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A CASE STUDY TO EXAMINE THE IMPACT OF SERVICE QUALITY ON ALBORZ PROVINCE GAS STATIONS CUSTOMERS' SATISFACTION

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ABSTRACT

Every day, each of us receives services from the service institutions such as refueling vehicles, waste, transportation, banking services, repair and maintenance of customer satisfaction in service organizations that are the basic principles. In this study, according to the subject and population, we offer five hypotheses. The population of this research was customers of Fuel Station Alborz Province in the period 07/09/2013 to 07/10/2013. As the population was large and unlimited, we used sampling method for facilitating the available-information collection and according to the availability of members of society is used. According to experts and the owners of gas stations estimated, about 950,000 people used gas stations of Alborz Province since the second half of September until the first half of October in 2012. And by taking the same number for 2012, Cochran formula was used for sample size. The Durbin-Watson test and Kolmogorov-Smirnov test was used for normality of variables for an independent review of errors. Finally, with regard to the independence of errors, and normality of variables using simple regression was used to test hypotheses. The results showed tangible and physical facilities, staff courtesy, reliability, responsiveness and empathy are the direct positive effect on customer satisfaction.

Keywords: *Service Quality, Customer Satisfaction, Customers' Loyalty, Gas Station*

INTRODUCTION

We all use the services of services agencies every day such as re-gassing cars, dentists, transportation affairs, banking services, repair and maintenance and customer satisfaction is one of the basic principles in these service organizations.

One of these service agencies is petrol stations or gas delivery stations. Customers are often not satisfied with the quality and value of the service they get at gas stations. People complain about the delay in the delivery of services, incompetent or rude staff, poor performance and many other problems there. It seems on the other hand that most service providers also worry in another way. Many of them are complain from difficulty of making profit, finding skilled employees, some customers' low culture, low profit, peoples' lack of knowledge about oil companies laws etc because the government and non-governmental organizations are also involved in the provision of services. However, this interference in different countries is due to laws diversity and political issues in a variety of ways. Even some service providers complain that some ignorant and inept customers always have unreasonable demands have, disrupt everything and if it was not because of these customers they could have run more efficient operations.

Because of services diversity different definitions have been always been provided and due to intangible services it is a little difficult to understand and diagnose the supply and increase the level of performance.

The Importance and Necessity of Research

Service is a practice or work that will be offered by one party to the other. Although this process may be interconnected with a physical product, it is necessarily subtle and usually leads to an appropriation of any production factor.

Service is a kind of economic activity that leading to the desired change in the recipient of the service, or on their behalf, creating value and providing benefits in a certain place and time for customers (Tajzadeh, 2012).

Services at gas stations are actually feature subtle and persistent possibilities accompanied sometimes by offering products such as gasoline and gas at gas stations and sometimes without any product, such as car

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washes, wind pumps and drinking water. All these factors must be delivered to the customer fast enough so that their time is not wasted. Because customers are very sensitive to the time and we must always consider issues such as the customer satisfaction, staff service quality continuously and effectively. Regis McKenna writes that companies that are best equipped in the twenty-first century always consider the importance of appropriate investment services at the right time to protect their competition and consumers.

In a business environment constantly getting more complex and competitive, gaining customer satisfaction has become the main goal of any companies. Customer satisfaction is more than a positive impact on efforts done in the company. Not only it stimulates the staff to operate, but also is a source of profitability for the company. Customer satisfaction has many benefits for the company and higher levels of customer satisfaction, leads to their loyalty.

Keeping good customers in the long run, helps attract new customers and replace customers who have cut their ties with the company. Customers who are highly satisfied with the organization, pass on their positive experiences to others and will thus advertise for the organization and reduce the costs of attracting new customers. This is particularly important for providers of public services because tooting their reputation and propagating their advantages and positive aspects by others is an important source of gaining public confidence (Aali, 2002).

High customer satisfaction is an insurance against possible company errors, which are unavoidable as a result of changes associated with services production. In the face of such situations constant customers are more indulgent and because of their previous good experiences will easily overlook little mistakes.

So, there is no surprise that customer satisfaction has become the most important task of organizations and institutions (Aali, 2002).

