and medium companies in Sanandaj

city until by offering new solutions and empowerment provide background for policy of province industry and managers of small and medium enterprises to improve competitiveness.

Main objective of study

Identifying factors affecting the competitiveness of small and medium companies

Secondary objective

Identifying the influence level of each factor related to the industry and specialized environment on competitiveness of small and medium companies

Research questions

The main question

How much the industry and specialized environment factors affect the competitiveness of small and medium companies?

Secondary question

1. How much each of the variables related to the industry sector has an impact on competitiveness of small and medium companies?

2. How much each of the variables related to the specialized environments has an impact on the competitiveness of small and medium companies?

The necessity and significance of competitiveness

Globalization process, the creation of the World Trade Organization and integration of global markets, rapid and fundamental technological advances, new developments on information technology, enhancement of rapid changes in consumption and demand patterns, explaining the environmental pollution controls and conservation of energy resources, resource scarcity and their high costs are challenges that various businesses and industries in the field of trade and economic activities are confronted to them and their survival depends on making correct and timely decisions in front of these changes. In the meantime, the globalization process and the expansion of consumer markets as well as increasing the number of competitors and the degree of competition led to the importance of concepts such as competitiveness. This caused companies, industries and different countries try to identify factors affecting competitiveness and strengthen them to improve their competitiveness (Khodamoradi et al, 2011)

Background of study

Aghazadeh et al (2007) conducted a study entitled "The evaluation of factors affecting the competitiveness of companies in Iran". In this study the two-dimensional approach is considered to identify the exact components of the competitiveness of companies. In one dimension, the construction of companies' competitiveness is considered and on the other dimension, company's behavior is considered in line with competitiveness, and components are considered from two strategic and operational categories. Totally, 28 components are regarded as the base for designing the questions of questionnaire. The results suggest that from the perspective of experts, all components of competitiveness in the business environment in Iran are confirmed and most of these components have great importance and inappropriate status. Considering that the internal components affecting the competitiveness of companies have controllable nature, so companies are responsible for their modifying and adaption to improve the competitiveness power. Results obtained from t-test in relation to the competitiveness components' status of the enterprise show that all investigated strategic components, effective and constituted operations have undesirable situation in our country, with the exception of four components: 1. Thoughts and beliefs in the organization 2.

Supplying resources and input system 3. Skills, knowledge, expertise of manpower 4. Quality of operational decisions that have an intermediate state (Aghazadeh et al, 2007).

Rahman Seresht and Safaeian (2011) conducted a study entitled "Competitiveness model of manufacturing industries in Iran". In this study, it has attempted to build a national model to investigate, predict and promote competitiveness of industry by studying the manufacturing industry in Iran. This study is done through investigating 23 branches of activity in manufacturing industry in Iran in 1994 to 2007. In this study, the factors affecting the competitiveness are divided into two groups of external and internal factors of company. Internal factors such as human resources, information and production technology, management and financial capabilities, innovation, size of industry, marketing and learning are factors that have a significant impact on the competitiveness of companies. Research findings and final research model indicate that the role of variable of "size of industry" in competitiveness of Iranian companies is more than other factors, while manpower and its capabilities in the area of competitiveness are very poor (Rahman Seresht & Safaeian, 2011).

The theoretical principles and conceptual model

Competitiveness

Today, the lack of competitiveness is one of the major problems of country's industry. One of the pillars of this problem is the lack of a clear approach to enhance the competitiveness (Mehregan et al, 2008). One of the characteristics of today's successful companies refers to having competitiveness power, while lack of this feature is main characteristic of unsuccessful companies. The competitiveness power more than anything else comes from a new perspective about it, however, the context of environment and time has created significant changes in competitiveness indicators (Ambashta & Momiya, 2002 cited in Hagh Shenash Kashani & Saidi, 2011). Nowadays, competitiveness is considered as a core issues around the world and it is mentioned as a means of achieving to economic growth and sustainable development. In the globalized economy, being competitive means the possibility of obtaining appropriate and stable position in the market (Shurchuluu, 2000, cited in Hagh Shans Kashani & Saidi, 2011).

