

# EXAMINING THE PERCEPTION OF QUALITY AND CUSTOMER SATISFACTION WITHIN THE FRAMEWORK OF TOTAL QUALITY MANAGEMENT IN TEXTILE SECTOR

## TEKSTİL SEKTÖRÜNDE TOPLAM KALİTE YÖNETİMİ ÇERÇEVESİNDE KALİTE VE MÜŞTERİ MEMNUNİYETİ ALGISININ İNCELENMESİ

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### ABSTRACT

Today, meeting customer expectations is very important for firms to survive in the competitive market. Quality production features Total Quality Management (TQM) that becomes increasingly interesting topic in recent years. The goal of this study is to investigate the quality and customer satisfaction perceptions of textile firms operating in Denizli within the framework of TQM and to reveal differences between these enterprises which implement TQM and those do not. Also, the reasons for firms to perform or not to perform TQM practices, things required to be done for meeting customer expectations, some problems for firms which they met during the implementation of TQM and expectations of textile firms from other companies that they will work together have been explained. SPSS for Windows 16.0 package program is used for evaluating data. As a result, it is seen that TQM practices have a positive impact on quality and customer satisfaction.

**Keywords:** Total Quality Management, Quality, Customer Satisfaction, Customer Expectations, Textile Industry.

### ÖZET

Günümüzde, tüketici ihtiyaçlarını karşılamak piyasa ekonomisinin zorlu koşullarında rekabet eden işletmeler açısından çok önemlidir. Kaliteli üretim yapmak son yıllarda giderek ilgi çeken bir yaklaşım olan Toplam Kalite Yönetimi'ni (TKY) ön plana çıkarmaktadır. Bu çalışmanın amacı Denizli ilinde faaliyet gösteren tekstil işletmelerinin TKY çerçevesinde kalite ve müşteri memnuniyeti algılarının incelenmesi ile TKY uygulayan ve uygulamayan işletmeler arasındaki farkların ortaya konmasıdır. Ayrıca çalışmada, işletmelerin TKY'yi uygulama veya uygulamama nedenleri, müşteri beklentilerini karşılamak için yapmaları gerekenler, TKY uygulamalarında karşılaştıkları sorunlar ve tekstil işletmelerinin birlikte çalışacakları diğer işletmelerden beklentileri incelenmiştir. Araştırma sonuçlarının değerlendirilmesinde SPSS 16.0 paket programı kullanılmıştır. Sonuç olarak, TKY uygulamalarının kalite ve müşteri memnuniyeti üzerinde olumlu etki yarattığı görülmüştür.

**Anahtar Kelimeler:** Toplam Kalite Yönetimi, Kalite, Müşteri Memnuniyeti, Müşteri Beklentileri, Tekstil Sektörü.

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### 1. INTRODUCTION

Quality has become more important issue for both producers and consumers in recent years since globalization effects started to appear especially. Thus, firms started to invest more for improvements in quality. In order to survive, firms had to produce not only better products but also they had to produce them at lower costs. Hence, the importance of quality, how can it be developed,

and new quality approaches became most searching materials. These efforts lead to new approaches in terms of quality which is called Total Quality Management (TQM).

TQM practice has been implemented in Japan in the 1950's and then, it started to apply in U.S.A. and Europe since the late 1970's (1). First attempts on TQM practices belonged to Deming and Juran in 1980's in America (2).

Crosby, Ishikawa, Deming and Juran stated that TQM was a strategic and systematic approach which was aimed to reach long term success through continuous process improvement and customer satisfaction (3). Juran also stated that business management was directly responsible for improving the quality and establishing the quality policy (4).

TQM consists of various attempts related with marketing, manufacturing, engineering processes because it is a management process which coordinates these efforts in question to meet consumer needs and demands (5). According to Goldman the customer needs should be embedded into the development of production process (6). Customer satisfaction should be the ultimate goal of all firms because a large number of theoretical and empirical researches linked a company's performance is directly related to the satisfaction of its customers (7).

