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The effects of quality management applications on automotive authorized sales and service firms

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This study aimed to evaluate the effects of the ISO 9000 QMS on automotive authorized sales and service organizations. The effects of ISO 9000 QMS applications on the training activities and employee relations are evaluated through determined items separately for the both types of organizations having ISO 9000 certificate. Then, the states of customer relations are compared in the organizations with and without certificate. With this aim, the total number of the organizations achieved is 105, of which 67 are with the ISO 9000 QMS certificate. According to the findings, there are significant differences in respect of statistical between the level of training/quality activities and the state of employee relations. The same results are found in the customer relations category. However, significant differences have not been achieved in some items, because it is a system which each automotive authorized sales and service firm applies depending on the main company. As a result, it has been obtained that training/quality activities are more regular and the satisfaction level of employees are higher in ISO- 9000 certified firms. It can be stated that this situation has a positive impact on customer relations which is the one of the most important objectives of firms.

Key words: ISO 9000 QMS, customer relations, automotive authorized sales, service firms.

INTRODUCTION

The 20th century has been a period that the processes about quality and improving quality have rapidly enhanced. This situation has continued in 21th century (Maleki, 1991). The concepts such as customer relations, continuous improvement, leadership and perfection have become important in all organizations. With the aim of realizing these goals, common industrial norms were enhanced for the manufacturing and service organizations. These norms which are called standard are not specific to products or services, but apply to all processes. The standards are generic and therefore can be used by manufacturing and services organizations around the world (Kartha, 2004). In the globalizing world, increasingly, these standards have increasingly become valid in more widely way as common rules for the national and international organizations.

In recent years, ISO 9000 quality management systems (ISO 9000 QMS) are widely used by the organizations offering goods and services (Calisir, 2007). The companies especially use the ISO 9000 QMS to increase their performance and to capture competitive (Koc, 2007). ISO 9000 QMS was designed at the international level to keep the documentation and the formulation of the quality management system of the organizations at the aimed level (Beattie and Sohal, 1999; Withers et al., 1997). The objective of ISO is to provide an effective quality system reflecting a company’s practice for producing goods and services that conform to requirements (Akkoyun and Ankara, 2009).

In order to provide the targeted quality characteristics at the global level in the manufacturing and services industry, International Organization for Standardization (ISO) was established in 1947 (Larson and Kerr, 2007). And, ISO 9000 QMS is the international standard series which was first published to establish the quality management and quality assurance systems and to maintain them in the organizations in 1987 by ISO (Stevenson and Barnes, 2002; Calisir, 2007). Three main characteristics which explain that the ISO 9000 QMS is a quality assurance system have especially pointed out below (Geraedts et al., 2001):

1. The principle focus is on the process of service delivery itself, not on the outcome.
2. There is a systematic approach. This implies that working processes and resources are identified, and that the performance is measured on a regular basis, using performance indicators.

3. The system has to be verifiable by means of documents such as a quality handbook, procedures describing the most important working processes, standard operating procedures/instructions, and the measurement of performance indicators.

After the ISO 9000 QMS was published in 1987, its first revision was introduced in 1994. The series of ISO 9000:1994 was published under the heads of ISO 9001, ISO 9002 and ISO 9003 (Hashem and Tann, 2007). The second revision was made up in 2000 and it was called as ISO 9001:2000. These standards now include ISO 9000:2000 (definitions), ISO 9001:2000 (requirements) and ISO 9004:2000 (continuous improvement) (Larson and Kerr, 2007). The changes in different years are concerned besides these revisions (ISO 9000 - 1991, ISO 9001: 2008 - 2009). However, these are small changes that have been made up to eliminate gaps in applications.

Automotive sector is the one of the leading sectors in country’s economy, which provides the added-value, creates the employing and affects the other industries (Alam et al., 2010). Because it is only country that has the advanced automotive industry in its region, it also has an economic importance in Turkey. The automotive industry is one of the largest and most innovative sectors in Turkey, with heavy foreign investment (Etkin et al., 2000). The first production was realized in 1954 and its contribution to country’s economy has even further increased every passed year to present (Gules et al., 1997).

First time in the year of 2000, total number of automotives produced in Turkey has realized as 1,099,413; exceeding one million. And this number has reached 1,147,110 in 2008. However, the export of automotive main and sub-industry has been at the first order since 2006. Sector has realized 15.5, 21.3 and 24.7 Dollar-export respectively in the years of 2006, 2007 and 2008. 19.4 % of the country’s total export has been realized by this sector (OSD, 2009).

