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THE ANALYSES OF THE FACTORS AFFECTING THE COMPETITIVE POWER OF READY-WEAR ESTABLISHMENTS IN TURKEY

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ABSTRACT

With the effect of globalization, competitive conditions which ready wear establishments have been facing in both domestic and international markets have gotten worse. Under these difficult competitive conditions, the establishments that are trying to survive, have to get some advantages over their competitors in both domestic and international markets. In short, there are some factors, which affect the marketing advantages of these establishments, called competitive power.

The aim of this study is to analyze the factors affecting the competitive power of the ready wear establishments depending on the views of the establishers in Turkey. This study also aims to evaluate the export rate of ready wear establishments and the factors affecting the competitiveness comparatively. The sampling of the study is based on 200 hundred ready wear establishments in Turkey. The data collected by survey method from these establishments were analyzed statistically. At the end of the survey, the factors affecting the competitive power of the ready-wear establishments in Turkey; production costs, product quality, product differentiation, on time delivery, production capacity have been evaluated comparing the exporter and non exporter establishments.

Keywords: ready wear, competitive power, factors affecting competition

1. Introduction

By time, the competition in this sector has been global causing global markets, global consumers, global brand names, global enterprises and global industries to exist with effect of globalism. The most important affect of the competition over international borders is quick data transmission due to developments in communication technology. Being successful for an establisher in either domestic market or foreign market is to mainly to do with catching up with global production (Ömürbek,2003).

Getting more global from the point of economy, significant changes have started to occur in competition (Çivi 2002,21). Basically, there is a global market and also competitors in this market for the each of the product (Öksüz, 2005).

Competition is one of the required conditions for efficiency of the economy. Forprovide the most suitable ongoing competitive reaction, it is necessary to compete at a reasonable product price with good quality to meet changing needs of the customers and it is necessary to increase the economic efficiency in order to contribute to social welfare (Aktan and Vural, 2004). Competition determines the market conditions including customer and marketer according to free market terms. The market term in which the rivalry will live can be defined as meeting place of demands and presentations. The market is an ambient in which rival enterprises or people present

goods and service to the consumers competing in a free way (Öksüz. 2005).Competition means a race among participants who try to get benefit from at least same opportunities and who are in same extern limitations even if they have different possibilities.

It is to say that there is nearly no unique definition in the literature about what the term Competitiveness means. Competitiveness term is identified in various types depending on researches (firm, industry or country) to determine competitiveness and aspect (micro or macro level) (Çivi 2001). The Competitiveness means ability of competition.

Today, the enterprises which have to compete more than used to analyze consumer choices to meet their demands on time and to outstand in this rivalry ambient. Beginning and ending point of each enterprise's activities is the customer. All efforts are determining and supplying continuously changing desires of customers. Competitiveness requires successfully completing a circle of which beginning and ending is same point, customer (Ömürbek, 2003).

Existing competition pressure on the establishers help following positive effects occur:

- Primarily, the rivalry forces the enterprise to use effective source.
- Competition requires eliminating non-effective attempts.
- Competition motivates the enterprises to follow innovations.
- Competition increases performance in micro and macro levels.
- Competition help financial terms increase and develop.
- Finally, competition requires meeting customer expectations with quality, price elements. (Türkan, 2001)

The enterprises which do not have certain differences and similarity with their rivals, and don't determine a vision will disappear by time due to negative affects of rivalry. The enterprises should compose new advantages and develop themselves; they should act according to changing conditions. (Oktay, 2006)

The foregoing rivalry from past to today have changed according to needs of the age. After the Second World War, the foregoing element was MANUFACTURING due to demand for production in worldwide (in 1960's). Then, the rivalry element changed into COST due to increasing manufacturing and enterprise numbers (in 1970's). In 1980's, firms looked for to get rivalry supreme with QUALITY at their manufactured goods. In 1990's, besides quality, SPEED supreme has gained importance. Today, we see that there is a tendency to the products with high value adding and increased data compose. In 2000's, DATA supreme and rivalry affected quality policies of worldwide firms. (Babaaslan, Vuruşkan and Balcı 2007).

Textile and confection sector is the second indispensable element after nutriment in human life; with this feature it has been in privileged products ranging from preliminary terms of industrialization movements in the countries to those in today. The products of textile and confection sector have an important share in world trade. Ready wear sector is a locomotive sector; it has importance for developing countries due to its contribution to deploying and many similar features. So it comes first in feeling the rivalry the most densely among the other trade goods.