To Grönroos (1982) (8), Eklof and Westlund (1998) (9), Uyguç (1998) (10), Geyskens et al. (1999) (11), Qingyu (2001) (12), Mehra and Ranganathan (2008) (13), meeting requirements and expectations of customer's is of great importance for the organization. Because it is directly related to the profitability of the organization. Since, the satisfied customers repeat their purchase of products or services, firm's profitability can increase (14). When the management accomplish to produce more quality products at lower costs then the organization has a chance to survive in the competitive market. Also, Naumann (2001) (15) revealed that customer satisfaction forms a step for strategic planning of the organization. Satisfaction is the consumer's response to the evaluation of the perceived discrepancy between prior expectations and actual performance (16). Woodside et al. (1989) (17), Al-Saggarf (1997) (18), Ingram and Chung (1997) (19), Kanji et al. (1999) (20), Aghazadeh (2002) (21) revealed that TQM practices had an important role in terms of developing customer satisfaction in both service and manufacturing industries. As a result of these statements, it can be said that TQM is a process that aims to satisfy customer needs and demands actually.

## 2. MATERIALS AND METHOD

This research is an empirical study which investigates the impact of TQM approaches on quality and customer satisfaction perceptions of textile firms operating in Denizli. The data used in this study were collected through questionnaire that consists of 27 question items in two parts.

In the first part of the questionnaire has 7 demographic questions. Five-point Likert scale (1="totally disagree" to 5="totally agree") was used to measure all items in the second part that consists of 20 questions in the study. All of these questions were about evaluating the impact of TQM applications of companies on quality, customer satisfaction perceptions and also their general characteristics. In this study, the questionnaires were given by hand and through e-mail to the head managers, quality control managers and marketing managers of whole textile firms. Samples of 93 textile firms were selected randomly from Denizli Chamber of Industry data. From these 93 respondents, 84 of them answered the questions. The questionnaire was administered in Turkish. The responses were collected from August to December in 2015 in Denizli.

The study has some limitations. The most important limitation of the study is small sample size due to time and money constraints. Also, some factories had a break in their production because of financial problems during the survey. Hence, this situation gave rise to study with fewer sample size. SPSS for Windows 16.0 package program was used for evaluating data.

## 3. RESULTS AND DISCUSSION

Reliability analysis is used for Likert scale questions in the questionnaire application to construct reliable measurement scales and to analyze the reliability of scales in use. A coefficient named cronbach alpha which is placed between "0" and "1" is found at the end of reliability analysis. This means that the more coefficients are close to "1", the more the scale used is reliable. It is demanded that an acceptable cronbach alpha coefficient is 0,70 at least. However, in applied researches this coefficient can be decreased 0,50 in value (22).

Table 1. Reliability score of the study

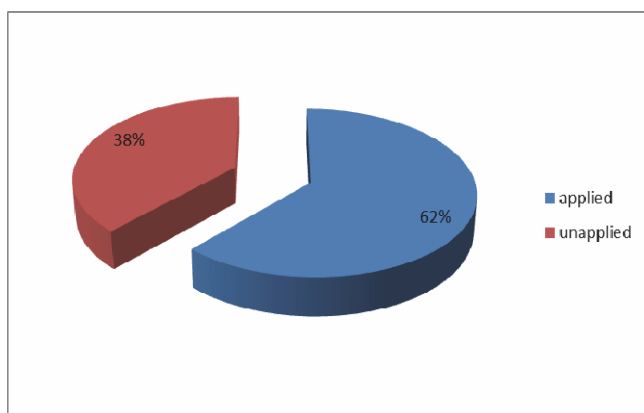
Cronbach's Alpha	Number of Items
0,874	20

According to Table 1, reliability analysis score is acceptable for the study. Also, reliability scores were calculated for each part of question groups. Reliability scores were given in Table 2. From these results, it can be said that reliability analysis scores are acceptable for each item.

Table 2. Reliability scores of each group

Scales	Cronbach's Alpha	Number of Items
Reasons for firms to perform TQM	0,739	4
Reasons for firms not to perform TQM	0,547	3
Things required to be done for meeting customer expectations	0,706	3
Problems met during the implementation of TQM	0,553	3
Expectations of textile firms from other companies that they will work together	0,614	3
Properties determining quality and customer satisfaction percepts	0,659	4

According to Figure 1, the percentage of textile firms applied TQM in Denizli is 62. Also, 38% of the respondents represent the firms unapplied TQM in their production stages. In other words, the number of firms applied TQM is 52, and the number of firms unapplied TQM is 32 in this study.



