

## **EXAMINING THE PATIENT'S SATISFACTION FROM HOSPITAL SERVICE QUALITY USING THE CRM (CUSTOMER RELATIONSHIP MANAGEMENT) MODEL: A CASE STUDY IN BAHRAMI HOSPITAL OF TEHRAN**

**Mirza Hassan Hosseini<sup>1</sup>, Mohammad Mahmoudi Meymand<sup>1</sup>, Sanaz Heidarvand<sup>2</sup>**

<sup>1</sup>Payame Noor University, Tehran Province Branch, Tehran, Iran

<sup>2</sup>Payame Noor University, Tehran Province Branch, Damavand Campus, Iran

E-mail: [heidarvand\\_sanaz@yahoo.com](mailto:heidarvand_sanaz@yahoo.com)

Received May 2015; accepted August 2015

### **Abstracts**

This research aims to examine the patient's satisfaction from service quality in Bahrami Hospital considering the CRM model. Generally, six variables of "Physician-Patient Relation", "Nurse-Patient Relation", "Staff-Patient Relation", "Hospital Accountability", "Meeting Patient's Requirements", and "Specialized Performance of the Physicians" have been analyzed in order to measure the impacts of the variables on patient's satisfaction in Bahrami Hospital of Tehran. The statistical population of the research contained the patients (children) who were hospitalized in the Bahrami Children Hospital and/or the parents who were the children's companies. Also, sample size was calculated 196 people based on the Cochran's Formula. This study is an applicable research with a descriptive survey methodology so that the main tool for data gathering is questionnaire. In addition, the Cronbach's Alpha Coefficient for the questionnaire was calculated 0.812 based upon SPSS software. Analyzing the data by SPSS software revealed that all variables except "specialized performance of the physicians" had a significant relation with patient's satisfaction. Since the hospital was a training-based medical center, the Pearson correlation coefficient for the variable "specialized performance of the physicians" was calculated 0.137; meanwhile, the meaningfulness amount was obtained 0.056 which is more than the standard limit. Therefore, the aforesaid variable does not have a significant relation with patient's satisfaction.

### **Research paper**

**Keywords:** Service quality, Patient satisfaction, Customer relationship management, Hospital

**Reference** to this paper should be made as follows: Hossieni, M. H., Meymand, M. M., Heidarvand, S. (2015). "Examining the patient's satisfaction from Hospital Service Quality using the CRM (Customer Relationship Management) Model: a case study in Bahrami Hospital of Tehran", *Journal of Entrepreneurship, Business and Economics*, Vol. 3, No. 2, pp. 16–40.

## **Introduction**

*Nowadays, customers are the major factors for survival of each organizations. The organizations must focus on their customer's satisfaction in order to attain the sustainable advantage. Most of organizations are not able to face with their competitors, because they have acted inefficient when they have tried to present appropriate services to their customers. Competition has been recognized as a key strategic issue for organization which are active in servicing sector (Knapp and Kronenberg, 2013). Those organizations which present a higher level of service quality will benefit higher level of customer satisfaction and it will be an initial stage for attaining sustainable competitive advantage.*

*Service quality in health sector has a great importance, because the quality in this sector affects on both patient's health and patient's satisfaction. Many researches have been carried out on patient's satisfaction from the service quality. As an example, in a study entitled "Analysis of service quality in remedial centers using Servqual Model" by Mir-Ghafouri et al. (2007), the result revealed that the managers of remedial service centers will be able to recognize the gap between the staff and patients and take necessary measures to reinforce the relation between the staff and patients and try to improve the probable defficiencies.*

*Bani-Asadi et al. (2012) have analyzed the service quality in hospitals via the Importance Performance Analysis (IPA) from the patients' viewpoints. Among the dimensions of service quality in their research, "trust" and "accountability" had the maximum performance and "social responsibility" had the maximum importance. Rajabipour-Meibodi et al. (2009) examined the patients' satisfaction from the service quality level of a domestic*

hospital and found out that the service quality was less than the desired level. In a 2010 study by Chahal (2010), customer relationship management (CRM) containing two models of OCRM and ACRM has been discussed so that OCRM presents relation between patients and three groups of staff (physicians, nurses, and support employees) and ACRM measures four structures named satisfaction, organizational performance, recommendations, and meeting the patients' requirements.

In the present research, the dimensions of relation between patients and hospital staff together with the consequences of the mentioned relation have been studied. In other words, the impact of quality level of hospital services in different dimensions on patients' satisfaction have been evaluated in this study.