In this research, we aimed to set forth in what density the ready wear firms in Turkey feel the rivalry in cost at the domestic and international markets, quality, and speed, capacity and product discrimination rivalry sizes. To set forth feeling the present rivalry and difference between exporting enterprises and not exporting firms at the ready wear

trade sector in which the rivalry is felt in various sizes composes the second aspect of this research.

2. Competition in Ready Wear Sector and Affecting Factors of Competitiveness of Enterpriser

Textile and ready wear industry plays an important role in economic reconstruction period in developing countries, and industrialization period has been begun first in this sector. Today, this industry plays a similar role at the economical reconstruction of developing countries which have capital problem, have cheap labor force.

Textile and ready wear foreign trade has been implemented depending on the limitations and private rules as different from other manufacturing industry sectors. In 1950's, the limitations in Textile and ready wear trade have begun and continued till today in decreasing trend. In the passing term that is planned to continue until 2008, then it is predicted that removing those limitations and Textile and ready wear trade will continue depending to General Rules of World Trade Association. (Öngüt 2007)

When it is compared with other sectors, ready wear sector causes to supply high rated deploying with low capital investment, directly or indirectly promoting of developing countries to be progressed in this sector, implementing protective policies against to rivalry that is coming from extern. Similarly, at least keeping the deploying in developed countries, they keep their domestic markets against to their foreign rivals; apply encouraging policies to use new technology and manufacturing methods.
So, Textile and ready wear industry is one of the densest rivalries in the world. (Öngüt 2007)

The new features occurring in ready wear market both cause to come the rivalry to a new phase and showing change in consumer behaviors (Li at all, 2004). Changing market structure changes direction and type of rivalry.

Although limitative precautions at Textile and Ready Wear industry trade, World Textile and Read Wear Industry manufacturing has been increased so much rate. Carrying the manufacturing plants and decreasing the new investments in developed countries which are important markets, getting density of the investments in developing countries cause this case. (Öngüt 2007)

The rate of Turk textile and confection manufacturing in total industry is higher than textile and confection manufacturing in total industry of EC countries. Setting forth the active enterprises in the sector through analyzing in national and international level will lead to develop policies tend to this area (Aras, 2006).

3. The Methodology of the Study

Overall aim of the study is to introduce the production cost, quality and variation of ready wear establishments in Turkey and to find out to what extent on time delivery and production capacity affect the competitive power of establishments depending on the views of these establishments. Besides, one of the aims of this study is to present the differences between the production cost, quality and variation of ready wear establishments and effects of punctual delivery and production capacity on the competitive power of establishments depending on the domestic and international trading of these ready wear establishments.

Universe of the study which was conducted by means of Survey Method includes ready wear establishments in Turkey. The number of the corporations registered is obtained from The Union of Chambers and Commodity Exchanges of Turkey. The 200 establishments that were randomly chosen were used to collect the data of the study. Classifying collected data, they were shown in two way tables. In addition to this, t-test was applied to see whether there was any difference between factors affecting competition power of exporter and non exporter companies.

4. The Factors That Affect Ready Wear Establishments and the Effect of Exporting on Competitive Power of Establishments

4.1. The Factor That Affect the Competitive Power of Ready Wear Establishments

In this study that was carried out in Ready Wear establishments that are active in Turkey, the findings related to production cost of the establishments, production cost, production quality, product variety, the effect level of timely delivery and production capacity on competitive power of these establishments are summarized in table 1.

The distribution of effect level of factors to do with ready wear establishments in Turkey on competitive power of these establishments is given in Table 1.

Tablo 1: The distribution of effect level of factors to do with ready wear establishments on competitive power

	Production Costs		Product Quality		Product Variation		On Time Delivery		Production Capacity	
	f	%	f	%	f	%	f	%	f	%
Very Effective	150	75,0	156	78,0	72	36,0	141	70,5	114	57,0
Effective	47	23,5	38	19,0	89	44,5	55	27,5	75	37,5
Changeable	1	0,5	2	1,0	24	12,0	2	1,0	4	2,0
Ineffective	2	1,0	4	2,0	15	7,5	2	1,0	7	3,5
Of No Effect	-	-	-	-	-	-	-	-	-	-
TOPLAM	200	100	200	100	200	100	200	100	200	100

n=200

The views of ready wear establishments to do with production cost and competitive power are as in the following: %75 of them very effective, %24 of them effective, %1 of them not effective and %1 indecisive. There were no establishments indicating that production cost had n effect on competitive power.