**Figure 1.** Firms Applied and Unapplied TQM

**Table 3.** Demographic Characteristics of Respondents

	n	%
<b>Client profile</b>		
Exporting	58	69
None exporting	26	31
<b>Total</b>	<b>84</b>	<b>100</b>
<b>Number of Staff</b>		
0–250	56	67
251 and above	28	33
<b>Total</b>	<b>84</b>	<b>100</b>
<b>Educational status of top managers</b>		
Higher education	42	50
Others	42	50
<b>Total</b>	<b>84</b>	<b>100</b>
<b>Existence of R&amp;D studies</b>		
Exist	40	48
Non exist	44	52
<b>Total</b>	<b>84</b>	<b>100</b>
<b>Existence of quality certificate (ISO 9001)</b>		
Exist	60	71
Non exist	24	29
<b>Total</b>	<b>84</b>	<b>100</b>
<b>Existence of customer satisfaction feedback</b>		
Exist	72	86
Non exist	12	14
<b>Total</b>	<b>84</b>	<b>100</b>

In Table 3, demographic characteristics of companies like client profile, number of staff, educational status of top managers, existence of R&D studies, existence of ISO 9001 quality certificate and existence of customer satisfaction

feedback are presented. According to Table 3, 69% of firms are linked with international markets. This means that the most of textile firms investigated export to other countries. This situation shows the significance of the textile and apparel industry in terms of national economy at the same time. Respondents which have between 0-250 staff form 67% of the sample. The number of this group of companies is 56. There are 28 companies which have more than 250 staff. It is 33% of the sample. 50% of the respondents have higher educational level top managers. The number of companies which apply R&D studies is 40. In other words, it is seen that R&D studies aren't sited in 44 companies. 71% of searched enterprises have ISO 9001 quality certificate. Owners of these enterprises pay attention to get ISO 9001 quality certificate as a part of institutional structure. Also, another interesting result is the most of textile companies adopt to work customer oriented. Customer satisfaction feedback are considered by 86% of respondents. In other words, 72 firms try to measure customer satisfaction.

In order to explain whether there is an independency or not between the existence of TQM practices and demographic features of companies, Chi-square independence test is referenced. Table 4, shows the results of Chi-square independence test.

To the results, it is seen that TQM practices are dependent on all demographic features in enterprises ( $p < 0,05$ ).

Mean scores of each responses for 1-5 Likert scale questions regarding to reasons for firms to perform TQM practices are given in Table 5.

“To meet customer demands and expectations (4,11)” was stated as the most important reason for firms to perform TQM practices. “To improve the quality of production (3,52)”, “to compete (3,44)” and “to raise market share (3,42)” were identified other reasons in terms of firms to perform TQM in turn.

Among long term objectives of TQM, to exceed customer satisfaction comes forward. This management approach focuses on quality. Quality brings customer satisfaction. Competition recognise no boundaries in today's economy. In this competitive environment companies have to produce more quality goods and services in order to survive and beat rivals.

Mean scores of each responses for 1-5 Likert scale questions regarding to reasons for firms not to perform TQM practices are given in Table 6.

**Table 4.** The results of Chi-square independence test

Dependent variable	Independent variable	Sig.
TQM	Client profile	0,000
	Number of staff	0,000
	Educational status of top managers	0,000
	Existence of R&D studies	0,000
	Existence of quality certificate (ISO 9001)	0,000
	Existence of customer satisfaction feedback	0,002

**Table 5.** Mean scores of reasons for firms to perform TQM

Reasons	Mean
To improve the quality of production	3,52
To meet customer demands and expectations	4,11
To compete	3,44
To raise market share	3,42

**Table 6.** Mean scores of reasons for firms not to perform TQM

Reasons	Mean
Higher costs	3,60
The lack of top management support	3,58
Inadequate information	4,00

Among these reasons for firms not to perform TQM practices, “inadequate information (4,00)” was identified as the most significant element. TQM is a contemporary management approach which targets continuous improvement in all organizational processes. It focuses on meeting customer wants. The prior benefits that can be gained from TQM practices are improving the quality of product, reducing the waste of resources and increasing efficiency. The study revealed that firms which are not performing TQM practices didn't have enough knowledge about this management system. Actually, benefits of this system must be explained clearly to top managers. Especially, firms can take an advantage on reducing costs through TQM practices. As it is told before, the more firms produce customer oriented the more they earn. For this reason, enterprises must give more importance to this approach.

