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## **Competitiveness of manufacturing enterprises in North Cyprus: A firm level analysis.**

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# Competitiveness of Manufacturing Enterprises in North Cyprus: a Firm Level Analysis

## *Abstract*

*This study aims at investigating discriminating factors of low and high performance small and medium sized enterprises (SMEs) in terms of the perception of the SME owners/managers about profit goal achievement in North Cyprus. The study employs the recent and only available micro-data from Manufacturing Industry's Profile and Expectations Surveys (2009 and 2010) initiated by Chamber of Industry and conducted by Small Business Development and Research Centre (SBDRC). Surveys' sample covers approximately 70% of the companies in the manufacturing sector. Findings of the Discriminant Analysis (DA) indicates that performing (competitive) manufacturing firms are those who have more competent entrepreneurs, low labor unit cost, high capacity utilization and growth phases of companies. Variables like age of owners/manager, age of the firms, number of employees, target market (domestic or foreign), legal structure of the enterprise, investment on technology and quality have not been statistically significant*

*Keywords: North Cyprus, competitiveness, firm level, discriminant analysis, SME.*

## **Kuzey Kıbrıs İmalat Sektöründe Faaliyet Gösteren İşletmelerin Rekabet Edebilirliği: Firma Düzeyinde Bir İncelenme**

### **Özet**

*Bu çalışma Kuzey Kıbrıs imalat sanayinde faaliyet gösteren KOBİ'lerin satış performanslarını ayırtan faktörleri incelemeyi amaçlamaktadır. Ada genelinde örgütlenmiş olan Kıbrıs Türk Sanayi Odası üyeleri ile yapılan anket çalışmasından elde edilen veriler, diskriminant analizi ile değerlendirilmiştir. Analiz sonuçlarına göre, 2009-2010 yılları arasında satışlarını artıran ve artırmayan KOBİ'leri ayırtmada en önemli faktörler; işletme sahibi/yöneticisinin yeterliliği (eğitim düzeyi ve internet kullanımı), düşük emek birim maliyeti, kapasite kullanım oranı ve hangi gelişim aşamasında oldukları olarak belirlenmiştir. İşletme sahibinin/yöneticisinin yaşı, işletmenin yıllık cirosu ve yaşı, teknoloji ve kalite yatırımları, işletmenin personel sayısı, iç-dış pazar hedefi, ve işletmenin hukuki yapısı değişkenleri ise istatistiksel olarak anlamlı bulunmamıştır.*

*Anahtar sözcükler: Kuzey Kıbrıs, rekabet edebilirlik, firma düzeyinde, diskriminant analizi, KOBİ.*

## **Introduction**

The business climate in North Cyprus appears to have improved since 2003, with the opening of the borders between North and South Cyprus. The construction boom, triggered by the submission of the UN Peace Plan (The Annan Peace Plan) (2004) aimed at ending the partition of the island, and the Green Line Trade agreement was also introduced with the same aim and as to increase the rate of trade transactions between North and South. However, North Cyprus enterprises still face variety of serious difficulties and competitiveness problems which are even became more serious with global economic crises (2009).

However, scholarly studies on the private sector are highly limited. This is primarily due to the lack of information about the status of private sector establishments. In the absence of a recent business census, the existing scholarly studies on private sector mostly rely on small sample survey data whose coverage is usually limited (see, for example, Aker & Aker, 2009; Dolmaci, 2009; Güven, 2008; Güven-Lisaniler, 2004; Howells & Krivokapic-Skoko, 2010; Jenkins, 2004; Jenkins & Katircioglu, 2007; Tanova, 2003; Tümer, 2003; Turgay & Kassegn, 2003/2004).

