Investigation of Soft Skills in Providing Medical Care In Hospital

Dr. Darina Mineva, MD PhD

Central Office of the National Health Insurance Fund, 1407 Sofia, 1 Krichim Str., Dariamineva@abv.bg GSM 0899 311 653

Abstract
*The article presents a methodology for measuring soft skills according to the SERVQUAL methodology in a successful organization - a hospital in the health system. **The aim** of the study is to present a mechanism for testing soft skills in a hospital. Statistical method and questionnaire method of "Expectations for medical service" and "Perceptions of medical service" were used according to the five criteria of the SERVQUAL methodology: The aim of the study is to present a mechanism for testing soft skills in a hospital. Statistical method and survey method of "Expectations for medical service" and "Perceptions of medical service" were used according to the five criteria of the SERVQUAL methodology. **Method:** Surveys of patients at the Specialized Hospital for Lung Diseases in Bulgaria were conducted. 153 people were studied. Statistical methods were used. **Results:** Symmetrical distribution. The arithmetic mean is expressed by the SQI index. The arithmetic mean of the population µ falls within the confidence intervals of the averages with a small standard error, which indicates that the averages of each of the sample averages are close to the actual population average. **Discussion:** For all the studied criteria, the quality factor Q, as well as the private quality factor, are below one, which shows that the expectations of patients in relation to perceptions are higher. However, hospital management is rated as good because the differences between expectations and perceptions are minimal. **Conclusion**: the SERVQUAL methodology is heterogeneous in terms of criteria for assessing the quality of medical activity. Soft skills help to understand the perception of the product and service. Hard skills can have autonomy, unlike soft ones, especially in extreme situations, such as medical emergencies. Gronross's concept of functional quality and the SERVQUAL methodology make it possible to measure soft skills through statistical methods, through criteria for assessing quality in a hospital.*
Key words: *soft skills, hard skills, Grönroos concept, Method SERVQUAL.*

I.   Introduction

"Skill" means the ability to do something based on knowledge and experience [1] Skills are of two types - hard and soft.

Hard skills, also called "technical" skills, are material. They are associated with the ability to cope with work and profession. Soft skills are the way people work. These are: interpersonal skills, communication, motivation, adaptability, creativity, time management, problem solving and conflict. The qualities of the personality are connected and are partly innate, therefore - individual and non-technical.

The transformation of skills into quality criteria is carried out by finding new characteristics and improving the old characteristics of the product and service and production processes due to market competition and consumer needs, and their measurement forms the methods of quality assessment. This transformation builds the management process in terms of self-control. The article presents a methodology for measuring soft skills according to the SERVQUAL methodology in a successful organization - a hospital in the health system.

1. TYPES OF SKILLS IN THE STRUCTURE OF THE SERVQUAL METHODOLOGY

The SERVQUAL methodology (ideal service model) is based on the Grönroos Concept of the nature of the service, according to which it consists of two qualities: technical quality (the key benefit to the user or what users receive or the technical result of the process) and functional quality (the quality of the process or how users get the technical result, called by Groenroos "expression of the performance of the service").

Parasuraman, Zeithaml and Berry offer five dimensions in the SERVQUAL "ideal" service model: Tangibles include everything tangible and tangible to the user of the product / service. Reliability is the ability of the organization to deliver on what has been promised to the user accurately and on time. Responsiveness is the reaction of the organization to the wishes of the user. Assurance is perceived by the user as a competence of

---

the one who performs the service. Empathy - the desire to understand the needs of each individual user and the willingness to provide an individual service [36].