The leading factor determining the power of competitive power in ready wear establishments as in the others is production cost (Eroğlu and Özdamar 2006,85). Regarding with data in Table 1, it could be said that most of the establishments thought that the cost was very effective in detirmining the competitive power.

%78 of the ready wear establishments in Turkey said that production quality effected the competition very much, %19 of them said that it was effective, %2 of them said that it did not effect and %1 of them were indecisive. There were no establishments indicating that it had no effect.

Considering the effect of product variety on competition, %45 of the establishments said that it effected the competition, %36 of them said it effected very much, %12 of them said that they were indecisive and %8 of them said that it did not effect. There were no establishments indicating that product variety had no effect.

Product development was accepted to be another effective way of outstanding to competition (Taymaz, 2002). Although the qualities new product and new product are important to advantage in competition, Turkish establishments need to do new practices for research and development. The effect of variety in a market, the variety level of competitors and the technological differences among countries are some of the basic reasons causing these differences between establishments (Lall and Albaladejo, 2004). In order to compete, it is necessary to increase product variety with low cost (Ulrich and at al., 2003). As we mentioned earlier, establishments can compete as long as they apply innovations and serve new varieties. It is important to have new production line, to carry out research and development activities and to have self chain brand so that they could realize these (Ercan, 2002).

%71 of the ready wear establishments in Turkey indicated that on time delivery was very effective in competition with others, %28 of them said it was effective, %1 of them said they were indecisive and %1 of them said it was ineffective. There were no establishments indicating that on time delivery had no effect.

Considering effect of production capacity on competition, %57 of them said that production capacity had a great effect on competitive power, %38 of them said it affected, %4 of them said that it did not affect and %2 of them were in decisive.

The concept capacity defines the volume of the establishment (Turunç, 1985). Considering the effect of volume on competition in the Table 1, it could be said that establishers thought that volume capacity had effect on competitive power.

Among 5 factors depending on Table 1, ready wear establishers in Turkey thought that product quality, product cost, on time delivery, product capacity and product variety had effect on competitive power respectively.

Considering the findings in the study, it could be said that the most important factor was product quality, followed product cost and product rate depending on the competition in the ready wear sector. Following these three competitive factors, product capacity is the 4th factor affecting the competition and 5th factor is product variety.

4.2. The Effect of Export on Competitive Power of Establishments

The export percentages of the ready wear establishments are shown in Table 2.

Tablo 2: The Distribution of Export Percentage of Ready Wear Establishments in Turkey

Export Status of Establishments.	f	%
Export all of our products.	68	35,0
Export some of the products.	77	38,5
Do not export.	36	18,0
Have attempts to export.	19	9,5
TOTAL	200	100,0

n=200

Analyzing the export status of ready wear establishments in Turkey, it was found that %39 of the establishers had exported some of their products, %35 of them had exported all of their products, %18 of them had no export and %10 had attempts to do exports.

According to Table 2, it is possible to say that 3fourth of the establishments within the study had export experiences. This is an important indication showing that ready wear establishers compete more in international level than local level.

The differences between export status of ready wear establishments and the factors affecting competitive power are given in Table 3.

Tablo 3: The Differences Between Export status of Ready Wear Establishments and The Factors Affecting Competitive Power

The differences among Factors Affecting Competitive Power Depending on Export Status of Establishments		N	X	Ss	df	t	P
Production Cost	Exporter Establishments	145	1,27	0.53	198	- 0,266	0.791
	Non Exporter Establishments	55	1,29	0.50			
Product Quality	Exporter Establishments	145	1,28	0,62	198	0,231	0,818
	Non Exporter Establishments	55	1,25	0,48			
Product Variety	Exporter Establishments	145	1,99	0,90	198	2,187	0,030
	Non Exporter Establishments	55	1,69	0,79			
On Time Delivery	Exporter Establishments	145	1,34	0,58	198	0,829	0,408
	Non Exporter Establishments	55	1,27	0,45			
Production Capacity	Exporter Establishments	145	1,51	0,72	198	-0,089	0,929
	Non Exporter Establishments	55	1,53	0,69			

α= 0,05

Analyzing the Table 3, no difference was found between exporter and non exporter establishments in terms of factors such as product cost, product quality, on time delivery and production capacity affecting competitive power as a result of t test analysis.

In terms of product variety, a significant difference was found between exporter and non exporter establishments at $p<0$, 05 significance level ($p=0,030$). Analyzing this statistical results, in could be concluded that exporter establishments that had product variety had greater competitive power that those non exporter establishments with less product variety.