Studies on competitiveness are particularly scarce (see, for example, Economic Research Centre, 2004; Güven-Lisaniler, 2005; Korun, 1997; Tümer, Uğural, Tuna, & Coşkuner, 2005). Korun's study uses industry level micro variables and discusses competitiveness of the manufacturing sector through total factor productivity of the manufacturing industry from 1977 to 1995. Güven-Lisaniler's study is a conceptual study which introduces different levels of competitiveness and provides examples from North Cyprus and the industries. Tümer's study compares competitiveness of manufacturing industries by using micro variable as labor unit cost, labor productivity, and average cost. Efforts emphasizing the firm-level dimension of competitiveness are particularly missing. With the exception of Cyprus Turkish Chamber of Industry's (CTCI) *Manufacturing Industry's Profile and Expectations Surveys of 2009 and 2010*, no effort that will provide necessary firm-level information, which will allow for the identification of the inter-relationship and the importance of the internal firm factors (price, quality, marketing, and management), external environment (the scope for action, growth of the industries), firms' performance, and competitiveness, has been made. CTCI's surveys provide firm-level information, which gives chance to the researchers or practitioners to enhance their studies on competitiveness at the firm level. Their scope, however, is limited to manufacturing firms with five or more employees. The aforementioned efforts are important; however, the need to enhance the existing literature on competitiveness is paramount.

## **Rationale and Background**

Private firms in North Cyprus have performed below their potential and hence they have yet to play the expected vital and vibrant role in the economic growth and development of the North Cyprus economy. Until recently, this situation showed up neither on the authorities', or the public's radar. This is primarily the result of the absence of a "unifying, politically salient 'vision' " (World Bank, 2006: 131) to stimulate economic growth or to develop sectors. Additionally,

generous aid flows from Turkey and isolation from global markets reduce competition and incentives for firms to invest in upgrading technologies and product quality while also limiting the channels through which the transfer of new ideas and technologies take place. Consequently, an economy dominated by the public sector has been created. In 2015, as the biggest employer, the public sector employed one third of the population in employment (31.7%), which constituted 22.7 percent of the GNP (State Planning Organisation, 2015).

Structuring the efforts towards competitiveness identified two important weaknesses in understanding the concept as a whole. The first weakness is in the understanding of the multidimensionality and interdependency of competitiveness, in particular the firm-level competitiveness and its implementation. Understanding the key factors of firm performance is as important as understanding broad national factors constraining or facilitating what firms do. Porter (1998: 33) underlines, “It is the firms, not nations, which compete in international markets”. Nelson (1992: 128) agrees, “(...) one needs a way of looking at industries or industry clusters that at once recognizes that broad national factors constrain and facilitate what firms do but that the firms themselves have considerable room to maneuver”. The second weakness is the lack of understanding of the dynamic nature of competitiveness as an ongoing process; transformation of inherited or created assets into economic results (Man, Lau, & Chan, 2002). There is a significant need to consider not only the resulting performance or the potential or assets to generate this performance, but also to consider the constructs for competitiveness. The most important weakness is lack of understanding of competitiveness as an ongoing process.

With the opening of the borders between the north and south, increased competition highlighted the competitiveness and the income gaps. This brought the realization that the situation needs to be corrected and the private sector dynamism needs to be enhanced. The North Cyprus economy operates in a constrained political and macroeconomic environment with limited access to international markets, which makes an investigation of the firm level competitiveness along with micro- and macro-level competitiveness even more important.

Thus, this paper attempts to close this gap in understanding the multidimensionality and the dynamic character of competitiveness by providing empirical findings on the *firm-level* performance and the role of the entrepreneur. The paper employed Asset-Process-Performance Approach and the conceptual model specifically suggested for SME’s (Ambastha & Momaya, 2004; Man, et al., 2002; Porter, 1998). The Asset-Process-Performance Approach integrates resources to performance through processes that provide the tool to link competitiveness with firms’ strategy (Ambastha & Momaya, 2004; Man, et al., 2002; Nelson, 1992; Porter, 1998). It suggested a framework where competitiveness considers not only the resulting performance or the potential or asset to generate this performance, but also the process for doing so.

The assessment of the general characteristics of the private establishments in North Cyprus indicates that most of the manufacturing firms are SMEs and SMEs need to be differentiated from larger firms. “A small firm is not a scaled-down

version of larger firms. Larger and smaller firms differ from each other in terms of their organizational structures, responses to the environment, managerial styles and, more importantly, the ways in which they compete with other firms.” (Man, et al., 2002: 128). This approach, distinguishing sources of competitiveness of small and large firms suggested the following conceptualization of firm competitiveness: Firm-level competitiveness of SMEs have four dimensions; (1) internal firm factors (availability of resources), (2) external environment (favorable investment climate, positive environment), (3) influence of the entrepreneur, and (4) long-term performance.