### **Service Quality**

Shahri (2011) quoted from Feigenbaum (1951) presented a specified definition on quality. Following is the addressed definition: *Quality is the ability of a product in meeting the desired goal with minimum expenditure. Service sector has had an increasingly growth in recent twenty years. It will also have a considerable share in economical growth of the countries in the near future. This kind of variations as well as the increase in competition and customer demand for high quality of products and services have motivated the organizations to try higher level of service and also promote the service quality for their customers. Providing service is basically different from production. Service is a personal feature and is performed face to face. Customers will be impressed by service providers and experienced quality. Receiving service is a personal and mental experience. In offering services,*

*there is a physical and mental relation between staff and customers (Burke et al., 2005). Three famous leaders in the field of quality who have had considerable impact on the current industry are: Philip Crosby, Joseph Juran, and Edwards Deming (Amini & Farjam, 2009; Zarea and Salamzadeh, 2012). These three people have affected on quality streamline and its perception so that they are called the quality teachers (Parvizi, 2005).*

*According to Parvizi (2005), Crosby has presented four distinct fundamentals on quality service management. These fundamentals are as follows:*

- 1. Quality is in compliance with needs and wants.*
- 2. Precautionary is a system for attaining quality.*
- 3. Performance and standards are defined as doing a proper job with no failure.*
- 4. The quality size is the cost of non-conformity.*

*Based on Parasuraman et al. (1985), the service quality is epidemic and universal judge and/or the related attitudes in order to obtain service excellency which reflects the consumer's perception on service efficiency of a company (Narang, 2010; Azhar, 2015). In particular case, service quality is a prominent factor in value judgement by the customers. Even in the case that a service is offered to a customer with a physical good, service quality will be considered as a crucial factor in describing the customer satisfaction (Zeithaml & Bitner, 2003).*

*The concepts of service quality in customer satisfaction from the offered services have been notified in marketing activities and marketing papers during the last decades. Marketing researchers have admired the ad-*

*vantages of both satisfaction and quality, and have called them as indices which are related to the competitive advantages (Ruyter et al., 1997). Quality has no concept and meaning except what a customer wants. In other words, a product has quality when it is in compliance with the customer's needs and wants. Quality must be defined as a conformity of products with customer's needs (Crosby, 1984).*

*The results of various researches reveal that there is a significant relation between service quality and financial performance of an organization. In fact, the companies with high service quality benefit from more market share, less return on capital, and more assets. Therefore, one can conclude that the most important factor on business performance in long term is the quality of products or services which an organization presents to the customers comparing with its competitors (Ghobadian et al., 1994).*

### ***Service Quality in hospitals***

*Until the last 1980s, the total quality management had not been recognized in health care affairs. In that time, the organizations associated with the health care industries consider "Total Quality Management" as an experience in relation to business management which is not applicable in health care occupations (Parvizi, 2005).*

*Quality revolution has affected on health and remedial sector so that many attentions have been paid on evaluation and quality improvement in the field of health services by the customers and service providers, insurance institutes, policy makers, and researchers (Mosaddegh-Rad, 2004). The customers who receive remedial services are not able to observe the result of the services before receiving them. The customers expect that the*

*organizations keep their promises and commitments on offering services in appropriate time as properly as possible, and only in this case they will accept the existence of remedial service quality. Generally, the customers' judge about remedial service quality originates from their observations on organization's appearance, equipment and tools, place of offering services, staff appearances, the method of offering services, and the price of services. On the other hand; among the service sectors, the remedial service sector has a specific situation so that no mistake may be allowed in this sector and all services have to be offered properly with no defects (Mohammadi, 2000; Radovic Markovic and Salamzadeh, 2012). Attention must be paid that all services must be offered accurately even at the first time they are presented. In the health care sector, it may be no opportunity to compensate the action which has not been carried out properly; meanwhile the consequences of the bad actions may be irrecoverable (Mosaddegh-Rad, 2004).*

*The main mission of the hospitals is to provide quality health care for the patients and meet their needs and requirements. Meeting this crucial mission will be happened if the quality will be internalized in the hospitals. Service quality will affect on purchase intention of the potential customers; meanwhile, it'll persuade the existing customers to continue buying the services as before (Mohammadi, 2004).*

*One of our problems is lack of attention to what the customers need and want. After competition among the servicing organizations (like hospitals) for offering the required services to the customers, the essence of attention to customers and meeting their requirements is more highlighted than before. In an environment which customers are aware and have the power*

*to choose the best, neglecting their requirements will be impossible (Goli, 2007).*

*In the late years of 1920s, the employee-based theory of Total Quality management (TQM) was introduced aiming to increase the customer's satisfaction continuously. In addition, one of the core principles of the theory was to focus on perception and accountability to the customer's need (Lameei, 2001). Nowadays, the organizations which focus on both meeting customers' wants and satisfying their needs with minimum price and maximum quality will have appropriate situations in the competition atmosphere (Kazazi, 1999).*