In the study, the differences between answers given by firms implementing TQM practices and those do not were reviewed by means of t-test. Therefore, Table 5 have been prepared according to the responses of firms that implemented TQM practices and Table 6 have been prepared according to the responses of companies which didn't implement TQM practices. For this reason, t-test has not been carried out.

As can be seen from Table 7, the highest mean score related with the things required to be done for meeting customer expectations is 4,14. This score belongs to “direct conversation with the customers” element. It becomes harder for Turkish textile industry to compete in the globalized world. Decline in both prices and export volume occurred after the removal of quotas against China which has also a major production and export potential have affected negatively the Turkish textile industry. To adapt new conditions, firms in textile industry should focus on quality and customer satisfaction. For this reason, customer needs and expectations should be identified primarily and then quality mentality should be created according to these expectations. Our study revealed that it was necessary to negotiate directly with customers in order to determine expectations and to meet those expectations.

As it is seen from Table 7, differences between answers given by companies implementing TQM practices and those do not were found statistically significant ( $p < 0,05$ ). Enterprises implemented TQM practices gave higher scores

to the things required to be done for meeting customer expectations.

The most important problem met during the implementation of TQM practices is the indifference of staff to Table 8. One of the most important principles of TQM is the removal of barriers to staff participation. According to staff these practices brings extra responsibilities. At this point, necessity of these practices should be presented to the staff correctly and also they should be encouraged and trained well in terms of using methods and tools which determine total quality management. They should be incorporated into the process. In this way, staff loyalty will be increased to the corporate structure and also staff will believe that the company needs them not only to accomplish a task but also to improve the corporate structure.

Questions related to problems met during the implementation of TQM were only asked to firms implementing TQM practices. For this reason, t-test has not been applied.

Table 9, shows the results as to expectations of textile firms from other companies that they will work together. As a result of respondent's rankings, “production quality” characteristic is determined as the most significant characteristic. It's score is 4,16. Production quality is a way to survive against global competition. It is seen from the table above that “delivery time” and “price” factors are ranked in second and third place in turn.

As it is seen from Table 9, the differences between answers given by companies implementing TQM practices and those do not were found statistically significant ( $p < 0,05$ ). Factors were scored more from companies implementing TQM practices according to companies which do not implement.

According to presented Table 10 results, “it is properly produced according to customer's demands and expectations at all stages” is determined as the most significant feature by respondents. The second important feature is determined as “customer complaints are of great importance”. “Goods are delivered correctly and on the date” and “the company operates various studies in order to improve the quality of products” properties follow the first two features. It can be seen that the importance of customer satisfaction has been understood in the companies surveyed.

**Table 7.** Mean scores of things required to be done for meeting customer expectations, t-test results to evaluate differences between means of companies implementing TQM and those do not

Requirements	Mean	Sig
Direct conversation with the customers	4,14	0,000
To review competitor's products and to make new designs	3,90	0,000
To follow up daily innovations	3,85	0,000

**Table 8.** Mean scores of problems met during the implementation of TQM

Problems	Mean
Indifference of management	2,14
Indifference of staff	3,85
Insufficiency of supervisors	2,36

**Table 9.** Mean scores of expectations of textile firms from other companies that they will work together, t-test results to evaluate differences between means of companies implementing TQM and those do not

Factors	Mean	Sig
Price	2,53	0,013
Production quality	4,16	0,000
Delivery time	3,29	0,000

**Table 10.** Mean scores of properties determining quality and customer satisfaction percepts, t-test results to evaluate differences between means of companies implementing TQM and those do not

Properties	Mean	Sig
It is properly produced according to customer's demands and expectations at all stages	4,76	0,000
Goods are delivered correctly and on the date	3,97	0,001
Customer complaints are of great importance	4,66	0,000
The company operates various studies in order to improve the quality of products	3,66	0,000

In terms of properties determining quality and customer satisfaction percepts, t-test results show that differences were found statistically significant ( $p < 0,05$ ). Companies implemented TQM practices gave higher scores to aforementioned properties. It can be told that these companies gave more importance to quality and customer satisfaction.