As well as there are many manufacturing companies, the number of firms that market the goods produced in other countries is fairly high. The authorized service and sales organizations belonging to the firms in both group has spread across the country. These have been organized as the authorized services offering only services, dealers which provide only sales services or authorized services and sales organizations which provide both service and sales. Of course, the firms that have that have the most complex structure are the ones that provide both sales and service.

Automotive main manufacturing and/or marketing companies seek to be performed the important conditions about management, physical area, quality, customer relations etc. These conditions have been made up in a way to cover the subjects such as main company’s brand image, vision, mission, etc. However, addition to this, some main manufacturing and/or marketing firms also seek to apply ISO 9000 QMS in authorized sales and services firms. They especially request this for performing of after-sales services at targeted level. The research is targeted to determine the difference in firms according to state of having or not ISO 9000 QMS, without considering any criteria that introduces the main manufacturing and/or marketing firms. And ISO/TS 16949 specifies the quality system requirements for the design/development, production, installation and servicing of automotive related products (Kartha, 2004). However, ISO 9000 QMS has been started to use effectively in especially authorized sales and service firms.

Automotive authorized sales and service industry is a point where the sector meets with last users and where the relations opinion about brands forms. Customers in authorized sales-service industry consider different criteria such as price, time, quality, alternative solution. This situation leads to the result that the customer is selective between the organizations offering sales and service towards the same brand.

Literature review

Although there are the benefits of ISO 9000 QMS for the organizations and customers, its benefits for the organizations have mostly been examined in the studies done. The benefits of the system for the organizations have been analyzed into two groups as internal and external benefits. The internal benefits have been defined as “decrease in the cost”, “decrease in the rate of losses”, “new product development”, “better personnel motivation”, “better communication within the company”, “cooperation between departments”, “improvement in determining the problems”, “advanced documentation” and “formation of the quality awareness” (Casadesus et al., 2001; Douglas et al., 2003; Magd and Curry, 2003; Williams, 2004; Yahya and Goh, 2001). As well as there are many manufacturing companies, the number of firms that market the goods produced in other countries is fairly high. The authorized service and sales organizations belonging to the firms in both group has spread across the country. These have been organized as the authorized services offering only services, dealers which provide only sales services or authorized services and sales organizations which provide both service and sales. Of course, the firms that have that have the most complex structure are the ones that provide both sales and service.

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“to maintain/increase market share”; “to meet government demands” and “to comply with customers’ requirements”. Pokinska et al., (2002) has achieved the result that the certification mostly seems to be marketing tool. Concerning US companies, one of the most important underlying reasons for becoming certified is the existence of commercial relationships with European markets (Bhuiyan and Alam, 2004). Corbett et al. (2003), based on an international survey, concluded that the main motivations for ISO 9001 certification are as follows: “quality improvements”; “improvements in corporate image”; “marketing advantage”; and “customer pressure”. It is understood that the results are parallel with the principles of the certification (ISO, 2009). When evaluating these conclusions generally, it can be stated that the factors such as “firms’ size”, “vision”, “mission”, “the markets in which they want to be”, “quality approaches” affect the motivation in certification. Because of this, it is normal that achieving different results in the studies done in different areas.

ISO 9000 QMS is not a product or services standard, but it is focused on the management of the main added value factors to achieve the quality objectives. System determines the conditions to be applied in management of the quality-related processes in firms (Briscoe, et al. 2005). It is provided with the companies to have a series of processes in which quality is managed rather than targeting the quality in goods and service (Wayhan et al. 2002). They ensure the customers about that they have a consistent quality management process (Terziovski et al. 1997).

When evaluating the effect of the ISO 9000 QMS applications on manufacturing and services organizations. As well as there are the studies of which results are positive (Arauz and Suzuki, 2004; Huarng, et al., 1999; Heras et al. 2002; Yahya and Goh, 2001; Dick, et al. 2002; Atwater and Discenza, 1993; Calisir, et al., 2005; Lin and Jang, 2008), there are the studies of which results are less effective or ineffective (Beattie and Sohal, 1999; Lima et al., 2000; Singels, et al. 2001, Costa and Lorente, 2003).

The relationship of ISO 9000 QMS with the services industry has been increased with the revision done in especially 2000. On the other hand, by introducing flexibilities in practice, the freedom has been achieved on about “how to do that” (Terziovski; et al., 2003.). By increasing the relation of ISO 9000 QMS with the service industry and flexibilities in application, the willingness towards the establishment of the system in companies offering this service has been increased.

