

AN INTEGRATION OF SERVQUAL METHOD AND QUALITY FUNCTION DEPLOYMENT (QFD) METHOD FOR SERVICE QUALITY IMPROVEMENT DESIGN OF INPATIENT INSATALATION OF RSU BUOL

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ABSTRACT

This research aimed to investigate the attributes of health services based on customer need to design the health services quality improvement at inpatient installation of Buol Hospital. The research was a mix method design. Quantitative study with cross sectional study design to determine voice of customer. Qualitative study with cases study. Responden comprised 135 patient in inpatient installation and 8 responden from managemen of Buol Hospital. The data were analysed using the gap analysis and house of quality matriks. The results showed that the five main attributes about the needs of users of health services in patient wards of hospitals Buol is the dimension of tangibles and responsiveness in the form of adequate toilet, hospital respond quickly to complaints of patients, service is fast and precise, facilities and medical equipment is complete and sufficient and the building and the rooms were clean and comfortable. 5 The main priority of the technique as a management response to customer needs is training staff, good communication skills, adding the appropriate medical equipment, the complaint settlement process flow arrangement, the application of a positive work culture.

Keyword : *Servqual, gap analysis, house of quality, QFD.*

INTRODUCTION

A shift in customers' perspective in assessing hospital services demanding hospital to redefine, revitalization and repositioning of business strategies in order to gain competitive advantage. To gain competitive advantage, the company should be able to provide satisfaction to its customers. Kotler (2001) states that satisfaction is the extent to which the notion of product performance to meet the expectations of buyers. If the performance of the product is higher than the expectations of customers, the buyers were satisfied or very happy. Among the factors that could affect customer satisfaction by Zeithmal and Bitner (2003) is a provision of the products / services of a higher quality, cheaper, and better service than its competitors. A product quality if it is said can meet the needs of its customers (Supranto, 2006).

To assess the quality of service, Berry, Parasuraman, and Zeithaml developed the SERVQUAL method in 1988. SERVQUAL is a service quality tool which is based on customer perception and from expected performance. SERVQUAL is one of the most widely used models for the evolution of quality of service (Pawitra & Tan, 2003). Initially, Parasuraman et al. (1985) proposed ten service quality attributes, that is: reliability, responsiveness, competence, access, courtesy, communication, credibility, security, understanding/knowing the customer and tangibles. However, in the early 1990s, 10 of these attributes are summarized into five. Five dimensions of quality of service, commonly known as RATER, that is; reliability, assurance, tangibles, empathy and responsiveness. With the help of SERVQUAL, customer satisfaction can be measured from the

difference, or gap between the expected rate (expectations) and perceived performance (perception). This approach can be applied to any service organization to evaluate quality standards for the services provided.

SERVQUAL has also been used in the House of Quality (HOQ) which is a matrix of Quality Function Deployment (QFD) to evaluate customer satisfaction with the service organization (Cudney & Elrod, 2011). Furthermore Cudney & Elrod, (2011), stated that since the introduction of QFD has been used in conjunction with a variety of techniques such as Kano model (Sauerwein, Bailom, Matzler, & Hinterhuber, 1996), SERVQUAL (Parasuraman, Zeithaml, & Berry, 1988), the analytic hierarchy process (AHP), and the maximum difference (MaxDiff). As revealed by Parasuraman et al. (1988), SERVQUAL dimensions can be modified based on the requirements and needs of the organization to make them more relevant to the context in which they are used (Paryani et al., 2010). The opportunity to apply QFD in the service and business sector are growing rapidly. QFD has been used to improve various aspects of the service in the healthcare industry, chemical, and telecommunications and distinctive product design applications. It's important for companies to identify the exact needs of the customer and to measure their satisfaction so it can survive in today's competitive market. QFD is more focused on the design quality of the quality inspection thus reducing development time, lower startup costs, and increase the use of teams (Fisher and Schutta, 2003).