This paper reports findings from a study, which employed this conceptualization to investigate the discriminating factors of performing and non-performing manufacturing firms. Performing firms are those that increase their sales during the investigated period and non-performing firms represent firms that experience a decrease or preserve their sales. In the selection of variables with the assumption that the environmental factors are more or less uniform for all competing manufacturing firms in North Cyprus, we suggested the variables provided in Table 5 as, internal firm factors, influence of the entrepreneur, and performance. Internal firm factors were represented by six sub-factors, influence of entrepreneur by three sub-factors and performance represented by another three sub-factors. The proposed model is a linear combination of internal firm, influence of entrepreneur, and long term performance factors that separate the performing and non-performing firms.

Leaving environmental factors out of the model does not mean that we undervalue the influence of external environment. It is evident that the lack of market power and the turbulent nature of newly emerging markets and competitors make many manufacturing SMEs more vulnerable to external influences than larger firms. However, because one of the aims of this study is to shed light on the importance of firm-level competitiveness and since there is no effective industry specific development strategy, differentiating external environment for certain firms we choose to construct our model as introduced above. The environmental factors are more or less uniform for all competing firms in North Cyprus. Sources of firm level competitiveness are conceptualized as having three dimensions. These are *Assets* (infrastructure, finance, technology, people), *Process* (quality, speed, customization, service) and *Performance* (market share, profit, growth, duration) (Ambastha & Momaya, 2004; Man, et al., 2002). Before investigating the sources of competitiveness of firms in the industry sector, we provide background to the subject matter as the role of private sector and general characteristics of the private sector establishments in North Cyprus.

## **Background**

The North Cyprus economy has never been a private-sector driven economy. On the contrary, the public sector plays a dominant role in the economy. In time, pay and benefits differences were created between the public and the private sector employment (Uğural & Güven- Lisaniler, 2010) and “the sustained high levels of public expenditures over a long period of time have led to crowding out of the private sector, distortions in labor markets, and excessive dependence upon

the public sector for assistance” (World Bank, 2006: 11). Even though the public sector has been playing a leading role in the economy, the private sector has always been an important contributor to income growth over the years. Despite the particular features of the investment climate such as political and economic uncertainty, disputed property rights, trade and travel restrictions, and the public sector’s heavy involvement in the economy, private sector consumption and fixed capital investment showed remarkable increases. Private consumption has grown at an annual rate of 4.4 percent in the years 1977 to 2007 not far behind the growth rate of public consumption of 5.5 percent. And private fixed capital investment grew at a real annual average rate of 9.1 percent compared with a rate of 11.1 percent for public investment. The magnitude of the private fixed capital investment was almost twice that of the magnitude of public fixed capital investment over the period (State Planning Organisation, 2009). The following part of the study summarizes the general characteristics of private sector establishments.

### **General Characteristics of Private Sector Establishments in the North Cyprus (1970-2010)**

#### **Size and Average Plant Size (APS) of Private Enterprises**

The private sector in North Cyprus was at the initial stages of its development and is still, after forty years, in 2010, dominated by small firms, although establishments have generally become larger in terms of the number of staff they employ. Table 1 provides a snapshot of the size distribution of private establishments and the average plant size in the North Cyprus using data available since 1970. The data for years 1970, 1998 and 2004 were taken from business census and the data for 2010 from the labor market survey.

Table1: Percent Distribution of Establishment (size by number of employees)

Years	Number of employees						Average Plant Size (APS)
	Small		Medium		Large		
	1-4	5-9	10-49	50-99	100-249	250+	
<b>1970</b>	88.0	8.6	2.2	1.2	0	0	2.3
<b>1998</b>	88.5	6.9	3.9	0.5	0.2	n.a.	3.4
<b>2004</b>	71.6	14.5	12.1	1.2	0.5	0.04	8.3
<b>2010</b>		91.6	7.0		1.2	0.2	n.a.