Table 2 Criterions of "Ideal" service model

№	Quality criterion	Rating of perception	Rating of expectations	Quality factor Q
M1	The hospital has modern machinery and equipment			
M2	The interiors of the hospital premises are in excellent condition			
M3	The hospital staff is nicely dressed and tidy			
M4	The appearance of the information materials (booklets, brochures) in the hospital are attractive			
Q MATERIALST (M1 – M4)				
R5	The hospital is fulfilling its promises to provide the service on time			
R6	If consumers have boring problems, the hospital tries to solve them sincerely			
R7	The hospital has a solid reputation			
R8	The services of the hospital are provided to the users accurately and on time			
R9	The hospital avoids mistakes and inaccuracies in its operations			
Q RELIABILITY (R5 – R9)				
O10	The hospital staff is disciplined			
O11	The hospital staff provides the services quickly and efficiently			
O12	The hospital staff always helps its users to solve their problems			
O13	Hospital staff responded quickly to users' requests			
Q RESPONSIBILITY (O10 – O13)				
S14	There is an atmosphere of trust and mutual understanding between the users and the staff of the hospital			
S15	Consumers feel safe in their relationship with the hospital			
S16	The hospital staff is polite to the users			
S17	The management of the hospital provides all possible support to the staff for effective customer service			
Q SECURITY (S14 – S17)				
E18	An individual approach is shown to the users in the hospital			
E19	The staff of the hospital is personally involved in solving the problems of the users			
E20	The hospital staff knows the needs of its users			
E21	The hospital staff focuses on consumer issues			
E22	The working hours in the hospital are convenient for all users			
Q EMPATHY (E85 – E22)				
GLOBAL QUALITY COEFFICIENT (SQI)				

The SERVQUAL methodology contains criteria that are heterogeneous in terms of sub-criteria in the context of soft and hard skills. Criteria with purely technical / solid skills are materiality and security. Criteria with pure soft skills is reliability. Mixed criteria are responsiveness and empathy.

II. PURPOSE AND METHODOLOGY OF THE RESEARCH

The aim of the study is to present a mechanism for testing soft skills in a hospital. Statistical method and survey method of "Expectations for medical service" and "Perceptions of medical service" were used according to the five criteria of the SERVQUAL methodology, as each criterion is divided into 4 or 5 sub-criteria (22 sub-criteria), adapted to the medical service and medical establishments: Q - materiality (tangibility) - (M1 - M4); Q - reliability (H5 - H9); Q - responsiveness (O10 - O13); Q - conviction (confidence) - (U14 - U17); Q - empathy (empathy) - (C18 - C22). Respondents answered the questions using the Likert scale ("Absolutely disagree" - "Absolutely agree"). For each of the determinants, the private quality index is taken into account - the difference between perception and the expected level of service. The values obtained are averaged and the total quality index is calculated as an average. The high quality of the provided service is evidenced by the non-negative importance of SQI (the perceived quality of the received service is assessed not lower than expected). Positive value of the total QSI means - high quality. The negative significance of the overall SQI - poor service or the presence of Gap 5 on the Gap Model.

III. RESULTS

Surveys of patients at the Specialized Hospital for Lung Diseases in Bulgaria were conducted. 153 people were studied. The statistics described in Table № 2 present the trends in the distribution of data for the "Reliability" sub-criterion**.**

Table № 2 Statistics

№	Criterions	Mean	Confidence interval for Mean	Std. Error	Median
E5		6,53	6,38 - 6,68	0,078	7
E6		6,43	6,25 - 6,61	0,093	7
E7	Reliability (expectation)	6,57	6,44 - 6,70	0,065	7
E8		6,59	6,44 - 6,74	0,077	7
E9		6,55	6,42 - 6,68	0,065	7
P5		6,37	6,18-6,57	0,099	7
P6		6,35	6,15-6,57	0,105	7
P7	Reliability (perception)	6,35	6,15-6,55	0,101	7
P8		6,45	6,25-6,65	0,101	7
P9		6,59	6,42-6,75	0,84	7

It is a symmetrical distribution. In this case, the arithmetic mean is a criterion for measuring the central trend. The other two measures of the central trend are preferred - fashion and median. The mode and median of these distributions coincide and are equal to 7, which means that 50% of respondents gave an answer "absolutely agree". The arithmetic mean is expressed by the SQI index. The arithmetic mean of the population μ falls within the confidence intervals of the averages with a small standard error, which indicates that the averages of each of the sample averages are close to the actual mean of the population (Table № 2).

IV. DISCUSSION

The variables (sub-criteria) H5, H6, H7, H8 and H9 of the criterion "Reliability" (H5 - H9) in its parts "expectations" (O1 - O4) and "perceptions" (B1 - B4) are considered.

