

# Dimensioning The Quality of Health Care Services (Karabuk State Hospital Service Quality Dimensions as an Example of Measurement Application)

Nurullah SOYHAN \*  
 Nuran ILKUTLU \*\*  
 Ahmet SEKRETER \*\*\*

## Abstract

Since health service is directly related to human life, the necessity of improving the quality of the service in health has brought the necessity of measuring the quality of service.

Karabuk State Hospital which began to work with the core principle of “human first” since 2006 has started to measure the quality of service in order to improve the service quality since 2009. The structure of the measurement service quality is abstract and immeasurable thus concretization so that the need to facilitate the measurement has motivated the studies on dimensioning of quality of service in Karabuk State Hospital as a compulsory process.

Studies on sizing and measurement of service quality in Karabuk State Hospital in 2009 will be exposed in the article. The institution which evaluates the dimensions of service quality of Emergency Service, Polyclinics, and medical clinics puts forth the expectations and perceptions of customers and customer satisfaction as a basis of the measuring the quality of service. Polyclinics (30 units), Medical clinics (8 units), and Emergency Service evaluated the results of the survey that included 785 people and made improvements in dimensions with service quality has been low.

**Keywords:** dimensions of quality, health care services, measurement of the quality, quality, total quality

**JEL:** I00, M10, L89

## 1. Introduction

Today, the rapid development of the service sector, increased competitive intelligence, and being people much more sensitive to the quality of the health sector as well as in other sectors has led to an increase of the importance of quality. Businesses which are in an effort to improve the quality of service focus on customer expectations and perceptions and they start to prefer to seek for assessments of service quality.

Service is defined as “an intangible activity or benefit that offered by a person or entity to other person or entity” (Karafakioglu, 1998).

The service sector is one of the fastest growing sectors in our country, as well as all over the world. Chase (1978) examined the relation between customers and service industries and gathered in four classes. In this classification the healthcare industry was defined as the sector that had the highest in the relation with customers (Ardich & Bash, 2010).

One of the indicators of socio-economic development of the countries is the health sector (Sevimli & Oral, 2006). Since the health sector generates the production for human life and human health, the service must be zero defects. Services offered in the health sector should have 100% reliability. The services offered in the health sector are directly related to human health, therefore when the services offered in this sector are compared to other services, quality of the services must be high. For this reason, a continuous improvement of service quality in the health sector is required. This obligation requires the measurement of service quality. Services cannot be meas-

ured in terms of dimension of physical products and services. Since service in healthcare is a kind of performance, an activity that directed by human behavior, no life expectancy, and consumed when it is produced, then it becomes the measurement very difficult.

Since a thing that cannot be measured is not possible to improve, the measurement of quality of service in health sector is an important issue to be considered. To understand what we mean to measure the quality of service and the needs of service quality, the dimensions has to be stated.

Sizing the quality is actually an effort of separating the components of service quality to make it more concrete.

Service quality is a measure of how much customer expectations supplied in the given service. Serving the quality service is the ability to meet customer expectations (Parasuraman, Zeithaml, & Berry, 1985).

There is no single definition of quality expectations in the customers' mind. Customer's quality expectations have two levels or two dimensions. These are desired quality and reasonably acceptable quality. One dimension of quality defined by customer is the perception of customer after consuming the service. The customer's perception of quality is affected by expectation of service quality.

Perceived health service quality has affected perceived service value. Perceived value, the patient and the patient's satisfaction affects behavioral intentions. Nowadays, the measurement of patient satisfaction not only in order to determine whether the patient is satisfied or not with the service provid-

\* Chief Surgeon, Karabuk State Hospital, Karabuk, Turkey. Email: seyfi@hotmail.com

\*\* Nurse, Karabuk State Hospital, Karabuk, Turkey. Email: nilkkutlu@hotmail.com

\*\*\* Ph. D. Candidate and lecturer, Faculty of Business Management, International Black Sea University, Tbilisi, Georgia.  
 Email: asekreter@ibsu.edu.ge

ed, at the same time also used to evaluate the performance of health care institutions.