Satisfaction is a positive feeling felt by a person after using the product or service. If the goods and services received by the customer meets their expectations, they will be satisfied and if the level of service and product quality is below the level of customer expectations, they will feel dissatisfied (Torshizi, 2006).

After each service depending on the level of meeting their expectations customers feel various levels of satisfaction and dissatisfaction experience. Because satisfaction is an emotional state, after buying services, their reactions can include anger, frustration, excitement, impartiality, joy or relish (Tajzadeh, 2012).

Clearly, angry and unhappy customers are a big problem, because they may go to another place and make personal oral advertising for gas stations considered as one of the most important types of marketing. But is their satisfaction sufficient? Some stations managers believe customers are hardly ever satisfied and they are looking for trouble, but evidence suggests that this theory is not so reliable and that customer satisfaction is not enough. Less satisfied customers will be seduced by competitors, but a satisfied customer is more likely to remain loyal and in competitive organizations such as petrol stations, customer satisfaction plays an important role in advertising and word of mouth plays an important role. For example, someone getting gas in the station says the mileage has been higher than they expected. This shows the level of customer satisfaction and the more satisfied they are the more positive view they offer to other people.

Maintaining good a customer is more beneficial than constantly attracting new customers for replacing a client who has left the company. Very satisfied customers spread positive word of mouth advertising, like a speaking promoter for the company reducing the cost of attracting new customers. This is especially important for specialized services suppliers such as dentists, lawyers, engineers, (and gas stations holders) because the reputation and word of mouth advertising are the main source of information for new customers in these feels (Tajzadeh, 2012).

Many studies have shown that satisfaction is not the final and the only key to success and profitability. In fact, marketing concepts that relied on this in the past do not recognize it now, but today only happy customer who feels a sense of belonging are good capitals for the organization with long profitability. Therefore, this research seeks to examine the factors affecting customer satisfaction.

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In either side of customer satisfaction level there are two customer groups which are very important for suppliers: terrorists and leaders. The nightmares of any organization are the terrorists. They not only leave the organization but also threaten to involve all other people they see in their anger and frustration. These customers have had a bad experience that was never corrected by the company and spread negative publicity and word of mouth about the company as far as possible. In contrast, a leader is a client that every service suppliers wishes to have. Leaders are customers that are more than satisfied by their service they have received from the company and feel that they should transfer their feelings to others. They are extremely loyal and their obvious relish helps attract more customers. The main purpose of any service provider should be creating leaders and removing terrorists. Customer satisfaction provides many benefits for the company and helps a great deal in a company's marketing. Finally, maintaining good customers is more beneficial to the company than constantly trying to make up for the customers who have left the company.

Very satisfied customers spread positive word of mouth advertising, like a speaking promoter for the company reducing the cost of attracting new customers. This is especially important for specialized services suppliers such as dentists, lawyers, engineers, (and gas stations holders) because the reputation and word of mouth advertising are the main source of information for new customers in these feels (Tajzadeh, 2012).

Questions of the Research

Does the service quality in Alborz province gas stations (tangible and physical facilities, courtesy, reliability, responsiveness and empathy) has an impact on customer satisfaction?

Hypotheses of the Research

In this study, given the research purpose and target population the following hypotheses are assumed.

- 1) Tangible and physical facilities and services have an impact on Alborz province gas stations customer satisfaction.
- 2) Courtesy has an impact on Alborz province gas stations customer satisfaction.
- 3) Service quality reliability has an impact on Alborz province gas stations customer satisfaction.
- 4) Willingness and enthusiasm to respond has an impact on Alborz province gas stations customer satisfaction.
- 5) Empathy of the staff has an impact on Alborz province gas stations customer satisfaction.

Statistic Population

Statistic population includes a group of people and objects which have a common property or characteristic subjects to the research related to the goal and subject of the research (Saei Orosi, 2010).

The study population includes all customers of the Alborz province gas stations from 6 Sep 2013 to 7 Oct 2013.

Sample

Sample is a member of the population that has characteristics of most population members and in fact represents the community or the testing set and the results of the study can be generalized to the entire community (Saei Orosi, 2010).

