

**AN ANALYSIS OF HEALTH CARE SERVICE PERFORMANCE  
TOWARD THE CUSTOMER SATISFACTION  
AT P.K.U. MUHAMMADIYAH HOSPITAL  
IN YOGYAKARTA**

**A THESIS**

**Presented as Partial Fulfillment of the Requirements  
to Obtain the Bachelor Degree in Management Department**



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2004**

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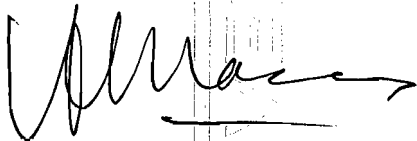
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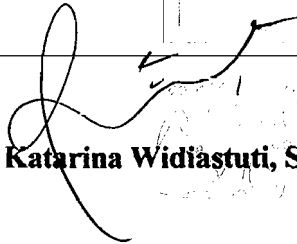
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## ACKNOWLEDGEMENTS

This thesis is one of the prerequisites that must be fulfilled by every student of Economics Faculty, Islamic university of Indonesia as partial fulfillment of the requirements to obtain the Bachelor Degree in Management Department.

I would also like to thank everyone who has given meaningful contributions and supports in the making of this thesis. In order, they are:

1. My parents, H. Amir Hamzah Leo and Hj. Misribut; my sister and brothers, Dessy, Ifan, Arry, and Andy; my beloved ones who supports me all time, who understands and cares of me, Desi Oktarima (Thanks for the love!).
2. Asma'i Ishak, Drs., M.Bus, Ph.D. as the Director of International Program at Economics Faculty, Islamic University of Indonesia.
3. Suwarsono, Drs., MA. as the Faculty of Economics Dean, Islamic University of Indonesia.
4. Al Hasin, Drs., MBA. as the Content Advisor of the thesis.
5. Katarina Widiastuti, SS. as the Language Advisor of the thesis.
6. H. Muhammad Iqbal, dr., Sp. PD as the Director, Irma Risdiana, S.Si. Apt as the HRD Section Head and the staffs of PKU Muhammadiyah Hospital Yogyakarta.
7. All friends: Eka Leo Kelana; Yulianto Prasetyo; Endy Lesmana, Rudi Anwar; Eko Pramono Sulisty; Sulisty Basuki; Hery Tarmizi; Osmond Bramono; Muhammad Istivan Mulya; Amal Wijisaksono; Angga Hendrasta; Ardiansyah; Ari Prihastaka; Erwin Bahar; Donny Setiawan; Gandhi

Pramuditha; Muhammad Ridwan; Willy Gunawan; Ika Fitria Sari; etc. for the supports, friendship and tolerance.

8. All respondents for the cooperation in the data gathering process.
9. All parties for the contributions in the making of this thesis who could not be mentioned in detail order.

Above all, I would like to thank God for the blessing, benediction, guardian, and guidance, that – as a student of International Program, Management Department, Faculty of Economics, Islamic University of Indonesia – I could finish this thesis.

I really hope that this thesis could deliver contributions and benefits for others.

Yogyakarta, December 2004

Mirza Monanda

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## ABSTRACT

Monanda, Mirza. (2004). "An Analysis of Health Care Service Performance Toward The Customer Satisfaction at PKU Muhammadiyah Hospital in Yogyakarta". Yogyakarta: Management Department, Faculty of Economics, Islamic University of Indonesia.

The rapid development in medical care technology has required the hospitals to provide better performance to their customers (the patients and families). It is what makes the competition in health care industry very intense. As an industry with capital intensive, labor intensive, skill intensive, and technology intensive, hospitals have strategic function and role in health care system.

This research is conducted to identify the actual condition of customer satisfaction and to identify whether or not there is significant relationship between the customer satisfaction and five service quality dimensions. Also, it is conducted to identify which service quality dimension among available five that contributes the most the customer satisfaction at PKU Muhammadiyah Hospital in Yogyakarta. This research thesis involved 100 respondents that represented the patients of polyclinic visits and those who were hospitalized during April 2004. The sampling method used was convenience sampling.

In general, PKU Muhammadiyah Hospital has already satisfied its customers, whose average score of customer satisfaction (Y) equals to 4.69.

Simultaneously, tangible (X1), reliability (X2), responsiveness (X3), assurance (X4), and empathy (X5) influence significantly the customer satisfaction (Y). It has been proven statistically that reliability (X2) contributes most dominantly the customer satisfaction at PKU Muhammadiyah Hospital.

The management of PKU Muhammadiyah Hospital needs to preserve the good performance of all service quality dimensions, even though it has already scored positive customer satisfaction. It is taken to continuously maintain the loyalty and reliance of its patients and public generally. Also, the management of PKU Muhammadiyah Hospital needs to organize regular survey to identify the actual satisfaction of its patients. It will be helpful to evaluate whether or not the current performance provided already satisfies the patients.

## ABSTRAK

Monanda, Mirza. (2004). "Analisis Kinerja Pelayanan Kesehatan Terhadap Kepuasan Pelanggan Pada RSUD Muhammadiyah di Yogyakarta". Yogyakarta: Jurusan Manajemen, Fakultas Ekonomi, Universitas Islam Indonesia.