There are numerous studies for the identification of dimensions of service quality. Dimensions of service quality help better understanding of service quality, and help to figure out that customers whether or not satisfy with which elements of the service.

The most commonly used in the literature of service quality dimensions by Parasuraman, Berry & Zeithaml (1985) is defined by the size of 10 service quality. These are reliability, responsiveness, competence, accessibility, courtesy, communication, reputation, know and understand the customer, safety, and physical assets (Devebakan & Aksarayli, 2003).

This article will put forth the philosophy of Total Quality Management which Karabuk State Hospital has adopted since 2006, customer perceptions, the quality of service performance sizing and measuring operation, and expectations of the learning, in order to measure and improve the quality of service as a result of a study with patients done in 2009.

## 2. Aim

By putting forth the components of quality of service in Karabuk State Hospital to, knowing the quality of the service by organization's quality performance measurement, by considering the customer perceptions and expectations as basis of the implementation of health care restructuring and by realizing change processes, improving quality, reducing costs, and creating loyal customers, and to improve the social adoption is aimed in this article.

We believe that the work done in Karabuk State Hospital will be useful for other institutions and organizations.

## 3. Methods and Findings

Patients who received services in October 2009 and ended the treatment process in Karabuk State Hospital and their relatives were included.

Operating data were obtained in two stages. Face-to-face interviews with 450 people are included in the first phase to determine dimensions of service quality through the customer expectations and suggestions for the institution and in the second stage as an application questionnaires done by 785 people are included where aim to measure the quality of service by means of dimensioning the service quality.

A three point Likert scale was used in the questionnaires, and the frequency, the percentage and the arithmetic mean methods were analyzed by the Authority Service Team Quality Management System applied by the hiding the corporate identity.

The selection of the sample is performed to reflect the target audience, the random selection performed especially on by individuals who are ill treatment has ended by considering the number of patients admitted to outpatient clinics and emergency department and inpatients per day.

In the first phase of the study, a survey with 450 people was done that asking while the health care institution where the problems, complaints, expectations and suggestions received as conducting data. The survey consisted of open-ended questions only. The independent variables in the problem were age, gender, education level, and service the unit.

According to survey data are frequently encountered prob-

lems, taking into account the expectations and recommendations Karabuk State Hospital Outpatient Service Quality Emergency, Outpatient and Clinical are dimensioned in different sizes. Each patient at the hospital, outpatient, inpatient, and emergency department diagnosis, treatment and demonstrate different dimensioning required to be different. In table 1a, b, and c the organization of the Service Quality Dimensions and sub-dimensions are shown.

Questionnaire that prepared to use in the measurement of service quality of Karabuk State Hospital was prepared to meet the dimensions and sub-dimensions of Emergency Department, Outpatient Clinics and Clinics.

149 individuals in Emergency Service in order to measure the quality of service dimensions, 186 individuals in order to measure the quality of service in clinics, 450 individuals in Polyclinics have been included in order to measure the quality of service. Polyclinics have been assessed for regarding the quality of services of diagnosis and investigation units of the institution.

The questionnaire which was developed to measure the quality of service consists of two parts. The first section, demographic information, while the second part, consists of questions to determine the level of quality of service. Questions are triple Likert-type. The most suitable option of a statement of the subjects for each Yes, No, Sometimes and the option of showing the degree of participation (2 = yes), (1 = sometimes), (0 = No), respectively are included in the questionnaire. Thus, the level of quality of service offered to the statements of the patients' satisfaction scores were obtained.

The survey data was provided in the unit that patients were serviced, Polyclinics, 30, Clinics, 8 units were evaluated and the results were compared. Emergency service was evaluated as a single unit. Psychiatry and Intensive Care Units were excluded since accurate data could not be taken.