Since the population is so big all its unlimited members cannot be counted, sampling was used to facilitate the collection of information available with regard to the access we had to the samples. (According to information related to the year 2012 and estimates of experts and stating holders some 950,000 have used Alborz province gas stations from late September until early October. Taking the same number for the year 2014 using Cochran formula the sample size will be as follows:

$$\frac{950000 * (1.96)^2 * 0.5 * 0.5}{950000 * 0.0025 + (1.96)^2 * 0.5 * 0.5} \approx 384$$

Where

N = the entire population (384= N)

t2=962/1 =t student when significance level is equal to 0/05

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$$n = \frac{Nt_a^2 pq}{Nd^2 + t_a^2 pq}$$

$d^2=2(0.5/0) = 0.025$ /0 approximation in estimating the parameters studied

$p=0.5$ the probability of the characteristic

$q=0.5$ the improbability of the characteristic

(When there is no variance in the population the highest sample size percentage will be obtained while taking the value of p, q as 5.0)

n = the sample size (Saei Orosi, 2010)

The sample size based on Cochran formula is as follows in the table 2-3

Table 1: Sample Members and the Population of Each Community

Group	Size of Population	Sample Size
Alborz province gas stations customers	N = 950000	N = 384

Based on Cochran formula results the sample size was set as 384 to realize a 100 percent return rate of questionnaires, and a little more than necessary (420) questionnaires were distributed. Finally all the returning of 384 questionnaires to assess the research hypotheses.

Description of Questions of the Questionnaire along the Research Variables

In this section and along the research variables the responses results are presented as such.

Tangibles

Questions 1 to 14 of the questionnaire is devoted to tangibles and the mean and the SD of the sample respondents' ideas on this variable are shown in the following table.

Table 2: Statistical Specifications of Tangible Variable Items

Row	Question	The Mean	SD
1	Up to-date available equipment	4/08	0/98
2	Attractive design and construction of gas station	3/97	1/01
3	Physically decent staff	3/89	1/00
4	Ventilation equipped system	3/71	1/10
5	The availability of rest rooms	3/61	1/22
6	Access to the supermarket	3/30	1/23
7	Access to car repair	3/04	1/28
8	Access to carwash service	3/56	1/37
9	Clean physical environment and office decoration	3/89	1/01
10	Ability to pay electronically	3/88	1/16
11	Proper lighting	4/26	0/86
12	Suitable places for other facilities available to everyone	3/54	1/13
13	Being a leader in providing services greater than expected	3/51	1/11
14	Sufficient human resources to provide good service to the customer	3/85	0/98

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As can be seen in Table 2 question 11 in the questionnaire (proper lighting) with an average of 4.26 and an SD of 0.86 had the highest average and question 7 (access to car repair) had an average of 3/04 and an SD of 1.28 had the lowest average which indicates that the members of the study population had the highest agreement with question 11.

Courtesy

Questions 15 to 18 of the questionnaire are about the variable of politeness, the mean and the SD of the sample respondents' ideas on this variable is shown in the following table.

Table 3: Variable Statistical Specifications Items of Politeness

Row	Question	Mean	SD
15	Precise personnel delivering careful and sincere services	3/91	1/00
16	Courtesy of the staff	3/96	0/97
17	Courtesy of the management	4/03	1/01
18	Employees inducing intimacy to customers	3/82	1/03

As can be seen in Table 2 question 17 in the questionnaire (Courtesy of the management) with an average of 4.03 and an SD of 1.01 had the highest average and question 18 (Employees inducing intimacy to customers) had an average of 3/8 and an SD of 1.03 had the lowest average which indicates that the members of the study population had the highest agreement with question 17.

Reliability

Questions 19 to 25 of the questionnaire are about the variable of reliability, the mean and the SD of the sample respondents' ideas on this variable is shown in the following table.

Table 4: Variable Statistical Specifications Items of Reliability

Row	Question	Mean	SD
19	Employees' ability to respond to customers' requests	3/90	mean
20	Services free from defects and faults	3/74	0/94
21	Scientific and practical ability of the staff	3/69	0/98
22	Delivering promised services	3/77	1/02
23	Delivering services properly and on time	3/85	1/00
24	Providing complete and accurate information to customers	3/81	0/99
25	Workers building trust with their correct behavior	3/80	1/07

As can be seen in Table 4 the question 19 of the questionnaire (Employees' ability to respond to customers' requests) with an average of 3.90 and an SD of 0.94 had the highest average and question 21 (Scientific and practical ability of the staff) had an average of 3.69 and an SD of 1.02 had the lowest average which indicates that the members of the study population had the highest agreement with question 19.