Although there have been many studies of ISO 9000 QMS in the industrial sector, research on the application of the quality standard in service industries has been relatively limited (Dick et al., 2001). Because of the increasing the number of companies with ISO 9000 QMS in services sector, this sector has also been included in researches. As well as comparative studies between manufacturing and service sectors, studies towards only the services sector was also done. Even, studies about the effects of the ISO 9000 QMS applications were done in (Heras, et al., 2008). Below, the samples from studies and results in which service industry is included have been given.

1. According to Giguerre and Smith (1999), an improved image clubbed with enhanced marketing and strategic risk management are the significant benefits of ISO 9000 for service companies.
2. In a study done by Beattie and Sohal (1999) found that the number one benefit in the list of strategic business benefits was improved market share, supported by customer service, which in turn was the second most important operational benefit.
3. Batchelor (1992) supports this view by providing empirical evidence showing that only 15 percent of the 647 certified manufacturing and service organizations had derived business value on nine dimensions of organizational performance. These dimensions were market share, new customers, customer relations, procedural efficiency, staff motivation, staff attitudes, error rates, wastage, and costs.
4. This view was supported by Dick, et al. (2002), who noted that ISO-certified service firms place much more emphasis on quality measurement (both internal and customer-based measurements) than do non-certified service firms.
5. The study done by Caro and García, (2009) shows that ISO certification improves consumers' perceptions with regard to all three variables (quality, relations, and corporate image).
6. In the study done by Lorente and Costa (2004), it has been stated that the joint implementation of Total Quality Management (TQM) and ISO 9000 certification does not have a significant effect on results.
7. The study done by Sun, H, (2000) shows that the ISO 9000 standards are related to the implementation of TQM and the improvement of business performance.
8. In the study done by Huarng, et all., (1999), the empirical result indicates that adopting ISO brings registered Taiwanese enterprises significantly help in quality improvement, international competitiveness, cost reduction, and sales increase have found
9. In the study done by Sohail and Hong (2003), results based on testing the mean differences between firms with and without ISO 9000 certification indicate that there are significant differences in performances between certified and non-certified firms, supporting the hypothesis that ISO 9000 certification contributes to a higher organizational performance.
10. In the study done by Quazi, the result reveals that the ISO certification does not affect quality management practices and quality results of firms in Singapore. Further analyses indicate that some organizational characteristics, such as size and industry, have relationships.
with certain constructs of quality management practices.

**DESIGN AND METHODOLOGY**

In Turkey, a great number of studies directed to using ISO 9000 QMS have been done. In most of these studies, as the research area, service and manufacturing companies have been handled together. Some studies have been done directed to only service or manufacturing companies. This study has been done for only one area into service companies. Sales and Service companies selected as the area, which belonging to Turkey Automotive Industry are spread across the country. Depending on the population of the cities, number of companies operating in each city varies. As these companies provide significant contributions to increasing employment in cities, as well as provide services such as promotion in main producers or marketing firms, image, sales and service to meet. In the study, it was taken care that firms operating as depending on main company to be examined by selecting them.

In literature, there are many controversial points in defining the relationships between ISO 9000 QMS, training/quality activities, employees’ satisfaction and customer relations. Because of this, the study is aimed to determine the level of relationship between these four factors. For automotive authorized sales and services firms, the most important factor is ensuring the customer satisfaction. This situation can be possible with providing the employees’ satisfaction and performing training/quality activities that are necessary for personnel. ISO 9000 QMS is considered an important tool in the regulation of company activities and realization of expected results. In order to examine the research questions a research framework, as can be shown in Figure 1, was developed (Koc, 2007).

![Figure 1. Research framework.](image)

The framework shows that ISO 9000 QMS is an initiatory phase of affecting customer relations. Here, it is claimed that firms’ successes in training/quality and employee satisfaction parameters through ISO 9000 QMS have positive effects on customer relationships. Also, research framework suggests that there is positive relationship between the presence of ISO 9000 QMS and customer relationships.

In the research framework, firstly, the relationship between ISO 9000 QMS certification which is the first research question and development in customer satisfaction is examined. Therefore the study will examine if there is a significant difference between the ISO 9000 certified and non-certified firms in relation to the customer relations. Secondly, the benefits of ISO 9000 QMS on training/quality activities will be investigated. The differences between the certified and non-certified firms in relation to manufacturing parameters will be examined. The aim for this examination is to find out which one of the training/quality activities is influenced significantly by certification. Thirdly, the study will focus on employee satisfaction. The two groups of firms will then be examined to understand the relationship between ISO 9000 QMS and employee satisfaction. The aim of this examination is to determine if ISO 9000 QMS creates a significant difference between the two groups of firms in relation to each employee priority. By this aim, first, the presence of ISO 9000 QMS is questioned. It is tried to determine the situation of training/quality activities, employee satisfaction and customer relationships through the total of 20 items determined according to the result obtained from here.