Perkembangan teknologi kedokteran yang pesat telah menuntut rumahsakit – rumahsakit untuk memberikan kinerja pelayanan yang lebih baik kepada para pelanggan (para pasien dan keluarga pasien). Inilah yang menjadikan persaingan di dalam industri pelayanan kesehatan sangat ketat. Sebagai suatu industri yang bersifat padat modal, padat karya, padat ketrampilan, dan padat teknologi, rumahsakit memiliki fungsi dan peran yang strategis dalam sistem kesehatan.

Penelitian ini diadakan untuk mengetahui kondisi terkini kepuasan pelanggan dan untuk mengetahui apakah terdapat hubungan yang signifikan antara kepuasan pelanggan dengan lima dimensi kualitas jasa. Selain itu juga untuk mengetahui dimensi kualitas jasa manakah yang paling mempengaruhi kepuasan pelanggan pada RSUD Muhammadiyah di Yogyakarta. Penelitian ini melibatkan 100 responden yang mewakili pasien – pasien kunjungan poliklinik dan pasien – pasien yang dirawat inap selama April 2004. Metode sampling yang digunakan adalah '*convenience sampling*'.

Secara umum, RSUD Muhammadiyah telah memuaskan pelanggannya (para pasien dan keluarga pasien), dengan skor rata – rata kepuasan pelanggan sebesar 4.69.

Secara simultan (serentak), variabel tampilan fisik (X1), keandalan (X2), daya tangkap (X3), jaminan (X4), dan empati (X5) berpengaruh secara signifikan terhadap kepuasan pelanggan (Y). Telah terbukti secara statistis, bahwa variabel keandalan (X2) paling mempengaruhi kepuasan pelanggan pada RSUD Muhammadiyah di Yogyakarta.

Pihak manajemen RSUD Muhammadiyah perlu mempertahankan kinerja seluruh dimensi kualitas jasa yang sudah baik tersebut, meskipun telah mencatat kepuasan pelanggan yang positif. Tindakan ini diambil untuk terus memelihara kesetiaan dan kepercayaan para pasien dan masyarakat umum. Pihak manajemen RSUD Muhammadiyah juga perlu mengadakan survei secara rutin dan berkala untuk mengetahui kepuasan pelanggan terkini. Hal ini akan sangat membantu untuk menilai apakah kinerja pelayanan yang ada telah memuaskan pasien.

# CHAPTER I

## INTRODUCTION

### 1.1. Study Background

Nowadays, health care service is something people really care about especially regarding how it serves them, cures their sickness, increases their quality of life and last but not least, it could satisfy their expectations. This judgment is derived from the consideration that health is one of people's biggest investments despite of banking investment, land investment, capital investment, knowledge investment or any others.

The expectations that customers (patients and their families) might have from the health care service are likely the quick treatment initiative from the medic-workers (doctors and nurses), friendly welcome and professional service, and also the sustainable medical facilities to support the medical treatments held by hospital. As an agent of public health care service, hospital is expected by public to continuously improve its service performance and professionalism up to the level, at which the expectations meet the perceived performance.

Nowadays, the development of technology in medics grows very rapidly. Indeed, it is a positive thing for the medics as a whole. However, it should be able to support the improvement of current medical performance. Discoveries and inventions in medics are expected to be able to respond the latest challenges appeared by public (patients and healthy people) about the

satisfying medical treatments, reachable medicine price, professional service from the medic-workers and relatively quick healing process for the patients.

We may agree that hospitals are places where diseases are cured and health nuisances are well cared. It becomes more obvious when we all really realize that hospitals are the single hope for us to heal our sickness and we have already believed that nowhere else can cure and care the sicknesses as well as hospitals. Since this awareness appears among people, this is the origin where the strategic role of hospitals begins. As people's single hope in medical treatments, hospitals must not disappoint their patients and begin to improve their poor performance to the excellent one.

Hospital has become an integral part of the entire health care service system and has been developed through a '*health development plan*', according to the GBHN (*Garis-garis Besar Haluan Negara*), the national health system, and the '*Repelita*' in health care sector and other constitutional sets / tools.

From the hospital's growth side, the number of hospitals in Indonesia has increased significantly within the last twenty years, and the most growing number occurred in major cities like Jakarta, Surabaya, etc. Since the '*limited liability companies*' were allowed to establish and organize hospitals as the follow-up to a deregulation in health care business sector, the growing number became easily seen.

This growing number of hospitals would automatically create an '*intense competition*' among them and would bring very big challenges as

well for the hospital managers or the hospital owners to keep their business survive. The '*intense competition*' would involve the market segment, medic-workers, paramedic-workers and other professionals in medics.

The management of business in hospital is totally different from others. As an activity that combines '*capital-intensive*' and '*labor-intensive*', in running its business, hospital is also directed to the application of '*socio-ethics values*' aside from the economic concerns. The activity of managing a hospital also involves various sciences such as medics, nursery, technique, economics, jurisprudence, or even public relations.

Since the beginning, hospitals are part of the medics system. Therefore, their position in the medics system itself is very strategic, depends on the economics system and the political will a country has. Thus, hospitals are able to become the government's executive units in providing public service or as private service institutions. In case of Indonesia, legal environment – as one of affecting factors toward hospital as a system – had produced two major laws issued by government, which were Laws No. 23 / 1992 about "Health" and Laws No. 8 / 1999 about "Consumer Protection". Laws No. 23 / 1992 constituted the principle and the direction of health care development, rights and obligations of people, government's tasks and responsibilities, medical efforts, health care resources (human resources included), and '*penal perseverance*' to protect the deliverers and receivers of health care service. Meanwhile, Laws No. 8 / 1999 about "Consumer Protection" was strategically aimed to improve the consciousness,



capabilities, and the independence of consumers to protect themselves, and to upsize the '*consumer empowerment*' in selecting, determining, and claiming their rights as consumers.