The conceptual definition of competitiveness

This question "Why some countries are more successful than others in international competition?" has involved the minds of many economists, managers of industries and companies and even the government. In other words, Shurchuluu (2000) believes competitiveness is one of the main concerns of trade and activity in today's dynamic and competitive environment. The rapid and continuous changes in the economic environment of world and consequently the creation of intense competition in the global economy are characteristics of today's world (cited in Hagh Shans Kashani & Saidi, 2011). There are many different definitions of competitiveness. Although, a general definition of competitiveness is not yet provided, some scholars know competitiveness as a macroeconomic phenomenon and consider factors such as exchange rates, interest rates and budget deficits of countries as its origin; from other perspective, competitiveness is due to the abundant labor force and low wages in the country (absolute advantage). From another viewpoint, competitiveness is a function of the richness of the countries in terms of having natural resources (Heksher - Ohlin). Some viewpoints know competitiveness as influenced by government policies (Leading Theory). There is no agreement on a single definition of competitiveness. In fact, instead of defining and explaining the concept of competitiveness, the factors affecting competitiveness has been pointed out (Krugman, 1996, cited in Hagh Shans Kashani & Saidi, 2011). In this study, competitiveness addresses to the dimensions of specialized environment of the organization (internal

factors of organization) and factors of industry that mostly its cognitive aspects is effective in competitiveness of industries.

Methodology

The previous research in terms of subject is a descriptive research type with applied objective which is done by survey method. Based on the data collection, a cross sectional study is included in the case studies.

The statistical population and sample size

The statistical population is a group of individuals who have one or more common characteristics that we are interested in generalizing our findings to them. In this study, the statistical population is the small and medium companies of Sanandaj city and stratified random sampling method is used. Thus, in the sample selection stage, 177 companies (chemical and metal) are selected among the small and medium companies in the Sanandaj city. Then by using Cochran's formula and the reliability level of 0.95, 121 companies including 68 chemical companies and 53 metals companies are chosen so that the number of sample is specified after estimating the sample size based on the ratio of number of companies.

Sampling method

In the first stage, after conducting the preliminary test on 30 questionnaires and removing its flaws, 130 questionnaires were distributed among companies. Then, 121 questionnaires were completed and returned, so that the return rate of questionnaires is 100%. The stratified random sampling method is proportional to the sample size.

$$Nz^2pq$$

$$n = \frac{Nz^2pq}{Nd^2 + z^2pq}$$

$$Nd^2 + z^2pq$$

$$n = \frac{Nz^2 \times pq}{Nd^2 + z^2pq} = \frac{177(1.96) \times (0.5)(0.5)}{177(0.5) + 1.96(0.5)(0.5)} \approx 121$$

The calculation of sampling by using Cochran's method (source: research data)

The data collection tool

In order to evaluate and test the adjusted hypotheses of this study, a questionnaire is applied which is adjusted due to the variables of study and being operational.

Research questionnaire

1 - In order to assess the competitiveness of small and medium companies, a researcher made questionnaire is used which its first stage includes 23 questions about five dimension of factor related to the first independent variable (industry). Furthermore, the second part of the questionnaire with 30 questions is dedicated to the six dimensions of the second independent variable (specialized environment of organization) and steps taken to develop the questionnaire include the study of the theoretical foundations and extraction of indexes, validation and investigation of reliability and finally, compiling the questions.

Research results

Hypotheses testing: The data normality test of study is shown in Table 1, so that the Kolmogorov - Smirnov one-sample test was used to assess the normality of variables. As it can be seen in this table, the significant level of variables of industry and micro factors is greater than 0.05, and it can be claimed with 95% reliability that the distribution of the variables in this study is normal. Therefore, the parametric tests should be used to evaluate and test the hypotheses of

industry and micro factors. But the significant level of others is less than 0.05. In other words, these variables are not normal and nonparametric tests (binominal) should be used.

Table 1: Results of the normality test

Variable	customers	Providers	Potential competitors	Current competitors	Substitutes	Management	Marketing	Finance	Production	Research	Information system	Industry	Minor factors
N	121	121	121	121	121	121	121	121	121	121	121	121	121
Mean	4.3017	4.1653	4.2025	4.1684	4.3678	4.5537	4.3275	4.5248	4.3489	4.2934	4.4008	4.2411	4.4082
SD	.57728	.58177	.61094	.44974	.76857	.58181	.56602	.57500	.44103	.72073	.72921	.38689	.44858
Kolmogorov-Smirnov test	1.835	2.034	1.419	1.747	2.615	2.849	1.777	2.247	1.499	2.923	2.465	1.340	1.029
Sig.	.002	.001	.036	.004	.000	.000	.004	.000	.022	.000	.000	.055	.240

The main hypotheses testing

The main hypotheses of study are tested in this part. Since the data has been normal after the test, the t-test was used to assess and describe the state of the variables of industry and micro factors.