The questionnaire was prepared after reading the literature about the subject and formed of four groups:

1. Availability of ISO 9000 certificate
2. Training/quality activities
3. Employee satisfaction
4. Customer relations

In this study, the items in previous quality studies have been used in the survey. These items are:

**Training/quality activities için (9 items):**

- Employees are given training.
- Employees’ qualifications are sufficient.
- Statistical instruments are used in solving problems.
- Experience are generally used in making decision.
- Workers do group work.
- Quality improvement studies are done.
- The factors of price, product diversity, quality and delivery on time are taken into consideration in competition.
- Plans are made towards quality objectives.
- Improvement activities are done before arising the problem.

**Items about employee (6 items):**

- Price is priority before the subjects of participation in decisions, quality development in respect of employees.
- Employees do not resistance to change.
- Employees do not think to change the job because of small differences in fees.
- Employees made awareness of the effects of activities they do on the whole organization.
- Employees know their responsibilities to meet the customer expectations.
- Employees are willing to make works between departments for the successful of company.

**Items related to customer relations (5 items):**

- The reason of customers lost is investigated.
- Customers’ expectations are investigated.
- Complaints about product quality are not frequently come.
Table 1. The size of company according to number of workers.

<table>
<thead>
<tr>
<th>Number of employees (in persons)</th>
<th>Number of company</th>
<th>%</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 9</td>
<td>3</td>
<td>2.9</td>
<td>2.9</td>
</tr>
<tr>
<td>10 - 49</td>
<td>78</td>
<td>76.5</td>
<td>79.4</td>
</tr>
<tr>
<td>50 - 249</td>
<td>21</td>
<td>20.6</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 2. Firms’ capital position.

<table>
<thead>
<tr>
<th>Capital ($)</th>
<th>Number of company</th>
<th>%</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;250,000</td>
<td>14</td>
<td>13.3</td>
<td>13.3</td>
</tr>
<tr>
<td>&lt;250,000 and ≤500,000</td>
<td>56</td>
<td>52.9</td>
<td>66.2</td>
</tr>
<tr>
<td>&lt;500,000 and ≤1,000,000</td>
<td>6</td>
<td>5.9</td>
<td>72.1</td>
</tr>
<tr>
<td>&gt;1,000,000</td>
<td>29</td>
<td>27.9</td>
<td>100</td>
</tr>
</tbody>
</table>

The customers and dealers are reviewed except the subjects of price and delivery. System is active in collecting and evaluating the data about customers.

Firms’ managers who filled out survey were considered to be knowledgeable about training/quality studies, employee satisfaction and customer relations and to be master about the operating of the firm’s sales-service system. And, the answers that the participants gave towards the scoring of the items have been considered to be true.

In responding to all items in data collection tool, a five-point Likert-type scale (1-strongly disagree to 5-strongly disagree) has been used. The distribution of scale ranges are: 1.00 - 1.80; none, 1.81 - 2.60; very little, 2.61 - 3.40; somewhat, 3.41 - 4.20; extremely, 4.21 - 5.00; complete. In order to define the firms that are certified or not, a dichotomous variable was used that expressed either the existence (1) or absence (0) of certification.

The study was applied to 280 firms which were randomly selected among the authorized services offering both sales and services in Turkey’s different regions. These firms were firstly reached via e-mail. However, because of survey returns (32 returns) were limited, it was achieved that the survey number which can be evaluated via telephone and face to face interview methods. The survey return rate was realized as 37.5% within the total of 105 surveys carried out. 67 of 105 firms in which return was realized are ISO 9000 QMS certified, the rest of them (38) are non-certified.

In the study, the significant level of the differences of the training/quality studies in respect of statistical is tried to determine in ISO 9000 QMS certified and non-certified. And, in the study, it is tried to determine the relationship between the certified firms and non-certified firms in respect of the verdicts about employee. Finally, in the study, the difference of the state in the ISO 9000 QMS certified and non-certified firms in respect of the verdicts of customer relations has been statistically evaluated.

RESULTS AND DISCUSSION

In this section, demographic findings obtained through the research about automotive authorized sales-services sector are discussed. And, it is discussed that the differences employee satisfaction and customer relations between the firms that has with ISO 9000 QMS certificate which is consisted of main targets of the research and without it.

The findings about the structure of automotive sales and service sector

The findings about the size of the firms joined the survey are seen in Table 1. Firms have been classified according to the characteristic of being or not SMEs in Table 1. (KOSGEB, 2009). The vast majority of automotive authorized sales and service firms which are spread across the country have workers between (76.5%) 10 - 49 according to the responses given by a total of 102 firms. On the other hand, of which 20.6% have 50 - 249 employees. When taking into consideration that there are more authorized sales and service firms belonging different brand than one in a city, it can be stated that these companies are an important source of employing.