**Table 1: Karabuk State Hospital Emergency Service Quality Dimensions**

Service Quality Dimensions In Emergency Service	
<b>Attainability</b>	1 - Easy access Of Analysis And Research Units 2 - The effectiveness Of Directing Vehicles
<b>Time Dimension</b>	1 - Servicing timely and in a sufficient time
<b>Technical Dimension</b>	1 - Competence Of Diagnosis And Required Treatment For Adequacy 2 - Personnel Technical Adequacy 3 - Follow-up Of Medical Equipment Efficiency And Technological Innovations
<b>Communication</b>	1- Personnel Communication With Patients And Their Relatives Courtesy, Tolerance And Understanding In Good Faith 2- Empathic Approach 3- Effective Communication With Clinics And Other Units 4- Informing Patients And Their Relatives About Disease, Treatment Process And Risks
<b>Comfort Dimension</b>	1 - Cleaning And Order Of Physical Space 2 - Adequacy Of Security Services 3 - Adequacy Of Waiting Areas
<b>Comfort Dimension</b>	1 - Security Of Patient Elimination Of Threatening Elements Against Patient Physical, Mental Health And Safety 2 - Employee Safety Providing Quality Service That Produce Healthy And Safe Working Environment 3 - Financial Safety Timely Detection And Prevention Of Financial Threats That Affecting Future Of Institution
<b>Reliability</b>	1- Accuracy And Security Of Records Archive 2- Full Data, And Accuracy Of Inflow 3- Enhancing Corporate Reputation 4- Technical Equipment Reliability

**Table 2: Service Quality Dimensions of Karabuk State Hospital Outpatient Clinics**

Service Quality Dimensions In Polyclinics	
<b>Attainability</b>	1 - Ease Of Access Getting Registration Number In Polyclinics 2 - Specificity Of Doctors 'working Days 3 - The Effectiveness Of Directing Vehicles 4 - Arrangements For The Disabled 5 - Easy Access Of Research Units
<b>Comfort Dimension</b>	1 - Cleaning And Regulation Of Inspection Rooms 2 - Adequacy Of Waiting Areas 3 - Adequacy Of Security Services
<b>Time Dimension</b>	1 - Competence Of Duration Of Inspection Time In Polyclinics 2 - Analysis-research Process And Time Of Results
<b>Technical Dimension</b>	1 - Adequacy Of Diagnosis And Treatment For Analysis And Examinations 2 - Personnel Technical Adequacy 3 - Following Of Medical Equipment Efficiency And Technological Innovations
<b>Communication</b>	1 - Personnel Communication With Patients And Their Relatives With Courtesy, Tolerance And Understanding In Good Faith 2 - Effective Communication Between Units 3 - Empathic Approach
<b>Trust</b>	1 - Patient Safety Elimination Of Threatening Elements Against Patient Physical, Mental Health And Safety 2 - Personnel Safety Promoting Healthy And Safe Working Environment 3 - Financial Safety Timely Detection And Prevention Of Financial Threats That Affecting Future Of Institution
<b>Reliability</b>	1 - Accuracy And Security Of Records Archive 2 - Full Data, And Accuracy Of Inflow 3 - Enhancing Corporate Reputation 4 - Technical Equipment Reliability