Hospitals in Indonesia are mostly owned and organized by government. Most of them belong to the regional governments. It is understandable then if we see from the economics perspective, the organization of hospitals is always '*paradox*'. On one hand, hospitals must be organized due to technological progress, in which costs consequence is completely existent. On the other hand, they must be organized with the emphasis of social function and of '*philanthropic nature*', which ignores costs.

Nowadays, – like or dislike – hospitals must be organized efficiently and effectively. It creates a condition, in which hospitals post themselves in form of corporation. This condition is reflected also in the acknowledgement, which said that hospital is an institution that is '*capital-intensive, technology-intensive, labor-intensive, and skill-intensive*'. Furthermore, hospital is no more a social institution, but it is much more like '*an independent socio-economic institution*' now. There are many hospitals now that are no longer managed by '*non-profit foundations*', but by the '*limited liability companies*' and other body corporates whose practices are business-minded.

The controversy about the role and functions of a hospital appears because of different understanding and perspective toward the constitution

and the reality that lives in the hospital system itself. MAKERSI (*Majelis Kehormatan Etik Rumah Sakit Indonesia*) (in Soeroso, 2003: 8) has issued the statement that essentially disagrees against the understanding: “hospitals are considered as business entities that make profit only.”

As the ultimate strategy to survive in an ‘*intense competition*’, hospital is developed to keep the ‘*customer’s loyalty*’ that is directly derived from the customer satisfaction. Indeed, there is always ‘*conflict of interests*’ between the service provider (hospital) and the customer (patients). On one hand, hospital chases profits while on the other hand, the patients expect satisfaction. It is desirable if ‘*win-win solution*’ is achieved for both of them.

Based on the above study background, this study is carried out by underlining the analysis of health care service performance provided by PKU Muhammadiyah Hospital in Yogyakarta and its impacts toward the customer satisfaction.

## **1.2. Problem Identification**

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Based on the study background mentioned earlier, the key problem to identify is how well the health care service performance provided by PKU Muhammadiyah Hospital and how good it satisfies the customer’s expectations.

### **1.3. Problem Formulation**

In relevance to the problems identified above, the problems then can be formulated as follows:

1. Is there significant relationship between the dependent variable (customer satisfaction) and the five independent variables (tangible, reliability, responsiveness, assurance, and empathy) at PKU Muhammadiyah Hospital in Yogyakarta?
2. Among the five service quality dimensions, which one contributes most dominantly the customer satisfaction at PKU Muhammadiyah Hospital in Yogyakarta?

### **1.4. Problem Limitation**

To simplify the researcher in conducting the research study and to avoid constraints and difficulties that might appear, the researcher needs to set the limitations of research area. It would be helpful for the researcher to make the research study becomes more focused and directed. This would also contribute a complete understanding and better ideas during the thesis writing process.

Some limitations necessary to consider are as follows:

1. The focus this research wants to emphasize is the performance of health care service perceived by the patients. It is measured through five service quality dimensions.

2. It uses five service quality dimensions to measure the customer satisfaction toward the current health care service performance, which are: tangible, reliability, responsiveness, assurance, and empathy.
3. The service performance this research wants to measure is all health care (medical) service provided by PKU Muhammadiyah Hospital that directly represents the five service quality dimensions.

### **1.5. Research Objectives**

Each research study is designed to have its own objectives.

Meanwhile, the objectives this thesis wants to achieve are:

1. This research is designed to know whether or not there is significant relationship between the dependent variable (customer satisfaction) and the five independent variables (tangible, reliability, responsiveness, assurance, and empathy) at PKU Muhammadiyah Hospital in Yogyakarta.
2. This research is designed to know which service quality dimension among available five that contributes most dominantly the customer satisfaction at PKU Muhammadiyah Hospital in Yogyakarta.

## 1.6. Research Contributions

The parties that might have interests in the contributions this research delivers are:

### 1. PKU Muhammadiyah Hospital

This research is expected to share the factual information about the real condition of customer satisfaction derived from what they perceived from the current performance (health care service). And as reliable consideration to have complete evaluations and then take actions to do necessary things.

### 2. Researcher

This research study is expected to give the researcher a complete understanding about how significant the role of Total Quality Service provided by a hospital in purpose of satisfying its patients as customers.

### 3. Others

This research is expected and directed to give thought and idea contributions to the Economics as a science. Also, it is expected to be ~~reliable, representative, and relevant reference for the purpose of writing~~ a research thesis under similar topic.

## **1.7. Definition of Terms**

### **1. Service**

A service is an activity or series of activities of more or less intangible nature that normally, but not necessarily, take place in interactions between the customer and service employees and / or physical resources or goods and / or systems of the service provider, which are provided as solutions to customer problems.

### **2. Customer Satisfaction**

Satisfaction is the level of a person's felt state resulting from comparing a product's perceived performance (or outcome) in relation to the person's expectation.

## CHAPTER II

### REVIEW OF RELATED LITERATURE

#### 2.1. Theoretical Review

The health care service quality has been a study material and concern for many experts all over the globe. In Indonesia, GBHN has already stated that health care sector policies, included the direction of health care sector development and the improvement of public health care service performance and quality. This statement has obviously reflected the government's seriousness about the position and how strategic the health care service quality in public's mind. Then, it was followed up in *Repelita VI*, in which necessary policies that included the efforts of quality and the health care service improvement were well-formulated.