Responsiveness

Questions 26 to 34 of the questionnaire are about the variable of reliability, the mean and the SD of the sample respondents' ideas on this variable is shown in the following table.

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Table 5: Variable Statistical Specifications Items of Responsiveness

Row	Question	Mean	SD
26	Determined replacement in case of absenteeism or vacation	3/61	1/13
27	Planning and performing service delivery fit processes	3/68	1/08
28	Determined hours of workers' presence	3/80	1/01
29	Responsiveness of employees in case there is a problem	3/81	1/09
30	Responsiveness of management in case the employees do not respond	3/66	1/21
31	Worker's responsiveness against customers' demands	3/83	1/11
32	Available phone number for offering suggestions and criticisms	3/52	1/27
33	Responsiveness of management in case there is a need	3/69	1/14
34	Available workers with appropriate efficiency for answering customers' needs.	3/67	1/11

As can be seen in Table 5 the question 21 of the questionnaire (Worker's responsiveness against customers' demands) with an average of 3.83 and an SD of 1.11 had the highest average and question 32 (Available phone number for offering suggestions and criticisms) had an average of 3.52 and an SD of 1.27 had the lowest average which indicates that the members of the study population had the highest agreement with question 31.

Empathy

Questions 35 to 38 of the questionnaire are about the variable of reliability, the mean and the SD of the sample respondents' ideas on this variable is shown in the following table.

Table 6: Variable Statistical Specifications Items of Empathy

Row	Question	Mean	SD
35	Staff paying special attention to each customer	3/70	1/14
36	Flexibility of staff in certain circumstances	3/69	1/11
37	Staff enthusiasm in dealing with customers	3/65	1/18
38	Customers' access to superiors if necessary	3/64	1/22

Regression Hypotheses

For each regression assumptions are required that undermine the credibility of regression and the regression will only be credible if they hold.

One of these assumptions is normality of errors and the other the independency of variables. The study the independency of errors from Durbin-Watson test and review the normality of variables Kolmogorov-Smirnov test has been used.

Kolmogorov-Smirnov Test

To study the normality of the study variables Kolmogorov-Smirnov test has been used. The results of Kolmogorov Smirnov have been presented below:

Table 7: K. S Tests Results

Variables	Kolmogorov-Smirnov Statistics	Significance Level
Tangibles	1/052	0/229
Politeness	0/832	0/425
Confidence	1/037	0/258
Accountability	0/791	0/633
Empathy	0/926	0/376
Customer Satisfaction	1/239	0/155
Tangibles	1/054	0/256

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Table 7 contains Kolmogorov-Smirnov statistic and significance level of the test. Since significance test level for all the variables of the research was more than the acceptable error rate ($\alpha=0.05$) so we can say that all research variables are normal.

Errors Independence Test

Another regression assumptions is the independence of errors from one another (errors are the difference between values actual and those predicted by the regression), if errors are not independent of each other, regression can't be used. In order to evaluate the independence of errors the Durbin-Watson test was used. In this test,

H0 is the lack of correlation between errors

H1 is the correlation between errors

So, that if Durbin-Watson statistic is to be in the range of 5.1 to 5.2, then H0 will be accepted, and otherwise will be rejected. Durbin-Watson test for each of the assumptions has been presented as the following:

Table 8: Durbin Watson

Row	Hypothesis	Durbin-Watson Statistic	Test Result
1	Tangibles - Customer Satisfaction	1/851	No Errors Correlation
2	Courtesy and Respect	1/739	No Errors Correlation
3	Reliability	1/763	No Errors Correlation
4	Responsiveness	1/894	No Errors Correlation
5	Empathy	1/830	No Errors Correlation
6	Customer Satisfaction	1/698	No Errors Correlation

As can be seen in Table 8 the Durbin-Watson statistic for each assumption is in the range of 5.1 to 5.2, so we can say there is no correlation between the errors.

Given that both regression hypotheses, variables normality and errors independence, single variable regression can be used to study hypotheses of the research.

Analysis of Research Hypotheses

The First Hypothesis

Tangible and physical facilities of services have an impact on customer satisfaction.