Table 3 Private quality factor for the "Reliability" criterion of a lung hospital

№	Quality criterions	Rating of perception P5 P6 P7 P8 P9	Rating of expectations E5 E6 E7 E8 E9	Quality Index - Q
R5	The hospital is fulfilling its promises to provide the service on time	6.37	6.53	-0,2
R6	If users happen to have problems, the hospital tries to solve them sincerely	6.35	6.43	-0,1
R7	The hospital has a solid reputation	6.35	6.57	-0,2
R8	The services of the hospital are provided to the users accurately and on time	6.45	6.59	-0,1
R9	The hospital avoids mistakes and inaccuracies in its operations	6.59	6.55	0
Q RELIABILITY (R5 – R9)		**6,4**	**6,5**	**Private quality index = (-0.1)**

- **R5 Observance of the agreed (promised) term when providing the service**

In part E5 "When the hospital promises to provide a service within a certain period, it is obliged to fulfill the promise", 114 respondents answered with 7 "absolutely agree" or 74.5%. The cumulative percentage of 25.5% reflects the remaining responses with intermediate values. In part P5 "When the hospital promises to provide a service within a certain period, it fulfills this promise", 105 respondents answered with 7 "absolutely agree" or 68.6%. The cumulative percentage of 31.4% reflects the remaining responses with intermediate values.

The quality factor of sub-criterion R5 (arithmetic mean of all cases) in part E5 is 6.5 and in part P5 - 6.4 - Q = (-0.2), which shows that expectations exceed perceptions for this type of service (Table № 3).

- **R6 Show sympathy to patients when a problem occurs**

In part E6 "When a consumer has a problem, the hospital is obliged to show compassion and strive to reassure consumers", 111 respondents answered with 7 "absolutely agree" or 72.5%. The cumulative percentage of

27.5% reflects the remaining responses with intermediate values. In part P6 "When you have a problem, the hospital shows compassion and strives to calm you down", 99 respondents answered with 7 "absolutely agree" or 64.7%. The cumulative percentage of 35.3% reflects the remaining responses with intermediate ones.

The quality factor of sub-criterion R6 (arithmetic mean of all cases) in part E6 is 6.4 and in part P6 - 6.4 - Q = (- 01), which shows that expectations coincide with perceptions of this type of service (Table № 3).

- **R7 Reliable reputation of the hospital**

In part E7 "the hospital must have a reliable reputation", 108 of the respondents answered with 7 "absolutely agree" or 70.6% and none with "absolutely disagree". The cumulative percentage of 29.4% reflects the remaining responses with intermediate values. In part P7 "The hospital has a reliable reputation", 102 respondents answered with 7 "strongly agree" or 66%. The cumulative percentage of 33.3% reflects the remaining responses with intermediate values.

The quality factor of sub-criterion R7 (arithmetic mean of all cases) in part E7 is 6.6 and in part P7 - 6.4 - Q = (- 0.2), which shows that expectations exceed perceptions for this type of service (Table № 3).

- **R8 Provision of the service at the promised time**

In part E8 "The hospital is obliged to provide the services in the promised time", 123 people from the respondents answered with 7 "absolutely agree" or 80.4%. The cumulative percentage of 19.6% reflects the other responses with the intermediate ones. In part P8 "The hospital provides services at the promised time", 114 respondents answered with 7 "absolutely agree" or 74.5%. The cumulative percentage of 25.5% reflects the remaining responses with intermediate values.

The quality factor of sub-criterion R8 (arithmetic mean of all cases) in part E8 is 6.6 and in part P8 - 6.5 - Q = (- 0.1), which shows that expectations exceed perceptions for this type of service (Table № 3) .

- **R9 Accurate hospital record keeping**

In part E9 "The hospital is obliged to keep records accurately", 108 of the respondents answered with 7 "absolutely agree" or 70.6% and none with "absolutely disagree". The cumulative percentage of 29.4% reflects the remaining responses with intermediate values. In the part P9 "LZ keeps the records accurately", 117 people from the respondents answered with 7 "absolutely agree" or 76.5%. The cumulative percentage of 23.5% reflects the remaining responses with intermediate values. The relationship between P9 and SQI was studied by nonparametric correlation. The Spearman rank coefficient (ρ) established empirically (0.255) is greater than the theoretical value of 0.16 at 95% and 0.21 at 99% confidence. It follows that there is a statistically significant (at $p < 0.01$) proportional relationship between P9 and SQI.