**Table 3: Service Quality Dimensions in Karabuk State Hospital Clinics**

Service Quality Dimensions In Emergency Service	
<b>Communication</b>	1 - Personnel Communication With Patients And Their Relatives With Courtesy, Tolerance And Understanding In Good Faith 2 - Effective Communication Between Clinics And Other Units 3 - Empathic Approach
<b>Education And Information</b>	1 - Informing Patients And Their Relatives About Disease, Treatment Process And Risks 2 - Informing The Patient About Treatment And Controls After Discharge From Hospital 3 - Informing The Patient About Patients 'rights And Responsibilities 4 - Description Of Clinic To Patients And Their Companions
<b>Technical Dimension</b>	1 - Adequacy Of Requirements For Medical Diagnosis, Treatment And Care 2 - Personnel Technical Adequacy 3 - Following Of Medical Equipment Efficiency And Technological Innovations 4 - Prevention Of Infections, Shorten The Duration Of Sickbed Day
<b>Functional Dimension</b>	1 - Facilitating Access To Service 2 - Servicing On Time
<b>Comfort</b>	1 - Cleaning And Order Of Physical Space 2 - Quality Of Food Services 3 - Adequacy Of Security Services
<b>Trust</b>	1 - Patient Safety Elimination Of Threatening Elements Against Patient Physical, Mental Health And Safety 2 - Personnel Safety Providing Quality Service Produces Healthy And Safe Working Environment 3 - Financial Security Timely Detection And Prevention Of Financial Threats That Affecting Future Of Institution
<b>Reliability</b>	1 - Accuracy And Security Of Records Archive 2 - Full Data, And Accuracy Of Inflow 3 - Enhancing Corporate Reputation 4 - Technical Equipment Reliability

**Table 4:** Number of Units that Service Quality Scale applied and the patient in polyclinics

Polyclinics	Number Of Patients	Polyclinics	Number Of Patients
Neurology Clinic	23	Department of Urology 1	15
Clinic of Thoracic Surgery	20	Department of Urology 2	14
Thoracic Clinic	25	Internal Medicine Clinic 1	15
Brain Surgery Clinic	17	Internal Medicine Clinic 2	15
ECG	10	Internal Medicine Clinic 3	15
EEG-urowflowmetry	7	ENT Clinic 1	15
Pulmonary Function Test	7	ENT Clinic 2	14
Cardiovascular Surgery Clinic	21	ENT Clinic 3	15
Plastic Surgery Clinic	25	Eye Diseases Clinic 1	18
Orthopaedic Clinic	19	Eye Diseases Clinic 2	21
Dermatology Clinic	17	Physical Medicine and Rehabilitation Clinic 1	16
Clinic infectious diseases	15	Physical Medicine and Rehabilitation Clinic 2	16
PUVA	6	Cardiology Clinic1	5
Anesthesia Clinic	15	Cardiology Clinic2	6
General Surgery Clinic 1	14	General Surgery Clinic 2	9
<b>Total: 450</b>			

**Table 5:** Number of Units which Service Quality Scale was applied and in Clinics

Clinics	Number Of Patients
ENT- Anesthesia- Urology Clinic	22
Neurological Surgery-infectious diseases	15
Dermatology	12
Eye Diseases-Orthopedic Surgery-Plastic Surgery	28
General Surgery-Thoracic Surgery	24
Physical Therapy and Rehabilitation-Neurology	32
Internal Diseases-Chest Diseases	22
Cardiology-Internal Diseases 1	31
<b>Total: 186</b>	



**Table 6: Number of patients and applied service quality scale in the Emergency Department**

<b>EMERGENCY SERVICE</b>	<b>Number of patients:149</b>
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The survey data were analyzed in the frequency, satisfaction scores according to the proportion% in terms of size;