While in United States, '*Health Service Act*', which required the presence of '*National Quality Management Program*' had already been issued. This program was aimed for managing the different standards and protocols. Nowadays, '*Quality Assurance Committee*' as an external organization has been founded in many European countries. As well as in Australia, the health care service quality provided by hospitals has been a major concern.

### 2.1.1. The Nature of Hospital

Naturally speaking, hospital is one of service industries that focuses on health care service. Therefore, hospital must pay complete obedience toward business rules and also its various managerial function roles. However, the reality that hospital possesses its own specific natures, has distinguished it from remaining other industries. As the consequence, hospital needs different treatment and different approach at the meantime.

Rachael Massie in "*Essential of Management*" (1987) explained three natures of hospital that distinguished it from other industries. *First*, the reality that "the raw material" of health care service industry is "human". In hospital industry, the suggested main objective is satisfying human needs, not only creating products through and by process and costs as efficient as possible. Human is the element that needs to be treated attentively and to be major responsibility carried out by every hospital supervisor. The differences delivered by this situation bring important impact to "management" as a science, especially when we deal it with the ethical and value consideration of human life.

*Second*, the reality that in hospital industry, those who are recognized as customers do not always stand for those who are 'service-receivers'. Patients are those who are cured in hospital. However, sometimes they do not make their own decision the hospital they will be nursed by. In simple words, someone else or others make the decision for them. For instance, an employee must go to a hospital suggested by the company where he / she



works for. Even in some cases, patients go to the hospital just because the doctor suggests it that way. The situation in abroad might be another phenomena. In well-developed countries, the '*decider*' for the patients is insurance offices. These insurance offices list several suggested hospitals to organize the medical treatments and consultations upon their clients (the patients). It is different when we compare it to restaurant business, which is obviously contrast. Soon after a customer walked in to a restaurant, he / she personally decides the meal menu to order from the restaurant. Thereby, the marketing object is not the patient, but the doctor who treats. This fundamental difference deserves a priority attention from the hospital supervisors.

*Third*, the reality that explains the importance of professionals' role in hospital, includes the doctors, nurses, pharmacians, physiotherapists, radiographers, nutritionists, physicians etc. Those professionals are numerous in a hospital. The proportion of professional workers and regular workers in a hospital is much greater than in other organizations.

The doctors are very important professionals in a hospital. The importance of a doctor for a hospital becomes more real if he / she personally encourages the patients to come to the hospital and determines the treatment actions upon them. William Anlyan in a book entitled "*Essential of Management*" (1987) stated that professional relationship between the doctor and hospital is '*symbiosis*'. As direct consequence to it, this relationship needs to be well-maintained.

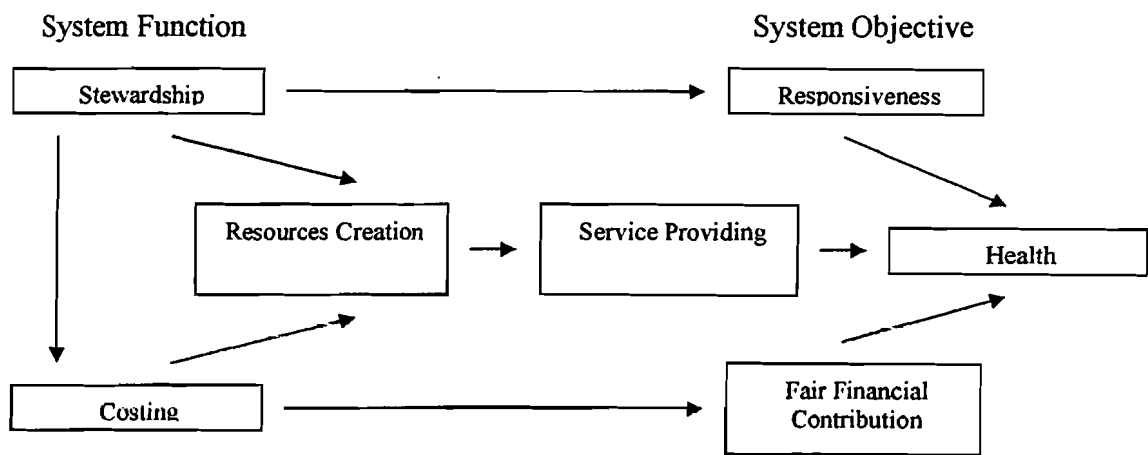
### 2.1.2. The Nature of Health Care Service Quality

The understanding of health care service quality has frequently been studied by numerous experts. Tracendi in his book *"Cost, Quality, Access in Health Care"* (1988) explained that one of the most complex issues in health care was the measurement of service quality. The scope was very vast, from the perfectability of clinical intervention technique up to its role of depressing the mortality rate. Some believed that health care service quality in a hospital could be measured from the mortality rate scored. Some also believed that it could be measured from the surgical mortality rate. The remaining other even still believed in the bed occupancy rate or the frequency of visits as the measurement object. Meanwhile, Edlund and Tracendi (1985) convinced that to understand well the nature of health care service quality, it was necessary to raise questions like: by whom (?), for whom (?), and what purposes the health care service is provided for (?).