*Based on the previous researches, there is a significant relation between the patient's satisfaction and some variables such as patient's commitment for taking the prescribed medicine, referring to the hospital in specified time intervals, and patient's agreement for remedial actions as the need arises (Sadghiyani, 1997). Quality in health and remedial system is defined as a level of attaining the health system with specified goals in order to improve the legal expectation of the society by being accountable to the essentials of the community (Aghababa, 2007).*

*The results of the studies reveal that the service quality may have an impact on customer's loyalty via customer's satisfaction; meanwhile, many researches have emphasized that the service quality may have a direct impact on customer's loyalty as well (Tibei & Chiao, 2006).*

### ***Definition of health and remedial service quality***

*"Donabedian", a pioneer researcher in the field of new medical quality assurance, has presented a classical definition from health care quality in*

*medical affairs: quality in medical health care is a type of care which supervises all related aspects and processes, and is expected to maximize the public welfare level of a patient considering the consumed facilities and gained advantages (Parvizi, 2005).*

### ***Reasons for the essence of considering quality in health and remedial sector***

*According to Alfaghdah & Jafari Pouyan (2003), the reasons for considering quality in health and remedial sector are as follows:*

- 1. Restriction of resources in health and remedial sector*
- 2. Variety and changes in diagnostic and remedial actions.*
- 3. Current clutter environment together with political, economical and social tensions in health and remedial affairs.*
- 4. Type of health services (dealing with human's health and life).*
- 5. Increase in people's awareness and acceleration in their expectations.*
- 6. Ascending in hospital costs (hospital staff, equipment, etc.) and also the costs paid by the people.*
- 7. Tensions imposed by the insurance organizations.*
- 8. Increase in consumers' demands (lack of customer satisfaction as well as their negative descriptions from offered services will perish the organization)*

### ***Definition of satisfaction***

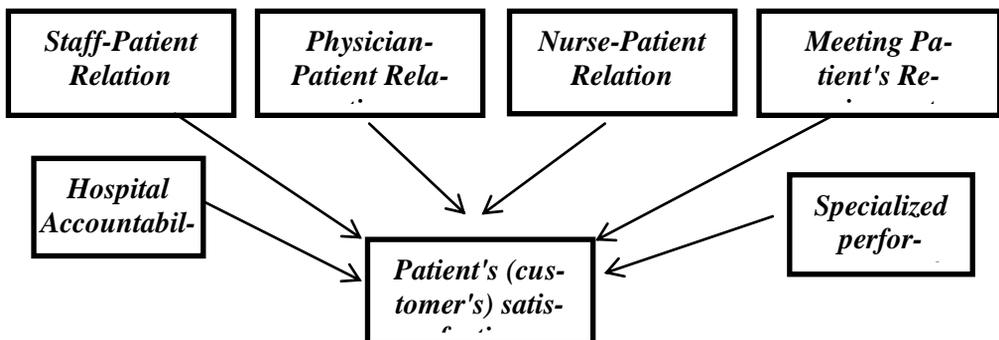
*According to Oliver, satisfaction is the reaction originated from consumer's success. Satisfaction is a judge about the merits of a product or service, and*

is created when the success in consumption is upper than the utility level. Rast and Oliver suggest that the customer satisfaction or dissatisfaction is a cognitive or emotional reaction appeared as a response to a set of service contacts. Satisfaction is an experience after consumption which compares the perceived quality with the desired quality (Palmer, 2001; Braga, 2013).

Tsou and Wilton define satisfaction as the reaction of customers to the indifferent perceived evaluation between the previous expectations (or sort of performance norm) and product actual performance which is perceived after consumption (Caruana, 2002).

Meeting the requirements and expectations of patients/clients is one of the most important tasks of health and remedial service organizations. Attention must be paid that inappropriate health care will lead to patients/clients dissatisfaction while the desired services will facilitate and increase their satisfaction (Seidi et al., 2004).

### Conceptual Model of the research



### **Research Methodology**

*Research methodology is a set of activities in which the research subject and the related concepts are identified first, and after that the data are gathered and then they are analyzed. In fact, methodology is the conversion of data to processed information. Each research must be accomplished based on a scientific method and on the basis of suitable approaches in the process of study, data gathering, analysis, and conclusion (Naderi et al., 1996). This study is a survey research so that the researcher is going to examine the variable(s) in an actual environment. In the present study, the impact of various factors on patients' satisfaction level in Bahrami Hospital has been discussed. Moreover, as a survey and descriptive study, this research has examined the impact of some independent variables on a dependant variable. Furthermore, based upon the physicians' attitudes in applying a special remedial method in Bahrami Hospital, the research has been considered as a survey study and questionnaire has been utilized for gathering the required data.*

*The Kolmogorov–Smirnov test has been used in order to examine the normal distribution of variables. Since the normality of data dispersion, the Pearson correlation test has been utilized to analyze the relation between the variables and test the research hypotheses.*