This hypothesis studies the effect of independent variable (tangible and physical facilities of services) on the dependent variable (customer satisfaction). According to Kolmogorov-Smirnov and Durbin-Watson test results that represent variables normality and errors independence, a single variable regression was used to test the first hypothesis and its results are in the table below:

Table 9: Model Summary

Model	Correlation Coefficient	The Coefficient of Determination	of The Coefficient of Determination Adjusted
	0/801	0/641	0/496

Table 10: Analysis of Variance

Model	Sum of Squares	Degrees of Freedom	Average Squares	Statistics F	Significance Level
Regression	168/176	1	168/176	683/470	0/000
Residuals	93/996	382	0/246		
Total	262/172	383			

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Table 11: Regression Model

Model	Estimated Parameters	Statistics t	Significance Level
Intercept β_0	0/736	6/239	0/000
Tangible and physical facilities of β_1	0/808	26/143	0/000

As can be seen in table 15-4 the correlation coefficient and R^2 or the coefficient of determination are 0/801 and 0/641 respectively. This means that the independent variable (tangibles and physical facilities) alone justify about 0.641 of all dependent variable changes (customer satisfaction) and the rest are done by other variables. In table 16-4 the assumption "H 0: regression is not significant" will be reviewed as against the assumption of "H 1: regression is significant". Since the test significance level is 0/000 which is less than the acceptable error rate ($\alpha=0/05$) we reject the assumption "H 0: regression is not significant" and thus regression is statistically significant and the F statistic value showed in Table 17-4 represents this point.

In table 17-4 we examine assumptions $H_0: \beta_1, \beta_0=0$ as against the assumption $0 \neq H_1: \beta_1, \beta_0$. Assumptions $0 = \beta_0, \beta_1$ are rejected since their significance level value is 0.000 and less than the acceptable error rate ($\alpha=0/05$) which means tangibles and physical facilities of services have an impact on customer satisfaction. According to the estimated value of β_1 which is equal to 0/725 and a positive value, we can say that physical facilities and tangibles have a direct and positive impact on customer satisfaction which means:

$$\beta_1 808/0 + \beta_0 736/0 Y =$$

The Second Hypothesis

Courtesy has impact on customer satisfaction.

This thesis examines the impact of the independent variable (politeness) on the dependent variable (customer satisfaction). According to the Kolmogorov-Smirnov test results and those of Durbin-Watson that represent variables normality and errors independence respectively, single variable regression is used to test the second hypothesis of the research with results showing in the table below:

Table 12: Model Summary

Model	Correlation Coefficient	The Coefficient of Determination	The Coefficient of Determination Adjusted
	0/827	0/684	0/683

Table 13: Variance Analysis

Model	Sum of Squares	Degrees of Freedom	Average Squares	Statistics F	Significance Level
Regression	179/210	1	172/210	825/176	0.000
Residuals	82/962	382	0/217		
Total	262/172	383			

Table 14: Regression Model

Model	Estimated Parameters	Statistics t	Significance Level
Intercept β_0	0/577	5/110	0.000
Courtesy β_1	0/806	28/726	0.000

As can be seen in table 18-4 the correlation coefficient and R^2 or the coefficient of determination are 0/827 and 0/684 respectively. This means that the independent variable (politeness) alone justifies some 0/684 of all the dependent variable (customer satisfaction) changes and the rest is on other variables.

In table 19-4 the assumption "H 0: regression is not significant" will be reviewed as against the assumption of "H 1: regression is significant". Since the test significance level is 0/000 which is less than

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the acceptable error rate ($\alpha=0/05$) we reject the assumption "H 0: regression is not significant" and thus regression is statistically significant and the F statistic value showed in Table 19-4 represents this point.

In table 20-4 we examine assumptions $H_0: \beta_1, \beta_0=0$ as against the assumption $0 \neq H_1: \beta_1, \beta_0$. Assumptions $0 = \beta_0 \beta H_0$: are rejected since their significance level value is 0.000 and less than the acceptable error rate ($\alpha=0/05$) which means courtesy has an impact on customer satisfaction. According to the estimated value of beta1 which is equal to 0/806 and a positive value, we can say that courtesy has a direct and positive impact on customer satisfaction.