% 0 - 24% from = CRISIS

25% - 44% = VERY BAD

45% - 54% from = BAD

55% - 69% from = MEDIUM

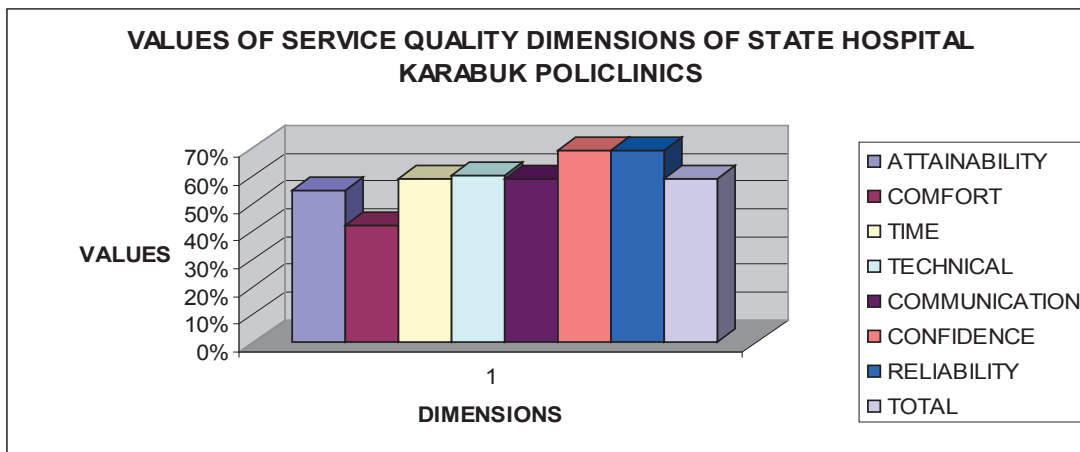
70% - from 84% = GOOD

85% - 100% as from = VERY GOOD evaluated, the selection of areas for improvement Crisis, Very Bad, Bad, and the Middle assessment is that the priority ranking.

After the evaluation, Quality Objectives is determined as 70% for emergency room and 80% for outpatient clinics.

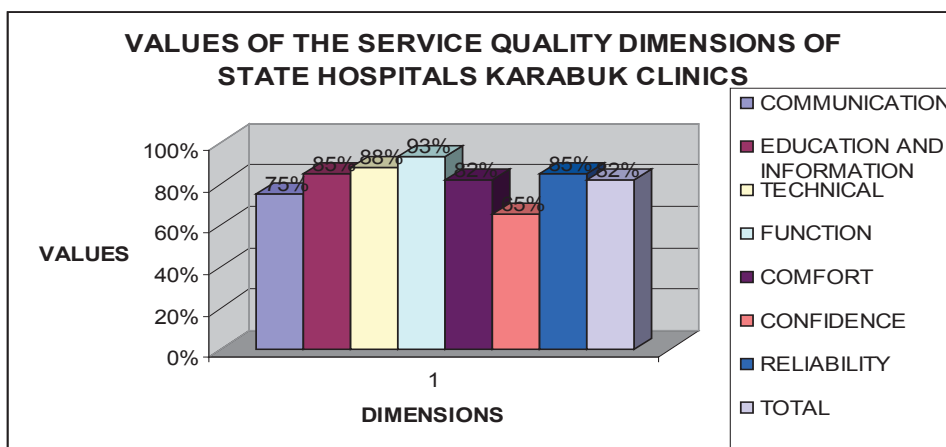
**Score By Size Of The Service Quality Of State Hospital Karabuk**

*Figure 1. Values of Karabuk State Hospital Service Quality at polyclinics*



It is observed that quality objective cannot be reached 70% which is targeted at any dimension in the outpatient clinic. Value of 42% with the lowest quality value comfort Size “Very Bad” are considered as comfort, the improvement of comfort dimension will be given priority. The institution aimed to improve comfort dimension in the 3-year strategic plan and planned activities which aim to increase the quality of comfort. The total value of the service quality of polyclinics’ is 60% (Middle).

*Figure 2. Values of Service Quality in Karabuk State Hospital at Clinics*



Quality of service is an emergency service, 62% of the time dimension values, comfort, size 66% and below 70%, which is the target value . the dimension of comfort improved by triage system placed in service by ensuring patients have access to the service according to the priority of urgency and by improving the physical space arrangements in Emergency Service. Emergency service's value of Total Quality and quality were found to be equal to target which 70%.

#### 4. Conclusion

By means of Measurement of quality of service, the institution uses hospital resources in a more efficient way, reduces costs, increases customer expectations and perceptions, gains competitive advantage, improves the quality of health care service provision through the planning. In this way the institution has provided benefits in today's increasingly competitive environment.

The quality of health care services, not only in terms of health care providers and patients, is an important issue in terms of governments. Quality health care contributes people to be a healthier and happier.

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