### **Research hypotheses**

*The main hypothesis of the research is as follows:*

***The service quality of the hospital has a significant impact on patient's (customer's) satisfaction.***

*The sub-hypotheses of the study may be listed as below:*

- 1. Staff-Patient relation has a significant impact on patient's (customer's) satisfaction.*
- 2. Physician-Patient relation has a significant impact on patient's (customer's) satisfaction.*
- 3. Nurse-Patient relation has a significant impact on patient's (customer's) satisfaction.*
- 4. Meeting Patient's Requirements has a significant impact on patient's (customer's) satisfaction.*
- 5. Specialized Performance of the Physicians has a significant impact on patient's (customer's) satisfaction.*
- 6. Hospital's Accountability has a significant impact on patient's (customer's) satisfaction.*

### ***Data analysis***

*For statistical analysis, the SPSS software has been used in this study. The mentioned software not only calculates the Pearson Correlation Coefficient, but also it presents the meaningfulness level of the coefficient. Therefore, when the meaningfulness level in the results of the analysis is less than 0.05, one can conclude that there is a significant relation between the factors relating to the service quality of the hospital and the impact of the factors on*

*the patient's satisfaction level. If the meaningfulness level is greater than 0.05, the null hypothesis may be accepted. In this case, there is no significant relation between the specified variables.*

### ***The Kolmogorov–Smirnov Test***

*The Kolmogorov–Smirnov test is used in order to examine the normal distribution of variables. As indicated in Table 1, the meaningfulness level of the data for all variables of the research are less than 0.05, and then, with confidence level of 95%, the null hypothesis ( $H_0$ ) is rejected and it shows that all variables have normal distribution.*

**Table 1. The Kolmogorov–Smirnov test**

	<i>Physician</i>	<i>Patient's Requirements</i>	<i>Staff</i>	<i>Nurse</i>	<i>Specialized Performance</i>	<i>Accountability</i>	<i>Customer Satisfaction</i>
<i>N</i>	196	196	196	196	196	196	196
<i>Mean</i>	38.9796	38.5408	38.1173	71.0867	42.5459	38.3520	37.9184
<i>Standard Deviation</i>	3.55464	4.97619	3.98092	15.05571	12.76867	5.27535	5.48223
<i>Absolute Value</i>	.141	.136	.113	.219	.307	.132	.175
<i>Positive</i>	.101	.136	.073	.148	.307	.132	.175
<i>Negative</i>	-.141	-.100	-.113	-.219	-.143	-.096	-.088
<i>the Kolmogorov-Smirnov test statistic</i>	.141	.136	.113	.219	.307	.132	.175
<i>Meaningfulness Level</i>	.000 <sup>c</sup>	.000 <sup>c</sup>	.000 <sup>c</sup>	.000 <sup>c</sup>	.000 <sup>c</sup>	.000 <sup>c</sup>	.000 <sup>c</sup>

### **Testing the research hypothesis**

#### **Calculating the Pearson Correlation Coefficient**

In order to examine the relation between the service quality of the hospital and the patient's satisfaction level, the Pearson Correlation Coefficient Test has been utilized. In addition, to test the main hypothesis of the research, the sub-hypotheses have been analyzed in order to find the results for the main hypothesis.

#### **Testing the first sub-hypothesis: Staff-Patient relation has a significant impact on patient's (customer's) satisfaction**

The  $H_0$  for the first sub-hypothesis is: Staff-Patient relation has no significant impact on patient's (customer's) satisfaction. In other words:  $H_1: \rho \neq 0$

The  $H_1$  for the first sub-hypothesis is: *Staff-Patient relation has a significant impact on patient's (customer's) satisfaction. In other words:  $H_1: \rho \neq 0$ .*

Based on the SPSS result (as shown in Table 2), the Pearson Correlation Coefficient for the two variables is 0.316. In addition, the meaningfulness amount (sig) is equal to 0.000 (sig=0.00) which is less than the standard meaningfulness level ( $\alpha=0.05$ ). Therefore, the null hypothesis is not accepted in the confidence level of 95%, and one can conclude that there is a significant relation between the two variables so that the Staff-Patient relation has a significant impact on patient's (customer's) satisfaction in Bahrami Hospital.