The first main hypothesis testing

The first main hypothesis testing results are shown in Table 2. The mean score of respondents to the status of the variable of the internal micro factors is 4.40 with standard deviation of 0.44. The t-student statistics is 34.53 and the significant level is 0.00. Considering that the significant level is less than 5% and t-student statistics is greater than 1.96, so, with 95% reliability, the null hypothesis is rejected and H_1 is confirmed. In other words, it can be claimed that from the perspective of respondents the organizational inner micro factors has an impact on the competitiveness of Small and Medium Companies of Sanandaj city.

H_1 : Factors related to the specialized environment has an impact on competitiveness of small and medium companies of Sanandaj city.

H_0 : Factors related to the specialized environment has no effect on competitiveness of small and medium companies of Sanandaj city.

The second main hypothesis testing

The second main hypothesis testing results are shown in Table 2. The mean score of respondents to the status of the variable of the industry is 4.24 with standard deviation of 0.38. The t-student statistics is 35.02 and the significant level is 0.00. Given that the significant level is less than 5% and t-student statistics is greater than 1.96, therefore, with 95% reliability, the null hypothesis is rejected and H_1 is verified. In other words, it can be said that from the respondents' viewpoint factors related to the industry has an impact on the competitiveness of Small and Medium Companies of Sanandaj city.

H_1 : Factors related to the industry has an impact on competitiveness of small and medium companies of Sanandaj city.

H_0 : Factors related to the industry has no impact on competitiveness of small and medium companies of Sanandaj city.

$$\begin{cases} H_0: \mu < 3 \\ H_1: \mu \geq 3 \end{cases}$$

Table 2: Results of the first and second main hypothesis testing

Variable	Mean	SD	T	df	Sig.	Result
Special context	4.4082	.44858	34.532	120	.000	$\mu \geq 3$
Industry	4.2411	.38689	35.287	120	.000	$\mu \geq 3$

Testing the sub-hypotheses related to the industry sector

Sub-hypotheses testing results in the industry sector are shown in Table 3 that the respondents' mean score and the standard deviation of each indicator are respectively provided. Given that the significant level is less than 5% and the observed ratio of all indicators is greater than the test ratio, thus, with 95% reliability, the null hypothesis is rejected and H_1 is verified.

H_1 : The customers' power, suppliers, new entrants, existing competitors and substitutes have an impact on the competitiveness of small and medium companies of Sanandaj city.

H_0 : The customers' power, suppliers, new entrants, existing competitors and substitutes have no impact on the competitiveness of small and medium companies of Sanandaj city.

$$\{H_0: p < 6$$

$$\{H_1: p \geq 6$$

Table 3: Results of the sub-hypotheses of industry sectors testing

P	SD	Mean	Sig.	T	Observed P	N	Components	Group	Index	Factors related to industry
$p \geq 6$.57728	4.3017	.000 ^a	.6	.9	106	+	1	Customers	
					.1	15	+	2		
					1.0	121		کل		
$p \geq 6$.58177	4.1653	.000 ^a	.6	.9	103	+	1	Providers	
					.1	18	-	2		
					1.0	121		Total		
$p \geq 6$.61094	4.2025	.000 ^a	.6	.8	100	+	1	Beginners	
					.2	21	-	2		
					1.0	121		Total		
$p \geq 6$.44974	4.1684	.000 ^a	.6	.9	108	+	1	Current competitor	
					.1	13	-	2		
					1.0	121		Total		
$p \geq 6$.76857	4.3678	.000 ^a	.6	.8	97	+	1	Substitutes	
					.2	24	-	2		
					1.0	121		Total		

Table 4: Results of sub-hypotheses testing in specialized environment sectors

Result	SD	Mean	Sig.	t	observed	N	Components	Group	Index	Factors related to special contex
$p \geq 6$.58181	4.5537	.000 ^a	.6	1.0	115	+	1	Management	
					.0	6	-	2		
					1.0	121		Total		
$p \geq 6$.56602	4.3275	.000 ^a	.6	.9	105	+	1	Marketing and sale	
					.1	16	-	2		
					1.0	121		Total		
$p \geq 6$.57500	4.5248	.000 ^a	.6	.9	112	+	1	Finance and accounting	
					.1	9	-	2		
					1.0	121		Total		
$p \geq 6$.44103	4.3489	.000 ^a	.6	1.0	116	+	1	Production and research	
					.0	5	-	2		
					1.0	121		Total		
$p \geq 6$.72073	4.2934	.000 ^a	.6	.8	101	+	1	Research and development	
					.2	20	-	2		
					1.0	121		Total		
$p \geq 6$.72921	4.4008	.000 ^a	.6	.9	103	+	1	Computer information system	
					.1	18	-	2		
					1.0	121		Total		