**Sources:** State Planning Organisation (1998); Kıbrıs Türk Yönetimi Planlama Teşkilatı (1971); EMU-Economic Research Centre (2005).

As Table 1 shows, the percentage of establishments employing a hundred or more employees has significantly grown. In 1970 no establishment employed a hundred or more persons; in 1998 0.2 percent of the establishments employed a hundred or more persons, but there was no establishment employing 250 or more

persons. In 2004 the share of establishments employing a hundred or more persons increased to 0.5 percent and there were firms employing 250 or more persons although only at 0.04 percent. In 2010 the share of firms employing 250 or more persons has reached 0.2 percent. The second indication of the plant size growth is the increase in the average plant size (APS). APS in 2004 is almost 4 times of the APS in 1970. Third, the share of small establishments (firms employing less than 10 employees) has decreased from 96.6 per cent in 1970 to 91.6 per cent in 2010 while the share of medium-sized establishments (firms employing 10-49 persons) has increased from 2.2 per cent in 1970 to 7 per cent in 2010.

The table also shows the changing trends of the shares of small, medium, and large firms. Until 2010 the share of small firms showed a decreasing trend (96.6 to 95.4 to 81.6 percent in 1970, 1998, and 2004 respectively) and the shares of medium and large firms showed an increasing trend. But in 2010, except large firms, the trends of small and medium-sized firms were reversed. The share of small firms increased from 81.6 percent to 91.6, and the share of medium-sized firms decreased from 12 percent to 7. Meanwhile, the percentage of the firms employing more than 250 employees became fivefold of 2004 percentage. But it is hard to analyze further whether this is a sector specific change or a general phenomenon since the size distribution of firms by main economic activities or APS of 2010 is not available. However, it is possible to say that some of the medium-sized enterprises have shrunk. On the other hand, since the share of establishments employing 50 or more persons slightly decreased, we can say that, contrary to the medium-sized enterprises some of the large enterprises were expanded.

### **Main Economic Activity (1970-2004)**

From 1970 to 2004, the private sector was dominated by the service sector. By industries, the dominant industry was the wholesale and retail trade with an APS lower than the general APS, indicating that micro and small enterprises are dominant. The wholesale and retail trade constituted almost half of the private enterprises. The second and third largest industries were hotels and restaurants, and manufacturing industries respectively (SPO, 1998; TCAPO, 1971; Economic Research Centre, 2005).

When the employment shares in total employment are considered, wholesale and retail trade is the main and most important employment generating industry followed by manufacturing. Wholesale and retail trade is also the third largest contributor to income growth at 12.2 percent of GNP. Another source of private employment is the manufacturing industries and the third was hotels and restaurants. Considering employment generation by size of establishments in each industry, in wholesale and retail trade, and hotels and restaurants small businesses are the main source of employment. Almost two third of the employment in these industries are generated by firms with less than 10 employees. Additionally, almost half of the employment is generated by micro-enterprises with less than 5 employees. However, in manufacturing and construction industries SMEs are the main source of employment while micro-enterprises generate a significantly lower

employment at 24 and 13 per cent (SPO, 1998; TCAPO, 1971; Economic Research Centre, 2005).

Private establishments in the North Cyprus mostly consist of establishments that employ less than 10 persons. They are concentrated in wholesale and retail trade, hotels and restaurants, and manufacturing industries, which also were the main employment generating industries in 2004. Due to the absence of employment shares data in 2004 and 2010 by size and economic activity, it is not possible to analyze employment-generating capacities of firms by size and economic activity. But considering the increase in average plant size we can assume that the main source of employment shifted from micro-enterprises towards small and medium-sized enterprises.