**Table 2.** *The Pearson Correlation Test between the Staff-Patient Relation and Patient's Satisfaction*

		<i>the Staff-Patient Relation</i>	<i>Patient's Satisfaction</i>
<i>the Staff-Patient Relation</i>	<i>Pearson Coefficient</i>	1	0.316**
	<i>Sig</i>		.000
	<i>N</i>	196	196
<i>Patient's Satisfaction</i>	<i>Pearson Coefficient</i>	0.316**	1
	<i>Sig</i>	.000	
	<i>N</i>	196	196

**Table 3.** *Statistical specification of the variables*

<i>Variables</i>	<i>Mean</i>	<i>Standard Deviation</i>	<i>N</i>
<i>the Staff-Patient Relation</i>	3.39	0.527	196
<i>Patient's Satisfaction</i>	2.61	0.781	196

**Testing the second sub-hypothesis: Physician-Patient relation has a significant impact on patient's (customer's) satisfaction**

The  $H_0$  for the second sub-hypothesis is: Physician-Patient relation has no significant impact on patient's (customer's) satisfaction. In other words:

$$H_0: \rho = 0$$

The  $H_1$  for the second sub-hypothesis is: Physician-Patient relation has a significant impact on patient's (customer's) satisfaction. In other words:

$$H_1: \rho \neq 0$$

Based on the SPSS result (as shown in Table 4), the Pearson Correlation Coefficient for the two variables is 0.298. In addition, the meaningfulness amount (sig) is equal to 0.000 (sig=0.00) which is less than the standard meaningfulness level ( $\alpha=0.05$ ). Therefore, the null hypothesis is not accepted in the confidence level of 95%, and one can conclude that there is a significant relation between the two variables so that the Physician-Patient relation has a significant impact on patient's (customer's) satisfaction in Bahrami Hospital.

**Table 4.** The Pearson Correlation Test between the Physician-Patient Relation and Patient's Satisfaction

		<b>the Physician-Patient Relation</b>	<b>Patient's Satisfaction</b>
<b>the Physician-Patient Relation</b>	Pearson Coefficient	1	.298**
	Sig		.000
	N	196	196
<b>Patient's Satisfaction</b>	Pearson Coefficient	.298**	1
	Sig	.000	
	N	196	196

**Table 5.** *Statistical specification of the variables*

<i>Variables</i>	<i>Mean</i>	<i>Standard Deviation</i>	<i>N</i>
<i>the Physician-Patient Relation</i>	3.56	0.639	196
<i>Patient's Satisfaction</i>	3.12	0.802	196

***Testing the third sub-hypothesis: Nurse-Patient relation has a significant impact on patient's (customer's) satisfaction***

*The  $H_0$  for the third sub-hypothesis is: Nurse-Patient relation has no significant impact on patient's (customer's) satisfaction. In other words:  $H_0: \rho = 0$ .*

*The  $H_1$  for the third sub-hypothesis is: Nurse-Patient relation has a significant impact on patient's (customer's) satisfaction. In other words:  $H_1: \rho \neq 0$ .*

*Based on the SPSS result (as shown in Table 6), the Pearson Correlation Coefficient for the two variables is 0.441. In addition, the meaningfulness amount (sig) is equal to 0.000 (sig=0.00) which is less than the standard meaningfulness level ( $\alpha=0.05$ ). Therefore, the null hypothesis is not accepted in the confidence level of 95%, and one can conclude that there is a significant relation between the two variables so that the Nurse-Patient relation has a significant impact on patient's (customer's) satisfaction in Bahrami Hospital.*

**Table 6.** The Pearson Correlation Test between the Nurse-Patient Relation and Patient's Satisfaction

		<i>the Nurse-Patient Relation</i>	<i>Patient's Satisfaction</i>
<i>the Nurse-Patient Relation</i>	<i>Pearson Coefficient</i>	1	.441**
	<i>Sig</i>		.000
	<i>N</i>	196	168
<i>Patient's Satisfaction</i>	<i>Pearson Coefficient</i>	.441**	1
	<i>Sig</i>	.000	
	<i>N</i>	168	168

**Table 7.** Statistical specification of the variables

<i>Variables</i>	<i>Mean</i>	<i>Standard Deviation</i>	<i>N</i>
<i>the Nurse-Patient Relation</i>	3.49	0.657	196
<i>Patient's Satisfaction</i>	2.06	0.733	196

**Testing the 4th sub-hypothesis: Meeting Patient's Requirements has a significant impact on patient's (customer's) satisfaction**

The  $H_0$  for the 4th sub-hypothesis is: Meeting Patient's Requirements has no significant impact on patient's (customer's) satisfaction. In other words:

$$H_0: \rho = 0$$

The  $H_1$  for the 4th sub-hypothesis is: Meeting Patient's Requirements has a significant impact on patient's (customer's) satisfaction. In other words:

$$H_1: \rho \neq 0$$

Based on the SPSS result (as shown in Table 8), the Pearson Correlation Coefficient for the two variables is 0.865 (approximately equals 1) and reveals a full relation between the two variables. In addition, the meaningfulness amount (sig) is equal to 0.000 (sig=0.00) which is less than the stan-

dard meaningfulness level ( $\alpha=0.05$ ). Therefore, the null hypothesis is not accepted in the confidence level of 95%, and one can conclude that there is a significant relation between the two variables so that Meeting Patient's Requirements has a significant impact on patient's (customer's) satisfaction in Bahrami Hospital.