The firms’ capital positions are seen in Table 2. According to this, a significant majority of firms (52.9%) have the capital of $250.000 - $500.000, and 27.9% have more than the capital $1.000.000. When taking into consideration that automotive authorized sales and service companies are spread across the country and more than one company belonging different brand were established in each city, it can be considered that they are significant investments in respect of investment and employing.

The years of establishment of firms’ are seen in Table 3. It is understood that the vast majority of firms (67%) were established before the years of 6 or more. This situation can be evaluated that there are the experience and knowledge which is necessary in order to operate and create quality system in firms.

When examining Table 4, it is seen that the state of being satisfied of ISO 9000 QMS certified firms is high (85%). Only the part of 7.5 has stated “It has increased bureaucracy and documentation”. Depending on this, the
rate of those who think of transition to total quality management (TQM) after ISO 9000 QMS was realized as 70.1%.

The relationship of ISO 9000 QMS with training/quality activities

In order to find out the training/quality activities that were significantly affected by ISO 9000 QMS, the difference between the certified and non-certified firms in respect to training/quality activities have been investigated. For this purpose multivariate analysis of variance was applied and it was found that mean vectors of the two groups of firms were significantly different at p<0.05. Then, analysis of variance was applied to indicate whether significant differences exist between the certified and non-certified firms in relation to each item of training/quality activities. The alpha score was found 0.794. In Table 5, it is shown that the statistical relations between ISO 9000 QMS certified and non-certified firms in respect of training/quality item.

When examining Table 5 in general, it is seen that ISO 9000 QMS certified firms have higher mean in respect of general implementation of training/quality activities. According to this, significant differences have been occurred in six ones of training/quality items between ISO 9000 QMS certified and non-certified firms. These items are “statistical instruments are used in solving problems”, “workers do group work”, “quality improvement efforts are done”, “the factors of price, product diversity, quality and delivery on time are taken into consideration in competition”, “plans are made towards quality objectives” and “improvement activities are done before arising problem.”

### Table 3. The years of establishment of firms.

<table>
<thead>
<tr>
<th>Age of enterprise (years)</th>
<th>Number of firms</th>
<th>%</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-5</td>
<td>12</td>
<td>11.7</td>
<td>11.7</td>
</tr>
<tr>
<td>6-10</td>
<td>33</td>
<td>32.0</td>
<td>43.7</td>
</tr>
<tr>
<td>11-15</td>
<td>34</td>
<td>33.0</td>
<td>76.7</td>
</tr>
<tr>
<td>16 and more</td>
<td>24</td>
<td>23.3</td>
<td>100</td>
</tr>
</tbody>
</table>

### Table 4. The state of being satisfied of ISO 9000 QMS.

<table>
<thead>
<tr>
<th>Satisfaction level</th>
<th>Number of firms</th>
<th>%</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfied</td>
<td>57</td>
<td>85</td>
<td>85</td>
</tr>
<tr>
<td>The results worth the expenses and the studies have been obtained</td>
<td>5</td>
<td>7.5</td>
<td>92.5</td>
</tr>
<tr>
<td>It has increased bureaucracy and documentation</td>
<td>5</td>
<td>7.5</td>
<td>100</td>
</tr>
</tbody>
</table>

### Table 5. The relationship between ISO 9000 QMS certified and non-certified firms in respect of training/quality items.

<table>
<thead>
<tr>
<th>Training/quality items</th>
<th>ISO 9000 non certified</th>
<th>ISO 9000 certified</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employees are given training</td>
<td>3.868 0.935</td>
<td>4.209 0.880</td>
<td>1.863</td>
<td>0.065</td>
</tr>
<tr>
<td>Employees' qualifications are sufficient</td>
<td>3.605 0.856</td>
<td>3.806 0.892</td>
<td>1.125</td>
<td>0.263</td>
</tr>
<tr>
<td>Statistical instruments are used in solving problems</td>
<td>3.211 0.777</td>
<td>3.806 1.033</td>
<td>3.399</td>
<td>0.001</td>
</tr>
<tr>
<td>Experience are generally used in making decision</td>
<td>2.974 0.885</td>
<td>3.343 1.038</td>
<td>1.846</td>
<td>0.068</td>
</tr>
<tr>
<td>Workers do group work</td>
<td>2.868 0.811</td>
<td>3.448 1.034</td>
<td>3.176</td>
<td>0.002</td>
</tr>
<tr>
<td>Quality improvement studies are done</td>
<td>3.105 0.832</td>
<td>3.955 0.843</td>
<td>4.991</td>
<td>0.000</td>
</tr>
<tr>
<td>The factors of price, product diversity, quality and delivery on time are taken into consideration in competition</td>
<td>3.605 0.718</td>
<td>4.254 0.746</td>
<td>4.340</td>
<td>0.000</td>
</tr>
<tr>
<td>Plans are made towards quality objectives</td>
<td>3.395 0.755</td>
<td>4.134 0.796</td>
<td>4.661</td>
<td>0.000</td>
</tr>
<tr>
<td>Improvement activities are done before arising the problem</td>
<td>3.132 0.811</td>
<td>3.910 0.883</td>
<td>4.471</td>
<td>0.000</td>
</tr>
</tbody>
</table>