The quality factor of sub-criterion R9 (arithmetic mean of all cases) in part E9 is 6.55 and in part P9 - 6.59 - Q (0), which shows that expectations meet the perceptions of this type of service (Table № 3).

The rating of perceptions and the rating of expectations according to the criterion "Reliability" R5 - R9 "(arithmetic mean values in the aspects" perceptions "and" expectations ") are 6.42 and 6.53, respectively (Fig. 1). The private quality index for the criterion Reliability R5 - R9 is negative (–0.1), (Table № 3, figure 1).

Figure №1 Private quality index for the criterion Reliability R5 - R9
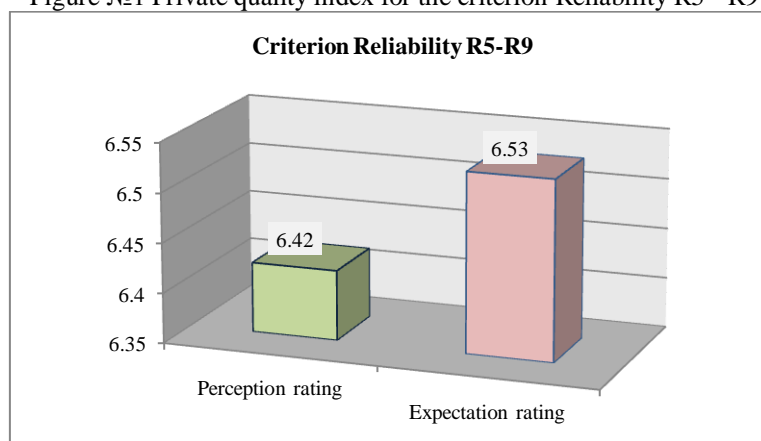
V. Conclusions

• The SERVQUAL methodology is heterogeneous in terms of criteria for assessing the quality of medical activity.
• Soft skills help to understand the perception of the product and service.
• Hard skills can have autonomy, unlike soft ones, especially in extreme situations, such as medical emergencies.

Gronross's concept of functional quality and the SERVQUAL methodology make it possible to measure soft skills through statistical methods, and criteria for assessing quality in a hospital.

Literature

[1].   Андрейчин Л., Георгиев Л., Илчев Ст., Леков Ив., Стойков Ст., Тодоров Цв., (1976), Български тълковен речник, Индекс 801.3, Изд. Наука и изкуство, София;

[2].   Пенчев П., Пенчева Ив., Основи на управлението, ISBN 954-427-467-7, Издателсво Абагар, Велико Търново, 2002

[3].   Болнично управление, теоретични аспекти и практически решения (избрани лекции)»   ИК «Хераклит А&Н", под редакцията на проф. Мирослав Попов, ISBN 954-573-018-8, 13, стр. 224 – 232

[4].   Борисов, В., във „Въведение в Здравния мениджмънт (избрани лекции)", Министерство на здравеопазването, Програма ФАР, Проект „Болничен мениджмънт, Издава фирма „Лукс-92", София, 1995, стр.101 - 102;

[5].   Ишикава Каору, „Тотално управление на качеството в Япония", ISBN - 954-445-294-Х, ИК „Христо Ботев", София, 1994г. стр. 91-92)

[6].   Mineva Darina, New Approaches to Assess the Quality of Medical Care, ISBN 978-613-9-41351-5, International Book Market Service Ltd., member of OmniScriptum Publishing Group, Riga, Latvia, EU, 2019, www.morebooks.de

[7].   https://www.morebooks.de/store/gb/book/new-approaches-to-assess-the-quality-of-medical-care/isbn/978-613-9-41351-5

[8].   https://www.amazon.com/Approaches-Assess-Quality-Medical-Care/dp/6139413516

[9].   KentanW., 2021, Soft Skills, www. investopedia. com/terms/s/soft-skills.asp