## **Empirical Study**

### **Data and Methodology**

In its attempt to investigate the discriminating factors that influence the firm level competitiveness of the North Cyprus manufacturing firms, this study uses data from a field survey, *Manufacturing Industry's Profile and Expectations Surveys (2010)*. The survey was initiated by Cyprus Turkish Chamber of Industry (CTCI ) and conducted by Small Business Development and Research Centre (SBDR) to provide profile and expectations of firms in North Cyprus industry sector. It includes the details of two hundred and seventy seven private establishments from manufacturing (80%), mining and quarrying (8%), electricity, gas, steam and air-conditioning supply (1.4%), water supply, sewerage, waste management and remediation (0.4%), wholesale and retail trade, repair of motor vehicles and motorcycles (1.1), IT and other information services (2.5%), and other professional, scientific and technical activities (2.9%). The sample excludes firms employing less than 5 employees. Because according to the by-law of the CTCI only those firms engaged in manufacturing industries and employing five or more employees are eligible to be a member of the Chamber. Firms employing less than five employees are members of Chamber of Artisans.

The number of manufacturing firms interviewed in the survey was 228, which ascertains the sample size of this study. The survey sample covers 70 percent of the total number of members of the CTCI and 25 percent of the total number of manufacturing firms according to 2004 Business Census. It has a good representation of both the members and total number of manufacturing firms. The distribution of the interviewed manufacturing firms by main economic activity is provided in Table 2 below.



**Table 2. Number of enterprises interviewed by main activity**

<b>Manufacturing Industries</b>	<b>Frequency</b>	<b>Percentage</b>
Food products	73	32.0
Furniture	25	11.0
Beverages	17	7.5
Chemicals and chemical products	17	7.5
Fabricated metal products	14	6.1
Rubber and plastic products	14	6.1
Wearing apparels	13	5.7
Machinery and equipment n.e.c.	9	3.9
Electrical equipment	8	3.5
Textiles	8	3.5
Paper and paper products	7	3.1
Printing and reproduction of recorded media	7	3.1
Other non-metallic mineral products	6	2.6
Other manufacturing	4	1.8
Other transport equipment	3	1.3
Pharmaceutical preparations	2	.9
Manufacturer of tobacco products	1	.4
<b>Total</b>	<b>228</b>	<b>100.0</b>

To investigate the differences in manufacturing firms' competitiveness related with the variables provided in Table 3, *Discriminant Analysis* (Fisher, 1936) is employed to identify the factors that significantly influence the competitiveness of manufacturing firms. The selection of the variables is based on an Asset-Process-Performance approach towards firms' competitiveness. *Performance* of the firms was taken as the dependent variable (or the discriminating variable) and size of the establishment, technology and quality investment, ownership of the business premises, target market, age of the establishment, survival or growth phase, competence of the entrepreneur, productivity were considered as the predictors (see Table 3).

**Table 3. Definition of the Variables Included in the Discriminant Analysis**

<b>Variable</b>	<b>Description</b>
<b>Target Variable</b>	
Performance (P)	1= Performing firms: firms experiencing sales increase in July-December 2009 2= Non-performing firms: firms experiencing a decrease in sales or sales remained same in July-December 2009
<b>Predictor Variables</b>	
<b>Internal Firm Factors</b>	
<b>Assets</b>	
1. Size of the establishment	i. Annual turnover ii. Number of employees
2. Technology and quality investment	i. Investment on technology ii. Investment on quality
3. Ownership of the business premises	
4. Target market	
5. Age of the establishment	
6. Survival or growth phase	i. Increase in technology investment ii. increase in number of employee

<b>Influence of the Manager</b>	
<b>Process</b>	
1. Competence of the entrepreneur (manager/owner)	i. Education level of the manager/owner ii. Internet use of the manager/owner iii. Age of the manager/owner
<b>Performance</b>	
<b>Performance</b>	
1. Productivity	i. Unit labor cost ii. Capacity utilization iii. Total labor cost

### Empirical Findings

The data corresponding to the respective predictor factors defined in the previous section were analyzed by means of a discriminant analysis to obtain a linear model. This model is a linear combination of internal firm factors, entrepreneur competence factors, and performance factors that effectively separate the performing firms from non-performing ones.