Testing the sub-hypotheses related to the specialized environment

The results of sub-hypotheses testing in specialized environment sector are shown in Table 4. Considering that, the significance level is less than 5% and the observed ratio of all indicators is greater than the test ratio, so, the null hypothesis is rejected and H_1 is confirmed with 95% reliability. In other words, it can be argued that from the perspective of the respondents, all factors relevant to the specialized environment have an effect on competitiveness of small and medium companies of Sanandaj city. The significant point is the intensity and weakness of this impact on competitiveness.

H_1 : Factors related to management, marketing, accounting, production, research and information system affect the competitiveness of small and medium companies in the Sanandaj city.

H_0 : Factors related to management, marketing, accounting, production, research and information system do not affect the competitiveness of small and medium companies in the Sanandaj city.

$\left\{ \begin{array}{l} H_0: p < 6 \\ H_1: p \geq 6 \end{array} \right.$

Discussion and conclusions

First hypothesis: From the perspective of respondents the buyers bargaining power affects the competitiveness of small and medium companies in Sanandaj city which is consistent with research results of Aghazadeh and Tabibi (2006) who found that the variation of consumers' preferences is as a factor affecting the competitiveness.

Second hypothesis: From the perspective of respondents, the power or pressure of suppliers affects the competitiveness of small and medium companies in Sanandaj city which is in line with the research results of Hagh Shans Kashani and Saeedi (2011) who concluded that the relationship with the suppliers is an effective factor on the competitiveness.

Third hypothesis: From the viewpoint of respondents, the force or pressure of newcomers affects the competitiveness of small and medium companies of Sanandaj city that is consistent with the research results of Aghazadeh and Tabibi (2006) who found that newcomers' power has been as a factor affecting the competitiveness of companies.

Fourth hypothesis: According to the respondents' viewpoint the power of existing competitors has an impact on competitiveness of small and medium companies of Sanandaj city that is consistent with the research results of Hagh Shans Kashani and Saeedi (2011) who found that the existing competitors' power affects the competitiveness of companies.

Fifth hypothesis: From the respondents' perspectives, the power or pressure of alternatives affect the competitiveness of small and medium companies in Sanandaj city that is in line with the research results of Hagh Shans Kashani and Saeedi (2011) who concluded that the alternative products affect the competitiveness of companies.

Sixth hypothesis: From the perspective of respondents, the management factors affect the competitiveness of small and medium companies of Sanandaj city which is consistent with the research results of Mehregan and colleagues (2008) and Kashani and Saeedi (2011) who considered the management capabilities as a factor influencing the competitiveness of companies.

The seventh hypothesis: From the perspective of respondents, the marketing and sale factors influence the competitiveness of small and medium companies of Sanandaj city that is in line with research results of Hagh Shans Kashani and Saeedi (2011) and Aghajani and Farzadfar (2013) who found that the marketing capability has a positive and significant impact on competitiveness of small and medium companies.

The eighth hypothesis: According to the respondents' views, the accounting and financial factors influence the competitiveness of small and medium companies of Sanandaj city that is consistent with research results of Hagh Shans Kashani and Saeedi (2011), Aghazadeh and Mehrnosh (2009), and Mohtaram Ghalati (2006) who found the accounting and financial capability as a factor influencing the competitiveness of companies.

The ninth hypothesis: According to the viewpoint of respondents, the factors of production and operations affect the competitiveness of small and medium companies of Sanandaj city which is in line with the research results of Mohtaram Ghalati (2006) and Aghazadeh et al (2007) who believe that the production and operations influence the competitiveness.

The tenth hypothesis: From the respondents' perspective the research and development factor influence the competitiveness of small and medium companies of Sanandaj city which is in line with the research results of Mohtaram Ghalati (2006) and Aghazadeh et al (2007) who have introduced the research and development as a factor affecting the competitiveness.

The eleventh hypothesis: According to the respondents' perspectives information system factors can affect the competitiveness of small and medium companies of Sanandaj city that is consistent with the research results of Hagh Shans Kashani and Saeedi (2011) and Khoshsim (2012) who believe that the information system factor influence the competitiveness of companies.