RESEARCH METHODOLOGY

This study uses a mix method which is a combination of the type of quantitative and qualitative research. Quantitative with cross sectional approach to obtain data from respondents who will be the voice of customer on the matrix quality homes.

Qualitative using a case study approach in a hospital. This study will be conducted on the installation Inpatient General Hospital in Buol for one month, in August 2015, with the research object is focused on quality of service and patient satisfaction with the services obtained from inpatient of the hospital.

Amount of sample in the study were calculated using the Lemeshow formula (Murti, 2010), based on a total population of 5284, then obtained a sample of 135 people.

RESULT

Based on the results of questionnaires perception gap analysis and customer expectations of General Hospital in Buol obtained all the attributes question is negative, then the patient's perception is still not able to satisfy customer expectations. Thus there has been Gap, namely the hospital in Buol cannot meet patient expectations. 5 (five) highest gap of the tangible dimension is adequate toilet amounted to -2.222, responsiveness dimension that Hospital quickly responds to complaints of patients amounted to -1.9481, responsiveness dimension such doctors, nurses and staff are always ready when needed amounted to -1, 5556, the dimensions of responsiveness which is fast service and responsiveness amounted to -1.5259, tangible dimension such as the building and the rooms were clean and comfortable amounted to -1.4518 (Table 1).

The main results of this study are presented in the form of the house of quality matrix (Figure 1).

Description of the steps of the matrix formulation along with the results of each step are discussed below:

a. Customer Requirement

Customer Requirement obtained from analysis of the gap is negative ie tangible dimension is adequate toilet

amounted to -2.222, responsiveness dimension in the form of hospital respond quickly to complaints of patients amounted to -1.9481, responsiveness dimension such as doctors, nurses and staff are always ready when needed amounted to -1, 5556, the dimensions of responsiveness in the form of fast service and responsiveness by -1.5259, tangible dimension such as the building and the rooms were clean and comfortable amounted to -1.4518 (Figure 1).

b. Technical Requirement

Results of Focus Group Discussion on Customer Requirement is the provision of toilet in waiting room, cleaning the toilet with a given fragrance, control routine of the cleanliness, the setup process flow completion of the complaint, arrangement of work schedules and staff's commitment, discipline in charge, presence of the duty physician, Restructure the service process flow, arrangement of rooms, including medical equipment, household and the number of patients guards, reordering duties and work schedule cleaning service, availability of garbage bins in each room (Figure 1).

c. Relationship between Customer Requirement and Technical Requirement Of the 75 existing relationships, there are 30 strong relationship. There are 40 medium correlation (mutual support) between Customer Requirements with the Technical Requirements (score 3), and there is 5 weak relationship between Customer Requirements with Technical Requirements (score 1). (Figure 1).

d. Prioritized Customer Requirement

The results of the Prioritized Customer Requirement obtained adequate Toilet (0.059), hospital respond quickly to

complaints of patients (0,053), doctors, nurses and staff are always ready when needed (0,040), Fast and precise (0,046), the building and the rooms were clean and comfortable (0,044). (Figure 1).

e. Prioritized Technical Requirement

The results of the Prioritized Technical Requirement is training staff (patient safety, skill/competency, communication, human relationship management) (0.103), Good communication skills (0,085), Adding medical equipment accordingly (0.065), Setup groove the completion of the complaint (0.05), Implement work culture (0.048). (Figure 1).

DISCUSSION

In this study looks at a gap analysis in the SERVQUAL method, 5 main attributes that has a value gap most of this coming from tangibles dimension and the dimension of responsiveness, such as adequate toilet, hospital respond quickly to complaints of patients, doctors and nurses and staff are always ready when needed, service fast and responsive, and the building and the rooms were clean and comfortable. Through a gap analysis, researchers can directly determine the priority of the voice of consumers through the gap value of customer expectations and perceptions. This gap value matrix can answer 'WHATs' which is in the first stages of HOQ in QFD method.