In a profit-oriented organization, the management is forced to do efforts in order with relatively minimum costs to earn relatively fair profits. The success indicator then is measured with the profit margin the organization may earn within a certain time period. Whereas, in a non profit organization, the management is encouraged to deliver maximum service performance by using the existing resources. The success indicator for a non profit organization is more determined by the service quality it could deliver. It is very relevant to what Anthony and Herzlinger have said in a book *"Management Control in Non Profit Organization"*, which was cited from

the book “*Essential of Management*”, which stated that non profit organization like hospital, was an organization whose orientation was not profits for its owner – except providing service – subject to the organization’s mission.

Basically, the objective of every health system is improving the quality of people’s health. As “*World Health Report 2000*” (in Soeroso, 2003: 21-22) described, the function and the objective of health system is visualized in the figure below:



**Figure 2.1: Function and Objective of Health System**  
(Cited & adapted from Soeroso, 2003: 21)

Description :

- a. *Responsiveness* means to achieve the objective. The system must be responsive toward the public’s needs and fulfill the needs of unhealthy individuals subject to their individual dignity.

- b. Fair financial contribution means the burden beared by individuals / families is financially fair. In other words, the financial burden of a family deserving the health care service is proportionally equal to the family's income beyond the primary needs. Even though the system provides high quality medical facilities while the public's financial contribution is unfair, it is a constraint to the accessibility of those medical facilities.
- c. Organizing a sustainable health care service is one of major functions of a health system.
- d. Creating resources is one of major concerns in health system function. It includes the infrastructure investment and the presence of human resources development through education and trainings.
- e. The subsystem of costing is assigned to do '*pooling*' (fund rising) and '*purchasing*' for the purposes of health care service.
- f. *Stewardship* is the government's function to be responsible for the improvement of public welfare and health, aware of public trust, and ~~providing the legitimation for health care sector's policies what public~~ really aspire about.

The industry of health care service has its own characteristics as developed by Gani (in Soeroso, 2003 : 22-23) below:

1. Consumer ignorance

The consumers of health care service are usually in weak position because of the '*asymmetric information*'. They have no idea about what

and how they will be treated and they even do not know since the beginning how much cost they have to spend for every single health care service they receive. In practices, the consumption of health care service that a patient can make is mostly arranged by '*service provider*'. In other words, '*consumer choice*' or '*well informed consumer*', which becomes a supporting force of competition in market mechanism, it is void within health care industry.

## 2. Supply induced demand

By understanding the nature of '*consumer ignorance*', service providers would be easier to encourage the usage of service they provide. Oftenly, the application of certain sophisticated medical devices for disease diagnosis do not deliver meaningful contribution at all for patients therapy.

## 3. Health care service product is not a homogen concept

The demand elasticity of each service is different from the others. For example, the demand for intensive care service is very inelastic toward the price change. Whereas the price elasticity for minor sicknesses will be obviously seen.

## 4. Restriction toward competition

As an ethical-natured public service, it strictly limits the '*commercial marketing*' (commercial ads). However, as an industry, there are frequent availability of ethical breakings, such as disguised bonuses or discounts.

5. Inassurance of sickness

Generally, there is inassurance about someone's sickness. It usually occurs when health care service provided is cheap or cost-free.

6. Tendency of labor-intensive

The development of science and medical technology runs differently from others. The development of other sciences and technologies goes to the automatization, which decreasing the number of human resources needed. The development in medics requires more skilled and trained human resources for certain diseases.

7. *Healthy as rights*, the unique nature of health care service is the presence of universal perspective that health is human rights so that the distribution of health care service must be organized according to the needs, not the demands.

### 2.1.3. Quality Measurement

Indeed, measuring the service quality in a non profit organization which is qualitative-natured is more complicated than measuring the profit earning in a profit-oriented organization which is quantitative-natured. The measurement of service performance quality in a hospital is complicated by other specific factors. Again, in health care sector, the patients are definitely not in the position with the ability to measure exactly the clinical service quality they perceive.

Even though there are numerous factors the hospital must consider, the existence of parameter to measure the achievement and service quality made by the hospital organization is a compulsory. One definition stated that the quality of health care service usually referred to the ability of a hospital in delivering services that meet the medical profession standards and it must be something the patients could take in the whole part. Then, the usage of resources needs to be considered as efficient as possible.

Prof. Albin Krczal (in Aditama, 2002: 174) from Australia who wrote in *'Hospital Management International Magazine'* (1996) explained that the service quality measurement oftenly viewed from different perspectives, either by the government, hospital managers, doctors, other medical officials, or even public. Therefore, to achieve a common perspective, those parties need to uniform the differences by knowing well each other their understanding pattern.

According to Longest (in Aditama, 2002: 175) as stated in book entitled *"Management Practices for the Health Professional"* (1976), there were a lot of aspects could be used to measure the health care service quality. For example, it could be measured from the "structure" of the service itself and the physic of service to provide. It included the service scope, the education rate of the *'service-deliverers'*, or other characteristics. The "process" of service delivery itself might also be measured to judge the quality. In this case, the interaction between *'service-deliverers'* and *'service-receivers'* is obviously seen. The activities may include a field

observation to assess the patient service in polyclinics and the nursing rooms; checking the medical record data; and assessing the *'fit-and-proper'* of the therapy actions. The alternative measurement can be done by observing the outputs like the mortality rate, handicap rate, etc.