The Third Hypothesis

Reliability has impact on customer satisfaction.

This thesis examines the impact of the independent variable (reliability) on the dependent variable (customer satisfaction). According to the Kolmogorov-Smirnov test results and those of Durbin-Watson that represent variables normality and errors independence respectively, single variable regression is used to test the third hypothesis of the research with results showing in the table below:

Table 15: Summary Model

Model	Correlation Coefficient	The Coefficient of Determination	The Coefficient of Determination Adjusted
	0/842	0/709	0/708

Table 16: Variance Analysis

Model	Sum of Squares	Degrees of Freedom	Average of Squares	Statistics F	Significance Level
Regression	185/758	1	185/758	928/620	0.000
Residuals	76/414	382	0/200		
Total	262/172	383			

Table 17: Regression Model

Model	Estimated Parameters	Statistics t	Significance Level
Intercept beta 0	0/607	5/745	0.000
Reliability beta 1	0/823	30/473	0.000

As can be seen in table 21-4 the correlation coefficient and R^2 or the coefficient of determination are 0/842 and 0/709 respectively. This means that the independent variable (reliability) alone justifies some 0/709 of all the dependent variable (customer satisfaction) changes and the rest is on other variables.

In table 22-4 the assumption "H 0: regression is not significant" will be reviewed as against the assumption of "H 1: regression is significant".

Since the test significance level is 0/000 which is less than the acceptable error rate ($\alpha=0/05$) we reject the assumption "H 0: regression is not significant" and thus regression is statistically significant and the F statistic value showed in Table 22-4 represents this point.

In table 23-4 we examine assumptions $H_0: \beta_1, \beta_0 =0$ as against the assumption $0 \neq H_1: \beta_1, \beta_0$. Assumptions $0 = \beta_0 \beta H_0$: are rejected since their significance level value is 0.000 and less than the acceptable error rate ($\alpha=0/05$) which means courtesy has an impact on customer satisfaction. According to the estimated value of beta1 which is equal to 0.823 and a positive value, we can say that reliability has a direct and positive impact on customer satisfaction.

The Fourth Hypothesis

Willing to respond has impact on customer satisfaction.

This thesis examines the impact of the independent variable (responsiveness) on the dependent variable (customer satisfaction). According to the Kolmogorov-Smirnov test results and those of Durbin-Watson that represent variables normality and errors independence respectively, single variable regression is used to test the fourth hypothesis of the research with results showing in the table below:

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Table 18: Summary Model

Model	Correlation Coefficient	The Coefficient of Determination	The Coefficient of Determination Adjusted
	0/863	0/744	0/744

Table 19: Variance Analysis

Model	Sum of Squares	Degrees of Freedom	Average of Squares	Statistics F	Significance Level
Regression	195/142	1	195/142	1112/114	0.000
Residuals	67/029	382	0/175		
Total	262/172	383			

Table 20: Regression Model

Model	Estimated Parameters	Statistics t	Significance Level
Intercept beta 0	0/881	9/950	0.000
Responsiveness beta 1	0/774	33/348	0.000

As can be seen in table 24-4 the correlation coefficient and R^2 or the coefficient of determination are 0/863 and 0/744 respectively. This means that the independent variable (reliability) alone justifies some 0.774 of all the dependent variable (customer satisfaction) changes and the rest is on other variables.

In table 25-4 the assumption "H 0: regression is not significant" will be reviewed as against the assumption of "H 1: regression is significant".

Since the test significance level is 0/000 which is less than the acceptable error rate ($\alpha=0/05$) we reject the assumption "H 0: regression is not significant" and thus regression is statistically significant and the F statistic value showed in Table 25-4 represents this point.

In table 26-4 we examine assumptions $H_0: \beta_1, \beta_0 = 0$ as against the assumption $0 \neq H_1: \beta_1, \beta_0$. Assumptions $0 = \beta_1, \beta_0$ are rejected since their significance level value is 0.000 and less than the acceptable error rate ($\alpha=0/05$) which means courtesy has an impact on customer satisfaction. According to the estimated value of beta1 which is equal to 0.774 and a positive value, we can say that responsiveness has a direct and positive impact on customer satisfaction.