*The mean difference is significant at the 0.05 level.*
Table 6. The relationship between ISO 9000 QMS certified and non-certified firms in respect of the items about employee.

<table>
<thead>
<tr>
<th>Items about employee</th>
<th>ISO 9000 non certified</th>
<th>ISO 9000 certified</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price is priority before the subjects of participation in decisions, quality development in respect of employees</td>
<td>Mean 3.000</td>
<td>Std deviation 1.040</td>
<td>Mean 3.403</td>
<td>Std deviation 1.169</td>
</tr>
<tr>
<td>Employees do not resistance to change</td>
<td>Mean 3.079</td>
<td>Std deviation 0.784</td>
<td>Mean 3.821</td>
<td>Std deviation 0.834</td>
</tr>
<tr>
<td>Employees do not think to change the job because of small differences in fees</td>
<td>Mean 2.711</td>
<td>Std deviation 1.137</td>
<td>Mean 2.970</td>
<td>Std deviation 1.128</td>
</tr>
<tr>
<td>Employees made awareness of the effects of activities they do on the whole organization</td>
<td>Mean 3.316</td>
<td>Std deviation 0.873</td>
<td>Mean 4.015</td>
<td>Std deviation 0.807</td>
</tr>
<tr>
<td>Employees know their responsibilities to meet the customer expectations</td>
<td>Mean 3.342</td>
<td>Std deviation 0.909</td>
<td>Mean 4.149</td>
<td>Std deviation 0.857</td>
</tr>
<tr>
<td>Employees are willing to make works between departments for the successful of company</td>
<td>Mean 3.026</td>
<td>Std deviation 0.885</td>
<td>Mean 4.105</td>
<td>Std deviation 0.741</td>
</tr>
</tbody>
</table>

*The mean difference is significant at the 0.05 level.

The activities such as carrying out the group work, doing the efforts towards improvement quality, making the plans towards quality objectives, carrying out the improvement activities before arising problem are important in respect of the progress of company’s overall performance. Group works and quality improvement which are regularly done provide to improve the relation between company’s departments, to realize the communication at the higher level and to determine the methods towards the solving of the problem before arising it. And these efforts are important items in terms of increasing the level of customer relations and advancing the customer relationship. That is mean of these items in the firms using the ISO 9000 QMS which is high at the significant level is evaluated as a positive result of the system.

In solving the problem, utilization of statistical tools are used as an important quality improvement tool. Statistical tools are important tools in improving the quality and the transition to TQM. Especially, many processes such as employee and customer relations, decreasing the error rate in the services, controlling the performance events can be controlled with this method. That the mean of this item in firms using the ISO 9000 QMS is high at the significant level can be evaluated as a positive aspect of certification.

The item “the factors of price, product diversity, quality and delivery on time are taken into consideration in competition” includes the most important factors in service sector. If the service companies raise their achievement levels, they can provide the customer relations. That this item has a high mean at the level of significant in ISO 9000 QMS certified firms, it can be stated that the certified firms are more advantageous than non-certified firms. And, the significant differences in respect of statistical could not achieved in the items of “employees are given training”, “employees’ qualifications are sufficient” and “experience are generally used in making decision” between the ISO 9000 QMS certified and non-certified firms. In explaining this situation, it should be noted that each company operate in connection with a mean manufacturing company and realized the works about quality/training towards the requirements of this mean firm.

In parallel with the findings obtained in this study, it was achieved the result of that the ISO 9000 QMS certified firms attach more importance the alternative approaches in training in the study done towards service firms by Calisir (2007). Similar to the study done towards service firms by Dick et al. (2002), it was accessed the result of that the firms using ISO 9000 QMS more emphasis the quality measurement.