As can be seen from the table 4 below, the discriminant model proposed in this paper is significant. The overall ability of the discriminant function to predict group membership of the study is 75.6 per cent. In other words, this means that 75.6 percent of original grouped cases are correctly classified. Discriminating and non-discriminating factors of performing and non-performing manufacturing firms are provided in Table 4 and the statistical figures are given in the Appendix.

Table 4. Discriminating and Non-discriminating Factors of Performing and Non-Performing Manufacturing Firms

<b>Discriminating factors</b>	<b>Non-discriminating factors</b>
<b>Influence of entrepreneur</b>	
Competence of the manager/owner <ul style="list-style-type: none"> <li>• education level of the manager</li> <li>• internet use of the manager</li> </ul>	Competence of the manager/owner <ul style="list-style-type: none"> <li>• age of the manager</li> </ul>
<b>Internal firm factors</b>	
Survival or growth phase (expectations) <ul style="list-style-type: none"> <li>• Increase in technology investment</li> <li>• increase in number of employee</li> </ul>	Size of the establishment <ul style="list-style-type: none"> <li>• Annual turnover</li> <li>• Number of employees</li> </ul> Technology and quality investment <ul style="list-style-type: none"> <li>• Investment on technology</li> <li>• Investment on quality</li> </ul> Ownership of the business premises Target market Age of the firm
<b>Performance</b>	
<ul style="list-style-type: none"> <li>• unit labor cost</li> <li>• capacity utilization</li> </ul>	<ul style="list-style-type: none"> <li>• total labor cost</li> </ul>

Without discussing each of these factors in detail, we can elaborate a little on the entrepreneur competence factors, which are more relevant to the approach towards competitiveness used in this study: the approach that considers not only

the resulting performance or the potential or asset to generate this performance, but also the process for doing so. And also the internal firm and performance factors have been already elaborated to some extent in competitiveness studies of North Cyprus economy (Besim, 2010; Turkish Cypriot Chamber of Commerce, 2009, 2011).

The entrepreneur in a small firm plays a crucial role in the relationship between the actual objective environment and the perceived subjective environment. Entrepreneur competence factors such as the education, internet use, and the age or experience of the manager/owner can be seen as the antecedents of entrepreneurial competencies. They are representing the ability of the entrepreneur to interpret environmental conditions, to search and to act on opportunities, to create contacts and connections. The concentration of decision-making power in the owner/manager in an SME makes the competencies of the entrepreneur central to the competitive scope of an SME and hence firm's overall strategy and performance (Ambastha & Momaya, 2004; Man et al., 2002).

Findings of the Discriminant Analysis (DA) indicates that performing (competitive) manufacturing firms are those who have more competent entrepreneurs, low labor unit cost, high capacity utilization and are companies in growth phase. Increasing internet use of entrepreneur is helpful in creating contacts and connections and many business opportunities can be established through this process. Increasing education level or training of entrepreneur, increase the ability of entrepreneur to search and to act on opportunities.

Controlling the stage of development of the business and capacity utilization is important. The phase of development of firms can influence the performance of the business positively or negatively (Churchill & Lewis, 1983). A firm in its take-off phase can grow very fast, which affect its performance positively. And a firm in the introduction or maturity phase of its life cycle tends to grow more slowly or even show no growth at all, which affect its performance negatively.

Competitive advantage is a function of performing activities at lower cost, or of performing activities at comparable cost but in unique ways that create greater buyer value (price) than competitors (Porter, 1986). North Cyprus' manufacturing firms have the competitive advantage of performing at a lower unit labor cost compared to Turkey and South Cyprus. Considering the improvements of the economy of Turkey; the main supplier of cheap labor, which might not be continue like this in the long run, North Cyprus manufacturing firms need to shift to performing activities at comparable cost but in unique ways that create greater buyer value (price) than competitors for long-term performance.

Performing firms are the firms with higher capacity utilization. There is a two-way relationship between capacity utilization and sales (the measure of performance of this study). Higher capacity utilization leads higher sales and higher sales lead higher capacity utilization.

### **Concluding Remarks**

The main results of this study are fourfold. The first is that the firm-level competitiveness dimension is missing in competitiveness efforts. This is blurring

the understanding of the sources of competitiveness of the North Cyprus economy and also hinders the improvement efforts. The second result shows that the competency of the entrepreneur plays an important role in stimulating the competitive scope of firms, thus performance and competitiveness, as costs.