The Fifth Hypothesis

Employees' empathy has impact on customer satisfaction.

This thesis examines the impact of the independent variable (employees' empathy) on the dependent variable (customer satisfaction).

According to the Kolmogorov-Smirnov test results and those of Durbin-Watson that represent variables normality and errors independence respectively, single variable regression is used to test the fourth hypothesis of the research with results showing in the table below:

Table 21: Summary Model

Model	Correlation Coefficient	The Coefficient of Determination	The Coefficient of Determination Adjusted
	0/852	0/726	0/725

Table 22: Variance Analysis

Model	Sum of Squares	Degrees of Freedom	Average of Squares	Statistics F	Significance Level
Regression	190/347	1	190/347	1012/336	0.000
Residuals	71/824	382	0/188		
Total	262/172	383			

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Table 23: Regression Model

Model	Estimated Parameters	Statistics t	Significance Level
Intercept beta 0	1/277	15/812	0.000
Responsiveness beta 1	0/673	31/818	0.000

As can be seen that the correlation coefficient and R^2 or the coefficient of determination are 0/852 and 0/726 respectively. This means that the independent variable alone justifies some 0.774 of all the dependent variable (customer satisfaction) changes and the rest is on other variables.

The assumption "H 0: regression is not significant" will be reviewed as against the assumption of "H 1: regression is significant". Since the test significance level is 0/000 which is less than the acceptable error rate ($\alpha=0/05$) we reject the assumption "H 0: regression is not significant" and thus regression is statistically significant and the F statistic value represents this point.

We examine assumptions $H_0: \beta_1, \beta_0 = 0$ as against the assumption $0 \neq H_1: \beta_1, \beta_0$. Assumptions $0 = \beta_1 \beta_0$ H_0 : are rejected since their significance level value is 0.000 and less than the acceptable error rate ($\alpha=0/05$) which means courtesy has an impact on customer satisfaction. According to the estimated value of beta1 which is equal to 0.673 and a positive value, we can say that empathy has a direct and positive impact on customer satisfaction.

Conclusion

The Results of the Hypothesis of the Study

This study assessed six hypotheses with results as follows:

The first hypothesis

This study examines the impact of the independent variable (tangible and physical facilities of services) on the dependent variable (customer satisfaction). Given the results of the Kolmogorov-Smirnov test and Durbin-Watson that respectively represent variable normality and errors independence single variable regression was used to test the first hypothesis. Since the coefficient of determination is equal to 0/641 the independent variable (tangible and physical facilities) only justify about 0/641 of all the dependent variable (customer satisfaction) changes and the remaining is on other variables. In the regression table assumptions $H_0: \beta_1, \beta_0 = 0$ are tested against the assumptions $0 \neq H_1: \beta_1, \beta_0$ and thus assumptions are rejected since their significance level is 0.000 which is less than the amount of acceptable error. It means tangibles and physical facilities services have an impact on customer satisfaction. According to the estimated beta1 obtained as 0.725 as a positive value, one may say that tangibles and physical facilities services have a positive and direct impact on customer satisfaction. In their research titled as "a model of assessing the effect of service quality on sport services customer's loyalty" Seyed Javadin *et al.*, (2010) showed that physical facilities have an impact on customer satisfaction.

The second hypothesis

This study examines the impact of the independent variable (courtesy) on the dependent variable (customer satisfaction). Given the results of the Kolmogorov-Smirnov test and Durbin-Watson that respectively represent variable normality and errors independence single variable regression was used to test the second hypothesis. Since the coefficient of determination is equal to 0/641 the independent variable (tangible and physical facilities) only justify about 0.684 of all the dependent variable (courtesy) changes and the remaining is on other variables. In the regression table assumptions $H_0: \beta_1, \beta_0 = 0$ are tested against the assumptions $0 \neq H_1: \beta_1, \beta_0$ and thus assumptions are rejected since their significance level is 0.000 which is less than the amount of acceptable error. It means tangibles and physical facilities services have an impact on customer satisfaction. According to the estimated beta1 obtained as 0.806 as a positive value, one may say that courtesy has a positive and direct impact on customer satisfaction. In their research titled as "a model of assessing the effect of service quality on sport services customer's loyalty" Seyed Javadin *et al.*, (2010) showed that courtesy has an impact on customer satisfaction.