ISO 9000 QMS relationship with employee satisfaction

In order to find out the employee satisfaction items that were significantly affected by ISO 9000 QMS, the difference between the certified and non-certified firms in respect to employee satisfaction has been investigated. For this purpose, multivariate analysis of variance was applied and it was found that mean vectors of the two groups of firms were significantly different at p<0.05. Then, analysis of variance was employed to indicate whether significant differences exist between the certified and non-certified firms in relation to each item of employee satisfaction. The alpha score was found 0.625. It is seen that statistical relations between ISO 9000 QMS certified and non-certified firms in terms of the items about employee in Table 6.

When evaluating the items about the employees in general, the ISO 9000 QMS certified firms are seen to have a higher mean. According to this, significant differences have occurred in four ones of the items about employees between ISO 9000 QMS certified and non-
certified firms. These items are “employees do not resistance to change”, “employees made awareness of the effects of activities on the whole organization”, “employees know their responsibilities to meet the customer expectations” and “employees are willing to make works between departments for the successful of company”.

In ISO 9000 QMS certified firms, that the item of “employees do not resistance to change” has a high mean at the level of significant provide to realize innovations easily. And, the item of “employees made awareness of the effects of activities they do on the whole organization” has a high mean at the level of significant, from this, it can be understood that work discipline and quality awareness of the employees in the certified companies are higher.

The item of “employees know their responsibilities to meet the customer expectations” has a high mean at the level of significant in respect of statistical in ISO 9000 QMS certified firms. This situation can be evaluated as an indicator that the item “clarifying the job descriptions” which is one of the main targets of ISO 9000 QMS has been realized.

The item of “employees are willing to make works between departments for the successful of company” is parallel with the result of the item “workers do group work” in Table 5. It can be expressed that the employees in ISO 9000 QMS certified firms more do the group work and more willing to work compared with those working in non-certified firms. The significant differences in respect of statistical was not observed in the items of “price is priority before the subjects of participation in decisions, quality development in respect of employees” and “employees do not think to change the job because of small differences in fees.”

In parallel in the findings above, it was achieved that employee motivation and employee behaviour are more positive in ISO 9000 QMS certified firms also in a research done Batchelor (1992) towards service and manufacturing firms. And, in the study done towards service firms by Calisir (2007), it was obtained the result of that the levels of personnel relations and motivation are higher.

**The effects of ISO 9000 QMS on customer relations**

In order to find out the customer relations items that were significantly affected by ISO 9000 QMS, the difference between the certified and non-certified firms in respect to customer relations has been investigated. For this purpose, multivariate analysis of variance was applied and it was found that mean vectors of the two groups of firms were significantly different at p<0.05. Then, analysis of variance was employed to indicate whether significant differences exist between the certified and non-certified firms in relation to each item of customer relations. The alpha score was found 0.638. It is seen that the statistical relations between ISO 9000 QMS certified and non-certified firms in terms of the items related to customer relations in Table 7.

When generally examining the items related to customer relations, it is seen that ISO 9000 QMS certified firms have higher mean in Table 7. According to this, significant differences have found in three of items related to customer relations between ISO 9000 QMS certified and non-certified firms. These items are “customers’ expectations are investigated”, “the customers and dealers are reviewed except the subjects of price ant delivery” and “system is active in collecting and evaluating the data about customers”.

That the item of “customers’ expectations are investigated” is to be high at the significant level in terms of statistical in the ISO 9000 QMS certified firms can be interpreted as that the customer expectations are intensely investigated and that the customer oriented system are being tried to be operated. And, in the ISO 9000 QMS certified firms, that the item of “the customers and dealers are reviewed except the subjects of price ant delivery” has a high rate at the significant level shows us that the different studies are intensely done in order to increase the level of customer relations.

It is important to collect and evaluate data towards ensuring the customer relations. The item of “system is

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**Table 7. The relation between ISO 9000 QMS certified and non-certified firms in terms of customer relations.**

<table>
<thead>
<tr>
<th>Items related to customer relations</th>
<th>ISO 9000 non-certified</th>
<th>ISO 9000 certified</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Std deviation</td>
<td>Mean</td>
<td>Std deviation</td>
</tr>
<tr>
<td>The reason of customers lost is investigated</td>
<td>3.184</td>
<td>1.136</td>
<td>3.582</td>
<td>1.361</td>
</tr>
<tr>
<td>Customers’ expectations are investigated</td>
<td>3.605</td>
<td>0.917</td>
<td>4.239</td>
<td>0.653</td>
</tr>
<tr>
<td>Complaints about product quality are not frequently come</td>
<td>3.605</td>
<td>1.079</td>
<td>3.597</td>
<td>1.102</td>
</tr>
<tr>
<td>The customers and dealers are reviewed except the subjects of price ant delivery</td>
<td>3.263</td>
<td>0.860</td>
<td>3.761</td>
<td>1.001</td>
</tr>
<tr>
<td>System is active in collecting and evaluating the data about customers</td>
<td>3.526</td>
<td>0.893</td>
<td>4.060</td>
<td>0.736</td>
</tr>
</tbody>
</table>