#### 4. CONCLUSION

Global market conditions feature quality and customer satisfaction concepts not only in all industries but also in every field of life. In these competitive environment, it is an indisputable fact that firms which operate customer oriented can only survive. In this context, the term quality gains more importance. Changing conditions make persistence of quality and customer satisfaction terms necessary in managerial concept.

Textile industry has been accepted as the driving force in Turkish economy for many years. Today, textile industry still proceeds to play an important role in providing employment, creating national income and bringing regional development. In order to improve its position in the international competitive environment, Turkish textile industry must activate marketing strategy concepts oriented quality and customer satisfaction. TQM brings quality production and

customer satisfaction. It is observed that the majority of textile enterprises in our survey were adopted customer oriented operation called TQM practices. Furthermore, it is stated that companies implementing TQM practices gave more importance to quality and customer satisfaction issues rather than those which do not implement.

Results of the survey revealed that TQM practices depended on educational level of managers, number of staff, client profile, existence of ISO 9001, existence of R&D studies and existence of customer satisfaction feedback.

69% of investigated textile firms export to other countries. This high share in the distribution of international market oriented textile enterprises shows the position of the textile and apparel industry in the national economy. To the Turkish Statistical Institute results, textile and apparel industry's share in global export was 18% in Turkey as of 2015 (23).

Denizli is one of the most important textile centers in Turkey. This study covers the perspectives of companies operating in the textile industry in Denizli. 52% of textile firms in the study do not apply R&D studies. This result showed that there was a lack of managerial vision in Denizli textile industry. Therefore, many companies in this industry can act as uninformed and double minded about directing their efforts for the future. As a result of this, it is stated that the

lack of R&D studies is one of the biggest issue in the textile industry in Denizli.

Having ISO 9001 quality certificate can provide some advantages for firms. It can give continuous improvement in production process. It can raise both the profitability of the firm and efficiency of resources. 71% of searched enterprises have ISO 9001 quality certificate in Denizli. Owners of these companies are aware of having ISO 9001 quality certificate helps these enterprises to raise market share against rivals.

Customer satisfaction is defined as one the most important weapon for companies to hold its position among competitive market conditions. Customer satisfaction feedback are considered by 86% of searched textile firms in Denizli. From this result, it can be said that most of the companies investigated knew creating satisfied customers took some advantages for firms against rival companies.

To meet customer demands and expectations is found as the most important reason for firms to perform TQM practices. Companies compete in the market as long as they can meet the expectations of consumers. Because, to satisfy consumer demands is a pre-condition for firms to gain long term revenue.

Reasons for firms why they do not perform TQM practices in the study are searched and it is seen that inadequate information about TQM system has the highest score among the causes for firms why they do not perform TQM. The result revealed that managers in companies were not sufficiently informed about TQM process.

In the study, the things required to be done for meeting customer expectations were also investigated. "Direct conversation with the customers" factor got the highest

score among other factors. A close cooperation should be taken with customers while determining needs. To establish a direct relationship with customers allows company to increase customer satisfaction.

The indifference of staff emerged as the most important problem during the implementation of TQM practices. For this reason, benefits of TQM approach should be explained well to staff, furthermore, the attendance of staff should be provided in TQM process. Participants which we interviewed were from management positions. However, it is considered that more accurate results can be gained by applying this part of the questionnaire to employees in the surveyed companies. Because, TQM is a management approach which aims to meet customer needs by ensuring the participation of all staff. It is understood that there was a lack of participation of whole staff in TQM practices in firms investigated.

Higher quality is perceived as the most important factor for selecting the company to work with in terms of managers because quality makes a positive impact on profitability. Moreover, quality causes customer loyalty and raise the market share.

Finally, the only way for to survive for Turkish textile and apparel industry is to focus on quality and customer needs in today's global competitive order by investing more in R&D studies. By improving TQM perspectives, firms can reach more easily long term targets such as gaining sustainable development, increasing both profitability and market share. In other words, TQM practices help enterprises to focus on long term goals. For this reason, companies in textile industry must set TQM practices as a view of life.

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