**Table 8.** *The Pearson Correlation Test between Meeting the Patient's Requirements and Patient's Satisfaction*

		<i>Meeting the Patient's Requirements</i>	<i>Patient's Satisfaction</i>
<i>Meeting the Patient's Requirements</i>	<i>Pearson Coefficient</i>	1	1.000**
	<i>Sig</i>		.865
	<i>N</i>	196	196
<i>Patient's Satisfaction</i>	<i>Pearson Coefficient</i>	1.000**	1
	<i>Sig</i>	.865	
	<i>N</i>	196	196

**Table 9.** *Statistical specification of the variables*

<i>Variables</i>	<i>Mean</i>	<i>Standard Deviation</i>	<i>N</i>
<i>Meeting the Patient's Requirements</i>	3.66	0.548	196
<i>Patient's Satisfaction</i>	2.98	0.801	196

**Testing the 5<sup>th</sup> sub-hypothesis: Specialized Performance of the Physicians has a significant impact on patient's (customer's) satisfaction**

The  $H_0$  for the 5<sup>th</sup> sub-hypothesis is: Specialized Performance of the Physicians has no significant impact on patient's (customer's) satisfaction. In other words:

$H_1: \rho \neq 0$

The  $H_1$  for the 5<sup>th</sup> sub-hypothesis is: *Specialized Performance of the Physicians has a significant impact on patient's (customer's) satisfaction. In other words:  $H_1: \rho \neq 0$ .*

Based on the SPSS result (as shown in Table 10), the Pearson Correlation Coefficient for the two variables is 0.137. In addition, the meaningfulness amount (sig) is equal to 0.056 (sig=0.056) which is greater than the standard meaningfulness level ( $\alpha=0.05$ ). Therefore, the null hypothesis is not rejected in the confidence level of 95%, and one can conclude that there is no significant relation between the two variables so that Specialized Performance of the Physicians has no significant impact on patient's (customer's) satisfaction in Bahrami Hospital.

**Table 10.** The Pearson Correlation Test between Specialized Performance of the Physicians and Patient's Satisfaction

		Specialized Performance of the Physicians	Patient's Satisfaction
<i>Specialized Performance of the Physicians</i>	Pearson Coefficient	1	.137
	Sig		.056
	N	196	196
<i>Patient's Satisfaction</i>	Pearson Coefficient	.137	1
	Sig	.056	
	N	196	196

**Table 11.** Statistical specification of the variables

Variables	Mean	Standard Deviation	N
<i>Specialized Performance of the Physicians</i>	3.49	0.657	196
<i>Patient's Satisfaction</i>	2.06	0.733	196

**Testing the 6<sup>th</sup> sub-hypothesis: Hospital's Accountability has a significant impact on patient's (customer's) satisfaction**

The  $H_0$  for the 6<sup>th</sup> sub-hypothesis is: Hospital's Accountability has no significant impact on patient's (customer's) satisfaction. In other words:  $H_0: \rho = 0$ .

The  $H_1$  for the 6<sup>th</sup> sub-hypothesis is: Hospital's Accountability has a significant impact on patient's (customer's) satisfaction. In other words:  $H_1: \rho \neq 0$ .

Based on the SPSS result (as shown in Table 12), the Pearson Correlation Coefficient for the two variables is 0.155 and it reveals the direct relation between the two variables. In addition, the meaningfulness amount (sig) is equal to 0.030 (sig=0.030) which is greater than the standard meaningfulness level ( $\alpha=0.05$ ). Therefore, the null hypothesis is not accepted in the confidence level of 95%, and one can conclude that there is a significant relation between the two variables so that Hospital's Accountability has a significant impact on patient's (customer's) satisfaction in Bahrami Hospital.

**Table 12.** The Pearson Correlation Test between Hospital's Accountability and Patient's Satisfaction

		<b>Hospital's Accountability</b>	<b>Patient's Satisfaction</b>
<b>Hospital's Accountability</b>	Pearson Coefficient	1	.155
	Sig		.030
	N	196	196
<b>Patient's Satisfaction</b>	Pearson Coefficient	.155	1
	Sig	.030	
	N	196	196

**Table 13.** Statistical specification of the variables

<b>Variables</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>N</b>
<i>Hospital's Accountability</i>	3.66	0.548	196
<i>Patient's Satisfaction</i>	2.98	0.801	196

Based on the above results and also the amount of regression for each factor relating to the hospital service quality, the impact rate for the components of hospital service quality on patient's satisfaction level can be stated as shown in Table 14.