Some studies also demonstrate the integration of these two methods in the design of improved quality of service. Among them are research Puay Cheng Lim, Nelson K.H.T. and Jackson p.m., (1999) in a study entitled "An Innovative Framework For Healthcare Performance Measurement". They identified five attributes with the highest level of service expected in this study is: (1) Through explanation of medical condition; (2) Doctors/staff should be professional and

competent; (3) Patients should be treated with dignity and respect; (4) Responsive doctors/staff; (5) Doctors should possess a wide spectrum of knowledge.

Based on the results of focus group or a organizations' management response (Buol hospital) to consumer demand (patient). The goal is to design or improve existing designs in order to meet customer expectations of service quality that is ideal. After the attributes expected by customers (Customer Requirements) is obtained, then the management should translate it into Technical Requirements, the researchers identified 36 technical requirements the management to answer customer requirements. 5 of them are providing and cleaning toilets, staff training, structuring process flow completion of the complaint, the realignment of duties and work schedule cleaning service and adds the appropriate medical equipment.

Determining the value of relationship between Customer Requirements and Technical Requirements, a researcher with the agreement between the hospital management in Buol, begins by looking at the gap analysis. Negative gap on the SERVQUAL score gap will be used as customer requirements in making of HOQ. Results of Focus Group Discussion on customer requirements gained 34 attributes Technical Requirement. The next step is to find the relationship of Customer Requirements and Technical Requirements on the relationship between the patient's wishes with the efforts of Buol hospital to make it happen. The relationship is very likely more than one because Customer Requirements may have more than one relationship with Technical Requirements, and vice versa the Technical Requirements may have more than one relationship with Customer Requirements, the result that there are 75 relationship between Customer Requirements with the Technical Requirements.

The strong association among others which are, "The facilities and medical equipment is complete and sufficient" to

"Adding medical equipment appropriately", "Doctors and nurses are able to provide appropriate action and quick" with "Adding medical equipment appropriately", "Building and room clean and comfortable "with the" Setup room, including medical equipment, household and the number of patients guards", "There are clear signs direction "with" Making the complete instruction boards".

Moderate relationships among others are "The facilities and medical equipment is complete and sufficient" with "Arranging the maintenance system of medical equipment", "Fast and precise" with "Arranging the maintenance system of medical equipment", "building and the rooms were clean and comfortable" with "realignment duties and work schedule of cleaning service", "building and the rooms were clean and comfortable" with "Control routine towards cleanliness", "Giving the right medicine" with "Provide medication according to the standard hospital services and government policies".

The weak relationship among others, "Patients feel safe when receiving health care in hospital" with "Arranging maintenance system of medical equipment", "adequate toilet "with Provision of toilet in the waiting room", "building and the rooms were clean and comfortable" with "Cleaning the toilet given with fragrance", "Doctors and nurses are able to provide appropriate and quickly action" with "Following the development of medical science".

After getting the relationship between Customer Requirements with the Technical Requirements, the next is to strategize improvement on Planning Matrix. This section contains quantitative data which aims to indicate the level of interest, customer satisfaction to the product or service. Results of Normalized Raw Weight or priority requirements of consumers are "adequate toilet" (0.058), "Hospital respond quickly to complaints of patients" (0.052), "Fast and precise"

(0,046), "The facilities and medical equipment are complete and adequate "(0.044)," the building and the rooms were clean and comfortable "(0.044).

Based on consideration of the priorities determined through HOQ that the five main priorities technique as management response to customer requirements is staff training, good communication skills, adding the appropriate medical equipments, the complaint settlement process flow arrangement, the application of a positive work culture.

This prioritized technical response will be in line with the Buol Hospital Mission in improving health care quality and improve the professionalism of health workers, so in order to realize the vision to become a leader in health services for the Buol society can be realized.

Based on this, the QFD proved to maintain the integrity of customer requirements and produce innovative strategies to achieve the vision of the organization. Cudney & Elrod (2011) also stated, QFD can lead directly to the deployment policy for the implementation and performance management. Overall, QFD is a planning and development services tool, facilitate service providers in a more organized way to ensure quality and customer satisfaction while maintaining a sustainable competitive advantage (Akao, 1990).