The third is the model suggests that success cannot be exclusively be measured by resulting performance and costs. As far as long-term competitiveness and competitive scope are concerned, understanding the interrelated role and the need to balance all dimensions of firm-level competitiveness are important determinants of the long-term competitiveness.

And the last is the importance of using an appropriate model when considering the general characteristics of the establishments i.e., size. A use of SME specific competitiveness model with *entrepreneur influence dimension* provides information about how increasing competency of entrepreneur is able to increase competitive scope of firms. Hence the appropriate model provides useful information on the understanding of the *process dimension* of competitiveness.

The authors were not able to use two metric performance measures, i.e. *profit* and *Return on Investment (ROI)*. The reason was that the majority of the businesses were not willing to provide these data, as they are afraid from the tax office that high tax would be asked.

## APPENDICES

### Average number of employees (Average Plant Size)

Mean	29.6
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Table A1: Years in operation

	Frequency	Percent	Valid Percent
Less than 2 years	4	1.0	2.3
2 - 5 years	14	6.1	8.0
6 - 10 years	14	6.1	8.0
More than 10 years	144	63	82
Total	176	77.2	100.0
Don't know / no answer	52	22.8	
Total	404	100.0	

Table A2: Turnover of the firms 2010 (TL)

Turnover (TL)	Frequency	Percent	Valid Percent
≤500,000	38	16.7	23.9
501,000 - 1,000,000	42	18.4	26.4
1,000,001 - 2,000,000	29	12.7	18.2
2,000,001 - 5,000,000	26	11.4	16.4
≥5,000,000	24	10.5	15.1
Total	159	69.7	100.0
Don't know / no answer	69	30.3	

Total	228	100.0
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Table A3: Sales 2009 compared to 2010

Sales	Increase		Decrease		Remained constant		No sales		Total		Don't know/no answer		Total	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Local	42	23.6	72	40.4	59	33.1	5	2.8	178	78.1	50	21.9	228	100
South Cyprus	7	4.3	15	9.2	6	3.7	135	59.2	163	71.5	65	28.5	228	100
Turkey	3	1.8	13	8.0	8	4.9	139	61.0	163	71.5	65	28.5	228	100
Other Countries	5	3.1	14	8.7	4	2.5	138	60.5	161	70.6	67	29.4	228	100

Table A4: Wilks' Lambda

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
dimension0 1	,517	33,348	15	,004

Table A5: Tests of Equality of Group Means

	Wilks' Lambda	F	Sig.
Age of the firm	0,999	0,056	0,814
Annual turnover	0,994	0,324	0,572
Number of employees	0,994	0,370	0,545
Domestic Market	0,974	1,534	0,220
Respondent's Education Level	0,904	6,153	0,016
Respondent's Age	0,987	0,740	0,393
Frequency of checking e-mail	0,938	3,859	0,045
Investment on technology	0,988	0,686	0,411
Planning to Invest on technology	0,940	3,702	0,049
Existing certificates (i.e. ISO, etc.)	0,995	0,304	0,584
Ownership of the business premises	0,998	0,134	0,716
Expectation about the future number of employees	0,780	16,331	0,000
Unit labor cost	0,947	3,225	0,078
Total labor cost	0,972	1,696	0,198
Capacity utilization	0,865	9,048	0,004

Table A5: Structure Matrix

<b>Variables</b>	<b>Function 1</b>
Expectation about the future number of employees	,549
Capacity utilization	-,408
Respondent's Education Level	-,337
Frequency of checking e-mail	,267
Planning to Invest on technology	,261
Unit labor cost	,244
Total labor cost	,177
Domestic Market Share	,168
Respondent's Age	,117
Investment on technology	-,112
Actual Number of employees	-,083
Annual turnover	,077
Existing certificates (i.e. ISO, etc.)	-,075
Ownership of the business premises	-,050
Age of the firm	,032
Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions	
Variables ordered by absolute size of correlation within function.	

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