Generally, the activity of measurement / assessment should pass through three stages, which are orderly (Aditama, 2002: 175):

1. Standard setting;
2. Performance assessment;
3. Performance improvement efforts.

**Table 2.1:  
Approach, Technique, & Criterion of Service Quality Measurement**

<p>• <b>Approach</b></p> <p><i>General</i></p> <p>License</p> <p>Accreditation</p> <p>Sertification</p> <p><i>Specific</i></p> <p>Medic committee</p> <p>Profession associate</p>
<p>Patient satisfaction</p> <p>Malpractice regulation</p>
<p>• <b>Technical</b></p> <p>Structure evaluation</p> <p>Process evaluation</p> <p>Output evaluation</p>
<p>• <b>Criterion</b></p> <p>Explicit</p> <p>Implicit</p>

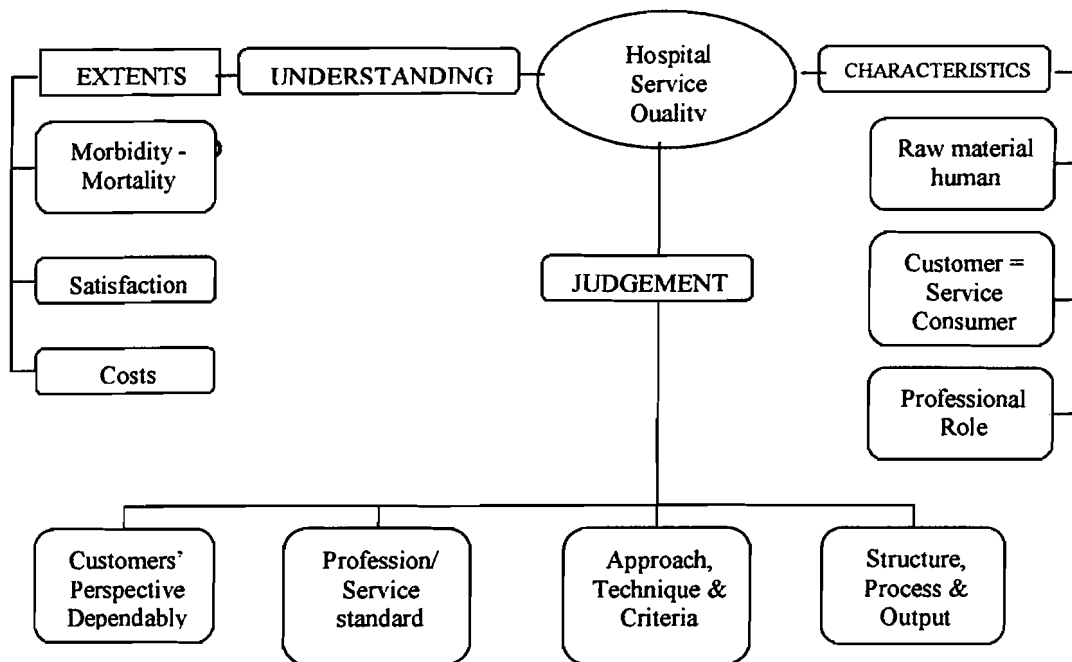


Jonas and Rosenberg (in Aditama, 2002: 176) formulated three aspects of service quality measurement, those are *approach aspect*, *technical aspect*, and *criterion aspect*. Thus, as visualized on the table above, there are two approaches, three techniques, and two criteria. Those might be used in combination one to another.

Through the '*approach aspect*', the general approach is directed to evaluate the hospital's ability and its employees to compare with the current standards. Then the education rate, working experience, and necessary knowledge of the employees are tested. The hospital itself is inspected from the physical building, the administration, the managers, the qualification of human resources, and the service delivery under the current standards. The special approach on the other hand evaluates the interaction between the patients and the '*service-deliverers*' in a hospital.

The '*technical aspect*' is done through three components of measurement which are *structure*, *process*, and *outputs*. '*Structure*' evaluates the condition of facilities, physical building, organization structure, qualification of hospital staffs, etc. '*Process*' evaluates the activities of doctors and other medical workers in handling patients. Finally, '*output*' evaluates the medication.

Explicit criterion is the written criterion. It means the doctor must write his / her full name when he / she finishes writing the status. Thus, it can be detected in the medical record whether or not the full name is already filled in. Implicit criterion is the unwritten criterion.



**Figure 2.2: Service Quality in Hospital**  
 (Cited & adapted from Aditama, 2002: 177)

#### 2.1.4. Service Quality Parameters

As explained previously, indeed, service quality is relatively more complicated than the goods quality. Naturally, service quality is perceived after the consumer experiences it. The dissatisfaction perceived by consumer happens because there is a gap between the promised satisfaction of delivered services and the perceived satisfaction of received services. This consumer dissatisfaction would lead the consumers turning to another promising company. Below these are two possible approaches of measuring service quality:

1. SERVQUAL Method;
2. The Gap Model.

#### 2.1.4.1. SERVQUAL Method

SERVQUAL Method was developed by Leonard L. Berry, A. Parasuraman, and Valerie A. Zeithaml. It is developed to measure how thick or how thin the incapability of a company in fulfilling customer's expectations. It relies on five service quality dimensions, which are *tangible*, *reliability*, *responsiveness*, *assurance*, and *empathy*. This method applies two steps, *first*, obtaining customer perception about the expected services, and *second*, measuring customer perception about the company's services. In practice, customers are required to respond several questions that represent these five service quality dimensions.