Third hypothesis

This study examines the impact of the independent variable (reliability) on the dependent variable (customer satisfaction). Given the results of the Kolmogorov-Smirnov test and Durbin-Watson that

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respectively represent variable normality and errors independence single variable regression was used to test the third hypothesis. Since the coefficient of determination is equal to 0/641 the independent variable (tangible and physical facilities) only justify about 0.709 of all the dependent variable (reliability) changes and the remaining is on other variables. In the regression table assumptions $H_0: \beta_1, \beta_0 = 0$ are tested against the assumptions $0 \neq H_1: \beta_1, \beta_0$ and thus assumptions are rejected since their significance level is 0.000 which is less than the amount of acceptable error. It means reliability has an impact on customer satisfaction. According to the estimated beta1 obtained as 0.823 as a positive value, one may say that reliability has a positive and direct impact on customer satisfaction. In their research titled as "a model of assessing the effect of service quality on sport services customers loyalty" Seyed Javadin *et al.*, (2010) showed that reliability has an impact on customer satisfaction.

The fourth hypothesis

This study examines the impact of the independent variable (responsiveness) on the dependent variable (customer satisfaction). Given the results of the Kolmogorov-Smirnov test and Durbin-Watson that respectively represent variable normality and errors independence single variable regression was used to test the fourth hypothesis. Since the coefficient of determination is equal to 0.744 the independent variable (responsiveness) only justify about 0.774 of all the dependent variable (reliability) changes and the remaining is on other variables. In the regression table assumptions $H_0: \beta_1, \beta_0 = 0$ are tested against the assumptions $0 \neq H_1: \beta_1, \beta_0$ and thus assumptions are rejected since their significance level is 0.000 which is less than the amount of acceptable error. It means responsiveness has an impact on customer satisfaction.

According to the estimated beta1 obtained as 0.774 as a positive value, one may say that responsiveness has a positive and direct impact on customer satisfaction. In their research titled as "a model of assessing the effect of service quality on sport services customers loyalty" Seyed Javadin *et al.*, (2010) showed that responsiveness has an impact on customer satisfaction.

Fifth hypothesis

This study examines the impact of the independent variable (empathy) on the dependent variable (customer satisfaction). Given the results of the Kolmogorov-Smirnov test and Durbin-Watson that respectively represent variable normality and errors independence single variable regression was used to test the fifth hypothesis. Since the coefficient of determination is equal to 0.726 the independent variable (empathy) only justify about 0.726 of all the dependent variable (empathy) changes and the remaining is on other variables. In the regression table assumptions $H_0: \beta_1, \beta_0 = 0$ are tested against the assumptions $0 \neq H_1: \beta_1, \beta_0$ and thus assumptions are rejected since their significance level is 0.000 which is less than the amount of acceptable error. It means empathy has an impact on customer satisfaction. According to the estimated beta1 obtained as 0.673 as a positive value, one may say that empathy has a positive and direct impact on customer satisfaction. In their research titled as "a model of assessing the effect of service quality on sport services customers loyalty" Seyed Javadin *et al.*, (2010) showed that empathy has an impact on customer satisfaction.

Final Conclusion

This study investigates the impact of service quality on customer satisfaction in Alborz Province gas stations based on the model provided by Sayed Javadein *et al.*, (2010) derived from the model Servqual Parasaramun, as designed in 6 hypotheses. To investigate these hypotheses, a questionnaire including 6 general questions (demographic information), 46 specialized questions and 1 open question was used. All specialized questions were five-choice questions based on Likert range scale and the questionnaires were distributed among 384 Alborz Province gas stations customers. At the end with regard to the independence of errors and normality of variables, using a single variable regression we tested the hypotheses of the research and results showed that tangibles and physical facilities, politeness of staff, reliability, responsiveness and empathy had positive impact on customer satisfaction just as customer satisfaction had a direct and positive effect on customer loyalty. Thus, in a research titled "a model of assessing the effect of service quality on sport services customers loyalty" Sayed Javadin *et al.*, (2010) also showed that tangibles and physical facilities, staff courtesy, reliability, responsiveness and empathy

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had a direct and positive impact on customer satisfaction and customer satisfaction had a direct and positive impact on customer loyalty.

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