Recommendation based on the results of first hypothesis

When customers are highly concentrated or to be in the form of mass, their bargaining power acts as a strong force and can lead to the increased competition in that industry. Maybe the competing companies give long-term warranty for products sold or when competition intensify, they try to attract customers' view and consequently increase customers' loyalty to the company. It is suggested that the small and medium companies try to reduce prices and produce more diverse products with better packaging than other competitors in order to decrease the bargaining power of consumers.

Recommendation based on the results of the second hypothesis

The following issues will intensify the bargaining power of raw material suppliers in an industry when there are not a large number of suppliers, or when there are no multiple items for replacement of raw materials, or when the cost of bringing new materials is very costly that this process is in favor of suppliers. It is proposed that in order to reduce the bargaining power of suppliers, the mentioned companies should use the downward vertical integration strategy that through this strategy can force the suppliers of raw materials to accept more favorable conditions.

Recommendation based on the results of the third hypothesis

When the newly established organizations are able to easily enter a particular industry, increases the intensity of rivalry among competing companies, sometimes newly established organizations enter into some of the industries and supply products with high quality and reasonable price and in terms of marketing have very strong resources. It is suggested to industrial companies to apply more experienced strategist in order to be able to identify newly established organizations that have potential abilities and can enter to the market or industry and also to be able to evaluate and control the newly established organizations and new competitors, and as necessary can attempt to counterattack and take advantage of the existing opportunities and abilities to win.

Recommendation based on the results of fourth hypothesis

Usually among the five competitive forces, the rivalry among competing companies has the highest power. Only when the strategies implemented by the company will be successful that can have higher competitive advantage than the strategies of competing companies. It is recommended to the small and medium companies to have timely production and in which case reduce the total

cost of product and with better quality products and after-sales services, will reduce the intensity of rivalry among the existing competitors.

Recommendation based on the results of fifth hypothesis

All existing companies in an industry are in competition with industries that produce substitute products in an extensive level. Alternative products limit the potential industrial output by creating a ceiling for the prices that companies use for their products to make a profit, therefore, more suitable price of alternative products caused the created restrictions on industry profits to be more stable. According to the foregoing discussion, in order to companies to be able to reduce the power and pressure of alternative goods, it is suggested that the relative price of products and manufacturing cost of industries to be reduced until companies to be able to implement the programs of increasing capacity and penetrating in market. So, they can possess a large share of the market and can determine and reduce the competitive intensity of alternative products.

Recommendation based on the results of the sixth hypothesis

It is recommended to small and medium companies and organizations and affiliated institutions to reinforce the motivation and pave the way to achieve the organizational goals by apply the excellent management system for organizations to conduct the proper planning (setting long-term goals and developing strategy) and by providing the necessary manpower that is commensurate with job and describing duties and by creating two-way communication.

Recommendation based on the results of seventh hypothesis

It is suggested to the small and medium companies that by marketing try to identify customers' needs and produce and supply goods according to the taste of buyers and this success is possible by employing an experienced and capable marketer.

Suggestion based on the results of the seventh hypothesis

Mostly from the perspective of investors, financial status is considered as the only factor or criterion in determining the competitive situation of organization. The financial strengths and weaknesses of the organization should be determined to develop the strategies in an effective manner. It is recommended that cash flows and shareholders' equity can be in a manner that the timely paying dividends to shareholders will increase the company's stock price in the market. Therefore, selling share with more value will increase the finance power of companies. So, companies can act more competitively.

Recommendation based on the results of ninth hypothesis

In general, strategy of a company, production (operations) as a competitive weapon has the highest value. It is suggested to small and medium companies that staff training in various areas can help companies to show faster reaction to changing markets. Training of personnel in various fields can enhance the efficiency, product quality, productivity and job satisfaction of people.

Recommendation based on the results of the tenth hypothesis

In current time most of companies do not conduct any research type, and do not have the research and development department, while in other countries or even internal organization the company's survival depends on the successful activities of research and development department. It is suggested to small and medium companies to apply the experienced and capable research and development unit to mitigate the weaknesses and reinforce the strengths of the organization to enhance the competitiveness of the companies.

Recommendation based on the results of eleventh hypothesis

Information systems are seen as the artery of organization. It is recommended that an integrated and flexible information system to be established in the organization to have single connection between all units.

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