The common formula of SERVQUAL Method is:

$$\text{SERVQUAL Score} = \text{Perception Score} - \text{Expectation Score}$$

#### 2.1.4.2. The Gap Model

This model is developed to identify the actual position of satisfaction gap between service delivery and service receiving. This gap model is very helpful in '*planning*' and '*strategic decision making*' in order to improve the company's performance, also the success of goals achievement.

This model – developed by Zeithaml et al – consists of five gaps.

These gaps are as follows:

1. Gap 1 (Understanding Gap);
2. Gap 2 (Design Gap);
3. Gap 3 (Delivery Gap);

4. Gap 4 (Communication Gap);
5. Gap 5 (Service Gap).

The nature of these gaps is '*customer-oriented*'. This model also focuses on possible differences while process of service delivery is being conducted.

#### **2.1.5. Concept of Customer Value**

Value may have several meanings. But in this term, '*customer value*' is defined as "*summation of benefits and sacrifices that result as a consequence of a customer using a product / service to meet certain needs*"<sup>1</sup>

According to Garvin (in Aditama, 2002: 179), the market segment can be classified in to eight quality dimensions as follows :

1. Performance;
2. Features;
3. Reliability;
4. Conformance;
5. Durability;
6. Serviceability;
7. Aesthetics;
8. Perceived quality.

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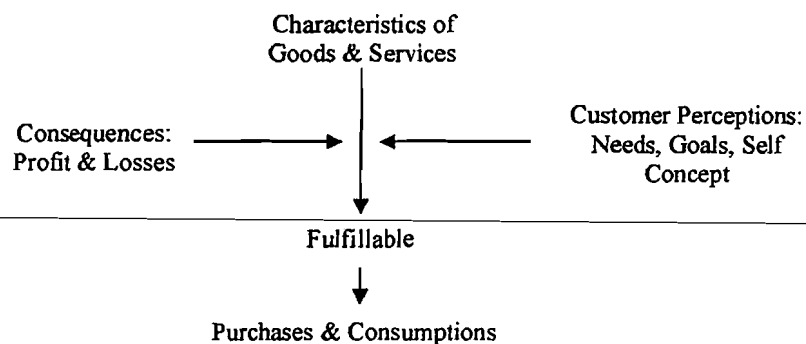
<sup>1</sup> Aditama, Tjandra Y. (2002). *Manajemen Administrasi Rumah Sakit*, Edisi Kedua. Jakarta: UI-Press. p. 179.

### 2.1.6. Concept of Customer Evaluation

What influences customers in using products / services is derived from the factors below (Aditama, 2002: 180):

- Macroenvironment;
- Customer characteristics;
- Usage process;
- Connection with suppliers.

The sketch below will visually describe the buying process of a product / service will finally be referred to the concept of customer evaluation toward both products and services. In simple explanation, people do not buy products for the product value only, but also they buy products for the utility / function of the products.



**Figure 2.3: Factors Affecting Purchases And Consumptions of Products**  
(Cited & adapted from Aditama, 2002: 181)

Geraldine Fenbnel (in Aditama, 2002: 182) stated seven customer perceptions in product consumption referred to the time of usage as follows:

1. Current problem;
2. Potential problem;
3. Normal depletion;
4. Interest opportunity;
5. Sensory pleasure opportunity;
6. Product-release problem;
7. Satisfaction / frustration.

Except identifying the customer perceptions for the product usage as listed previously above, it is compulsory to identify the concept of '*realized value vs anticipated value*'. Basically, '*anticipated value*' is the concept of value the customers already anticipated that they will get after they purchase or use a product. This concept of value (*anticipated value*) is very useful in helping the customers while being '*fastidious*' in products shopping. The '*realized value*' itself stands for the product value the customers get after purchasing and using certain products.

Other experts – Robinson, Faris and Wind (in Aditama, 2002: 183) – differentiated the purchase situations at several possibilities in to three below:

- *New Tasks*, at which an organization purchases a product that's never been used before;

- *Modified Rebuy*, at which the purchased product is to replace / improve today's product;
- *Straight Rebuy*, at which the purchased product is also today's product.

The concept of customer judgement is the equality of advantages and disadvantages the customer experiences when using a product in purpose of satisfying his / her needs, the better the product serves the needs, the higher the customer's value toward the product. It will effectively influence the customer in choosing what (product) to purchase.

## **2.2. Theoretical Framework**

### **2.2.1. The Nature of Quality**

The term '*quality*' is defined in various definitions and meanings. The different interpretations about '*quality*' might happen because each person interprets it differently. The effort to define exactly the term '*quality*' is not something easy to do.

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There are at least four "Master of Quality" who have formulated the nature of quality (Tjiptono, 2003: 11-12). They are:

1. Joseph M. Juran

The '*Juran's Quality Improvement Strategy*' emphasized on a project-by-project implementation and breakthrough stages. He also emphasized the importance of identification and elimination of problem roots. He

defined *'quality'* as “fitness for use”. This definition emphasized the orientation toward the fulfillment of customer’s expectations.

2. Philip B. Crosby

The Crosby’s approach paid large attention to the transformation of quality culture. Crosby stated about the importance of involving everyone within the organization into a process, which applied the individual fitness toward requirements / prosecutions. Generally, the Crosby’s approach was recognized then as *'top-down process'*.

3. W. Edwards Deming

Deming’s strategy was based on the statistical tools which made this strategy was *'bottom-up natured'*. The main emphasis of this strategy was the continuously quality improvement and measurement<sup>2</sup>.