CONCLUSIONS

From the Gap analysis, 25 Customer Requirements attributes is a factor into patient assessment of the quality of health service Buol hospital showed that the overall attributes of the five dimensions of quality is worth negative. This means that the customer is not satisfied (dissatisfaction) with the services provided by Buol hospital. Tangible dimension which is adequate toilet has the highest gap value that is equal to -2,222. Based on consideration of the priorities determined

through HOQ that the five main priorities as engineering management response to customer needs is training staff, good communication skills, adding the appropriate medical equipment, arranging the complaint settlement process flow, implementation of a positive work culture.

Based on the results of this study, the advice that can be given to the management of Buol hospital as consideration to further improve the quality of its services are: (1). The first priority is improving the ability of the human resources (HR) through training and education both for medical personnel, paramedics and other technical personnel, second priority, increasing the ability of good communication between patients and Buol hospital's staff so the user of this service response to this service could be better, the third priority, adding both facilities and infrastructure facilities mainly medical equipment and toilet. (2). QFD can be used by management as a tool to improve the quality of services, both inpatient and outpatient services, by identifying more attributes in each dimension of health care services.

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Table 1. Results of Gap Analysis between Perception Scores and Costumer Expectations in Buol General Hospital, August, 2015

NO	DIMENSI	ATRIBUT	SKOR PERSEPSI	SKOR EKSPEKTASI	NILAI GAP
1	Tangible	Adequate toilet	2,4444	4,667	- 2,2222
2	Responsiveness	Hospital respond quickly to complaints of patients	2,719	4,667	- 1,9481
3	Responsiveness	Doctors, nurses and staff who are always ready when needed	3,378	4,533	- 1,5556
4	Responsiveness	Fast and responsive	3,281	4,807	- 1,5259
5	Tangible	The building and the rooms were clean and comfortable	3,111	4,563	- 1,4518
6	Tangible	The facilities and medical equipment is complete and sufficient	3,193	4,63	- 1,4371
7	Assurance	Hospital ensures environmental safety	2,911	4,333	- 1,4222
8	Tangible	There are signs of clear direction	2,83	4,207	- 1,3778
9	Reability	Ease of entry and exit administration	3,111	4,422	- 1,3111
10	Tangible	Availability of drugs needed by patients	3,452	4,756	- 1,3037
11	Tangible	Adequate Parking area	2,681	3,985	- 1,3037
12	Reability	Award of the right medicine	3,533	4,8	- 1,2667
13	Reability	Consistency in the imposition of fees	3,23	4,393	- 1,1629
14	Reliability	Doctors and nurses are able to provide precise and fast action	3,607	4,674	- 1,0667
15	Assurance	Patients feel safe when receiving health care in hospitals	3,378	4,444	- 1,0667
16	Empaty	Doctors, nurses and staff to be welcoming and friendly	3,496	4,459	- 0,9630
17	Empathy	Doctors and staff want to hear and understand the complaints of patients with patience	3,644	4,593	- 0,9482
18	Reability	The service time according to the schedule given	3,444	4,304	- 0,8593
19	Empathy	Doctors and staff provide care to patients	3,578	4,37	- 0,7929
20	Assurance	Doctors Provide a full description of the patient's medical condition	3,63	4,415	- 0,7852
21	Assurance	Hospital provides a pathway the complaint	3,444	4,207	- 0,7630
22	Empathy	Good communication between doctors and patients	3,607	4,311	- 0,7037
23	Assurance	Hospital ensures patients' privacy during treatment	3,607	4,304	- 0,6963
24	Assurance	Doctors have extensive knowledge to answer patients' questions	3,778	4,378	- 0,6000
25	Tangible	Doctors, nurses and staff are neatly dressed	3,674	3,993	- 0,3185

Source : Primary data is processed with Microsoft Excel Program. 2016