**Table 14.** Ranking for the impact rate of the components related to hospital service quality

<b>Factors relating to the hospital service quality</b>	<b>Correlation Coefficient</b>	<b>Ranking based upon the impact on patient's satisfaction</b>
<i>Meeting Patient's Requirements</i>	1	1
<i>Nurse-Patient Relation</i>	0.881	2
<i>Staff-Patient Relation</i>	0.344	3
<i>Physician-Patient Relation</i>	0.298	4
<i>Hospital Accountability</i>	0.155	5
<i>Specialized Performance of the Physicians</i>	0.137	-

### **Conclusion**

Based on the mentioned results, it's clear that Meeting the Patient's Requirements has a considerable impact on his/her satisfaction. In addition, the Nurse-Patient Relation is the second factor on patient's satisfaction; meanwhile, the strong correlation degree between the two variables (0.881) indicates that any change in behavior and performance of nurses has a great delat of impact on the patient's satisfaction. Also, staff are able to have a considerable impact on patient's satisfaction so that their performance with correlation coefficient of 0.344 has a meaningful impact on patient's

*long term satisfaction. Moreover, the Physician-Patient Relation has the fourth ranking among the variables of the study, because the correlation coefficient of 0.298 has the least impact on patient's satisfaction level. In other words, the patients prefer to take their relation with nurses into consideration instead of their associations with physicians. The reason is probably that the patients had imagined no failure in the physicians' performances, but in reality, they have found some defects in their behavior or performances. Even it was not observed any significant impact between the Specialized Performance of the Physicians and Patient's Satisfaction (because the meaningfulness level in this case was 0.056 which is more than the standard level) and it indicates that the physicians' expertise has not affected on the patient's satisfaction. Attention must be paid that in the long term, it will have a meaningful impact on the patient interest for using the hospital services in the future. In other words, if the patients are not satisfied with the physicians' performances, they will hardly select the hospital in the near or distant future.*

*Bahrami Hospital is also a training center affiliated to Tehran University of Medical Sciences and the estimation of patients from the specialized performance of the physicians may be related to the medical students and resident physicians who are learning the specialized training in the hospital and have close relation with the patients. The Hospital's Accountability with the correlation coefficient of 0.155 has positioned in the fifth level of patient's satisfaction and it has had the least impact on their satisfaction comparing with other factors. In general, one can conclude that the patients are satisfied with the service quality level of Bahrami Hospital.*

## References

1. Aghababa, S. (2007), "Performance evaluation of emergency departments in public hospitals of Iranian Medical Science University based on Baldrige Excellence Framework", MA dissertation in health and medical service management (typed in Persian), Science and Research Branch, Islamic Azad University.
2. Alfaghdah, A. and Jafari Pouyan, E. (2003), "Quality in health and remedial services", *Iranian Journal of medicine and remedy* (published in Persian), No. 26.
3. Allameh, S. M. & Nokteh-Dan, I. (2010). "Examining the impact of service quality on customers' loyalty (a case study in Isfahan hotels with 4 star and 5 star rankings)". *Persian Journal of Business Management*, No. 5, pp. 109-124.
4. Amini, M. T. & Farjam, S. (2009), "Examining the service quality in public sector – a case study in hospitals affiliated to the Isfahan Medical Science University", *Iranian Journal of strategic management thinking* (published in Persian), No. 5, pp. 165-190.
5. Azhar, S. (2015). *Impact of liquidity and Management Efficiency on profitability: An Empirical Study of Selected Power Distribution Utilities in India*. *Journal of Entrepreneurship, Business and Economics*, 3(1), 82-97.
6. Bani-Asadi, A.; Vatan-Khah, S.; & Hosseini, A. F. (2012). "Measuring and analyzing the hospital service quality using Importance Performance Analysis (IPA) form the viewpoint of patients in selected public hospitals of Tehran". *Persian Journal of faculty of health and institute of health research*, Vol. 11, pp. 59-70.
7. Braga, V. (2013). *Heterodox Economics Approach to Business Co-operation*. *Journal of Entrepreneurship, Business and Economics*, 1(1/2), 72-81.
8. Burke, R. J.; Graham, J., & Smith, J. (2005), "Effects of reengineer on the employee satisfaction – customer satisfaction relationship", *the TQM magazin*. vol 171 , PP 358-363.
9. Caruana, Albert. (2002). "Service loyalty: the effects of service quality and the mediating role of customer satisfaction". *European journal of marketing*, pp: 811-828
10. Chahal, H. (2010). "Two component customer relationship management model for health-care services". *Department of commerce, university of jammo, India*.
11. Crosby, B.philip. (1984). "Quality without tears". *Newyork Mc Graw-Hill*.
12. Feizi, K.; Kazazi, A.; & Khalili-Shojaei, A. (2008). "Customer Relationship Management (CRM) and Customers' Satisfaction: an analysis based on the Servqual Service Quality Model for Parsian e-commerce company". *An Iranian journal of change and improvement management study*, No. 57, pp. 105-132.