*The mean difference is significant at the 0.05 level.*
active in collecting and evaluating the data about customers" has a high rate at the significant level in ISO 9000 QMS certified firms. This situation can be stated that ISO 9000 QMS is an important tool to provide the customer relations. The significant differences in terms of statistical were not observed in the items of “the reason of customers lost is investigated” and “complaints about product quality are not frequently come”.

In a study towards the service and manufacturing firms done by Batchelor (1992), in the parallel with the findings above, it was achieved to the result of that the new customers and customer relations are more positive in the ISO 9000 QMS certified firms. And, in a study done by Casadesús et al. (2001), it was obtained the finding of that the levels of customer relationship improvements, customer relations, and customer communication improvements are higher in the ISO 9000 QMS certified firms.

Conclusion

ISO 9000 QMS is a quality assurance system which is widely used in service and manufacturing firms across the world and of which popularity is growing. Regardless of what the purposes of the initial application of the firms are, firms perceive the positive aspects of ISO 9000 QMS arisen in time. So, ISO 9000 QMS could find application fields in all sectors. This study was done in the authorized sales and service firms in automotive sector which also has the ability to move many sectors as well as providing important economical and social benefits. In the study, company administrators are provided to point out their opinions related to the items specified in the questionnaire about training/quality, the employees and customers. These firms have been evaluated in terms of statistical by classifying according to the state of having the ISO 9000 QMS certificate or not.

In the research framework, it is stated that ISO 9000 QMS positively affects on training/quality activities and employee satisfaction and depending on this that is reflected in customer relations. However, that the processes related to management, personnel, customer relations exist and quality which are validity in all firms which are with ISO 9000 QMS or without since they were established created the doubts about the effectiveness of ISO 9000 QMS. And, when making statistical analysis and assessments, following results were found:

Automotive authorized sales and service firms are widely spread across the country, in the size of SMEs, important firms in respect of employment and investment. When paying into attention to years of establishment of firms and organization requirements, it is seen that they have a potential to be implemented a quality assurance system (personnel, knowledge, management approach, etc.)

It was determined that satisfaction of the vast majority of the authorized sales and service firms which are with ISO 9000 QMS certificate or without is to be high and that they intend to apply TQM.

When evaluating the companies which are with ISO 9000 QMS certificate or without in terms of the items of training/quality, it is seen that the mean of those with certificate is high. Especially, that there are significant results in the items of “statistical instruments are used in solving problems”, “workers do group work”, “quality improvement studies are done” and “plans are made towards quality objectives” are evaluated as considerable. This situation can be stated that training/quality studies are positively affected from establishing the ISO 9000 QMS in the firm.

When evaluating the items of employees, the items of “employees do not resistance to change”, “employees make awareness of the effects of activities on the whole organization”, “employees know their responsibilities to met the customer expectations”, “employees are willing to make works between departments for the successful of the firm” are seen to have the high mean at the significant level. This situation can be evaluated that ISO9000 QMS positively affect on employees in respect of do not show resistance to change, creating awareness about the total quality, knowing the field of authority and responsibility and being appropriate to work together.

The differences at the significant level are not seen in the items of “customers’ expectations are investigated”, “the customers and dealers are reviewed except the subjects of price ant delivery”, “system is active in collecting and evaluating the data about customers”. It can be expressed that the positive situation arisen in the items related to employees and training/quality activities also arise in the customer relations. It can be stated that the positive process in the customer relations will be able to increase the level of customer relations.

As can be seen in the results above, although automotive authorized sales and service firms operate according to principles of mean manufacturing and/or marketing company, they are able to create more effective company by using ISO 9000 QMS. Regardless of what the purpose of certification (company image, marketing, etc.) for the company at the beginning, their performance can be risen to the higher level compared with non-certified firms by applying the system. Finally, ISO 9000 QMS can be evaluated as an important factor in increasing the effectiveness of the authorized sales and service firms.

When doing the ISO 9000 QMS researches for the service and manufacturing sectors towards a certain sector, the results which are only specific to that sector are obtained. This situation will be able to provide to compare the results which will be obtained by applying the ISO 9000 QMS in different sectors. So, more healthy information about effectiveness of the ISO 9000 QMS will be accessed.
REFERENCES