5.Results

Since every firm has different information, experience, skills, expertise, financial and institutional resources, customers, products, production pattern, institutional structure and basic efficiency field, they also have different level of competitiveness (Öngüt 2007). This research was planned and conducted to discover whether factors such as product cost, quality, rate, capacity and variety had any effect on competitive powers of ready wear establishments.

In this study that was carried out with 200 ready wear establishments in Turkey, it was found that factors such as production cost product quality, on time delivery and production capacity had an important effect on competitive power of ready wear establishers and it was also found that product variety had less effect on competitive power considering the other factors.

In the global completion, some of the countries that have price advantage on some products should vary their products besides decreasing the cost of their products. According to the research results, the factors that affect the international competitive power of ready wear establishments in Turkey are quality, cost, capacity, and rate and product variety respectively. This is an indication showing that ready wear sector is still based on quality and cost. That establishers indicated that product variety had lest effect on competitive power than the other factors shows that the ready wear establishments in Turkey are busy with standard production rather than trademarked and stylish products. However, it is necessary for ready wear establishments to focus on stylish product production and product variety in order that they could keep their success in global market.

It was seen that there was not significant difference between exporter and non exporter establishments in terms of the effects of product cost, product quality, online delivery and production capacity on competitive power. However, it was also seen that exporter establishments with greater variety had more advantage in terms of competitive power than non exporter establishments with less product variety. Considering this result, it can be mentioned that product variety has been effective in global market than local market.

6. References

Taymaz, E. 2002. Competitiveness of the turkish textile and clothing ındustries. http://www.inovasyon.org/pdf/ET.textile%20and%20clothing%20ind.15_09_02.pdf. Erişim 20 Haziran 2005.

Lall, S. & Albaladejo, M. 2004. China's Competitive Performance: A threat to east Asian manufactured exports. World Development, pp.1441-1466.

Ulrich, P. V., Anderson-Connell, L. J. & Wu, W. 2003. Customer co-design of apparel for mass customization. Journal of Fashion Marketing and Management, pp.398-412.

Ercan, E. 2002. Changing world trade conditions force the Turkish textile and apparel industry to create new strategies. Journal of Textile and Apparel, Technology and Management, pp.1-8.

Li, J., Wang, Y. & Cassill, N. L. 2004. A comparative study on new retailing outlets in the shanghai apparel market. Journal of Fashion Marketing and Management, pp. 166-175.

Aynagöz Çakmak, Ö. "Described comparative Superioties and The Power of Competition: An aplication to do with Textile and Ready Wear Sector" Açıklanmış karşılaştırmalı üstünlükler ve rekabet gücü: Türkiye tekstil ve hazır giyim endüstrisi üzerine bir uygulama

Güleş, H. K. & Bülbül, H. 2004.Yenilikçilik. pp.

Öksüz, Lütfi. 2005. "Competition starategies as marketing media: An Aplication of Integrated Management System" Bir pazarlama aracı olarak rekabet stratejileri ile entegre yönetim sistemleri: Örnek bir firmada entegre yönetim sistemi uygulaması. Doktora Tezi, pp.

Çivi, E. 2001. "The Competitive Power: A Literature Research. Managment and Economy" Rekabet Gücü: Literatür Araştırması. Yönetim ve Ekonomi, pp.

Atılgan, T. 2006. "Sectorial Exporting and the effects of Export Firms" KOBI niteliğindeki tekstil ve hazır giyim işletmelerinin uluslararası pazarlara açılmasında sektörel dış ticaret şirketlerinin etkisi. Yönetim ve Ekonomi, pp. 149-166.

Eroğlu, Ö. & Özdamar, G. 2006. Competitıveness of the Turkish manufacturing industry and a study on the household appliances industry, pp. 85-104.

Babaarslan, O., Vuruşkan, D. & Balcı, O. 2007. "Textile Sector in the World and our country: Adana Application: A city in Turke "Dünyada ve ülkemizde tekstil-hazır giyim sektörü ve Adana özeli. In: I. Çukurova'da Sanayileşme ve Çevre Sempozyumu

Ulaş, D., Özer, A. & Koçak, "A Roadmap for Raedy Wear Sector: A sample case" A. Hazır Giyim Sektörü İçin Yön Haritası: Örnek Olay İncelemeleri

http://ekutup.dpt.gov.tr/imalatsa/tekstil/ongutce/rekabet.pdf. "The adaption of Turkish Textile to World" Öngüt Türk tekstil ve hazır giyim sanayiinin değişen dünya rekabet şartlarına uyumu

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