13. Ghobadian Abby et al. (1994). "Service quality concepts and models", *International journal of quality & reliability management*, 11/9, 43-66.
14. Goli, M. (2007). "Examining the relation between customers' loyalty and their satisfaction from the offered services (a case study in Isfahan branch of Mellat Bank", a persian MA dissertation for the governmental management course, Khorasan branch of Islamic Azad University.
15. Kazazi, A. (1999). "Total Quality Management (an applicable approach)". *Governmental Management Training Center, Tehran*.
16. Knapp, J. L., & Kronenberg, C. (2013). *Strategic Analysis of SMEs' early Internationalisation Processes*. *Journal of Entrepreneurship, Business and Economics*, 1(1/2).
17. Lameei, A. (2001). "Total Quality Management in academic training". 1st issue (published in Persian), Uromiyeh, Shahed cultural and publishing institute, Uromiyeh University of Medical Sciences.
18. Mir-Ghafouri, S. H.; Ahmadabadi, H.; & Zare, A. (2007), "Analysis of service quality in remedial centers using Servqual Model", *Persian journal of Yazd University of Medical Sciences*, No. 15, pp. 84-92.
19. Mohammadi, A. (2000), "Designing the Total Quality Management (TQM) System in Iranian remedial service sector", PhD thesis in production and operation management (typed in Persian), faculty of humanities, Tehran University of Tarbiat Modarres.
20. Mohammadi, A. (2004), "Presenting an Designing the Total Quality Management (TQM) System in Iranian remedial service sector", PhD thesis in production and operation management (typed in Persian), faculty of humanities, Tehran University of Tarbiat Modarres.
21. Mosaddegh-Rad, A. M. (2004), "Handbook of hospital organization and specialized management", Vol. 2, Issue 1, Dibagran cultural and artistic institute of Tehran.
22. Naderi, E.; Seif-Naraghi, M.; & Shahpourian F. (1996), "An applicable guidance for providing proposal", third edition (published in Persian), Badr publication and research department.
23. Narrang, Rita, (2010), "Measuring perceive quality of health care services in India", *International journal of health care quality assurance*, Vol. 23 , No. 2 , PP. 171-186.
24. Palmer Adrian. (2001). "Principles of service marketing". *Mc Graw- Hill* , third edition , Great Britain, pp: 125-126
25. Parasuraman.V , Zeithmal and L.L.Bery. (1985). "A conceptual model of service quality and its implications for future research". *Journal of marketing*, vol. 49, p. 48.

26. Parvizi, R. (2005). *"Total Quality Management (TQM) in health and healthcare system". A Persian translation of a book authored by Asaf & Shmuel, Tabriz University of Medical Sciences.*
27. Radovic Markovic, M., & Salamzadeh, A. (2012). *The Nature of Entrepreneurship: Entrepreneurs and Entrepreneurial Activities.* LAP LAMBERT Academic Publishing.
28. Rajabipour-Meibodi, A.; Farid, D.; & Rajabipour-Meibodi, T. (2009). *"Examining the patients' satisfaction from the remedial service quality level based on remedial quality scale".*
29. Ruyter Kode et al. (1997), *"Measuring service quality and service satisfaction, An empirical test of an integrative model" , Journal of economic psychology 18, pp : 386-406*
30. Sadghiyani, E. (1997). *"Evaluating the health care and hospital standards". 1st Issue, Sanoobar Publication, Tehran.*
31. Seidi, M.; Heidari, A.; & Raeis-Karami, S. R. (2004). *"Satisfaction rate of patients cured in internal and surgery sections from medical and nursing services". Iranian Journal of Nursing, No. 40.*
32. Seyyed-Javadein, S. R. & Kimasi, M. (2005). *"Service Quality Management". Negahe-Danesh publication, Tehran.*
33. Shahri, S. (2011). *"Quality of the services in hospitals". Science and Knowledge Publication (in Persian), 1st Issue.*
34. Tabei, Lien and Chiao, Yu-Chig. (2006). *"The departmentinants of customer loyalty: on analysis of tangible factors in three service industries". International journal of commerce &management .vol. 16, Issue 3, no.4, pp: 162-177*
35. Zarea, H., & Salamzadeh, A. (2012). *Identification of Output Performance Indicators in Commercialization of University Research: An AHP based Study of EFQM Model. Journal of Entrepreneurship Development, 4(15), 85-104.*
36. Zeithaml, valarie A. and mary Jo Bitner,(1996), *"Services Marketing", McGraw Hill,Singapo*