4. Taguchi

Taguchi’s philosophy was based on a premise that improving qualities could minimize cost and these qualities could automatically be improved in the way of diminishing variations in a product and / or a process. Taguchi’s strategy had focused on *'loss function'*, which defined every deviation from the target to be considered as losses covered by consumers. Then Taguchi defined quality as losses appeared by a product for people after it to be delivered, and also the losses caused by product’s intrinsic function.

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<sup>2</sup> Deming did not calculate the customer dissatisfaction cost, because (according to him), it was impossible to measure.



To define good services, we need additional characteristics to be considered then. Garvin (in Lovelock, 1994), identified for us the eight quality dimensions as follows:

1. *Performance*, the basic operating characteristic of a product that can be measured which constitutes the performance dimensions;
2. *Features*, these are extras or “bells and whistles” that come with the product but normally not part of the standard package in similar products;
3. *Reliability*, refers to the probability that a product will perform its intended function for a specified period of time under specified environmental conditions;
4. *Conformance*, is the degree to which a product meets the design specifications;
5. *Durability*, is the amount of use which a consumer gets from the product before it physically deteriorates or continuous use becomes uneconomical;
6. *Serviceability*, refers to the ease and speed of repairs and the courtesy of repair personnel;
7. *Aesthetics*, this dimension includes subjective traits such as how a product looks, feels, sounds, tastes, or smells;
8. *Perceived quality*, is the perceptions that have been formed in the consumer’s mind as a result of advertising, brand promotion, word of mouth, or personal experience in use.

However, most of those dimensions were more suitable for manufacture companies, not for service companies. Stamatis (1996) then modified Garvin's eight service quality dimensions into seven, which were suitable for service companies. They are:

1. Function;
2. Features;
3. Conformance;
4. Reliability;
5. Serviceability;
6. Aesthetics;
7. Perception.

Zeithaml, Parasuraman, and Berry identified five dimensions by which consumers judge the service quality as follows<sup>3</sup>:

1. *Reliability*

Reliability in services is defined as the ability to perform the promised service dependably and accurately.

2. *Responsiveness*

This concerns the willingness or readiness of employees to provide service.

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<sup>3</sup> Haksever, Cengiz, and Render, Barry cs. (2000). *Service Management and Operations*; 2<sup>nd</sup> Edition. New Jersey: Prentice-Hall International Inc.

3. *Assurance*

This dimension refers to the knowledge, competence, and courtesy of service employees and their ability to convey trust and confidence.

4. *Empathy*

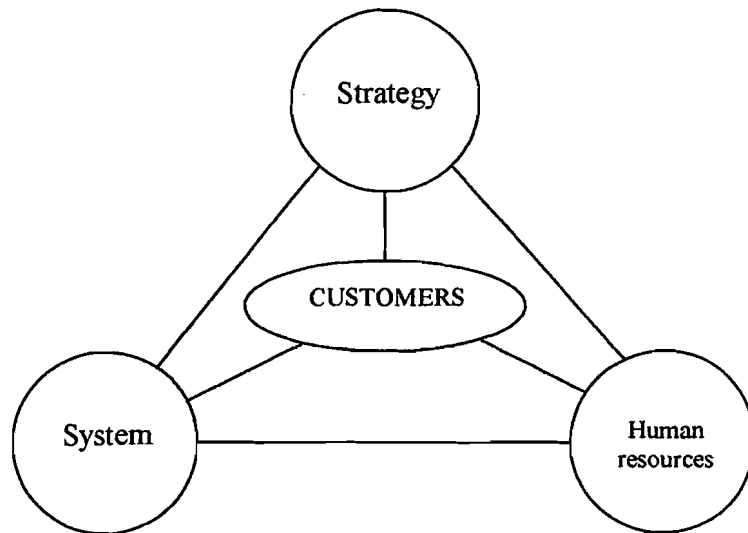
Empathy is defined as the caring and individualized attention provided to customers.

5. *Tangibles*

Tangibles include the physical evidence of the service such as physical facilities, appearance of service providers, tools or equipments used to provide the service, physical presentation of the service, and other customers in the service facility.

**2.2.2. Total Quality Service (TQS)**

According to Stamatis (in Tjiptono, 2003: 56), Total Quality Service (TQS) was defined as strategic and integrative management system which involves all managers and employees, and using qualitative and quantitative methods to continuously improve the organizational process, thus it can fulfill and exceed needs, wants, and customer's expectations.



**Figure 2.4: The TQS System**  
**(Cited & adapted from Tjiptono, 2003: 56)**

- Strategy** : A clear and well-communicated statement about the position and target of the organization in term of customer service.
- System** : The programs, procedures, and organizational resources designed to encourage, deliver, and evaluate the comfortable and high quality services for customers.
- Human resources** : The employees in all position who have capacity and desire for being responsive toward customer's needs.
- The entire objectives** : To create customer satisfaction, delegating responsibilities to everyone, and to do repeatedly improvements.

### 2.2.2.1. The Focuses of Total Quality Service (TQS)

In its implementation to establish high quality service, Total Quality Service (TQS) focuses on five (5) spots as follows (Tjiptono, 2003: 57-59):

#### 1. Customer Focus

Customer identification (either internal, external, and / or intermediary) is the top priority. When it is completed, the next would be identifying the needs, wants, and customer's expectations. It needs to design a system that could provide certain services to satisfy these needs. In addition, the organization needs to build a partnership with the '*key-suppliers*' in a win-win situation basis.

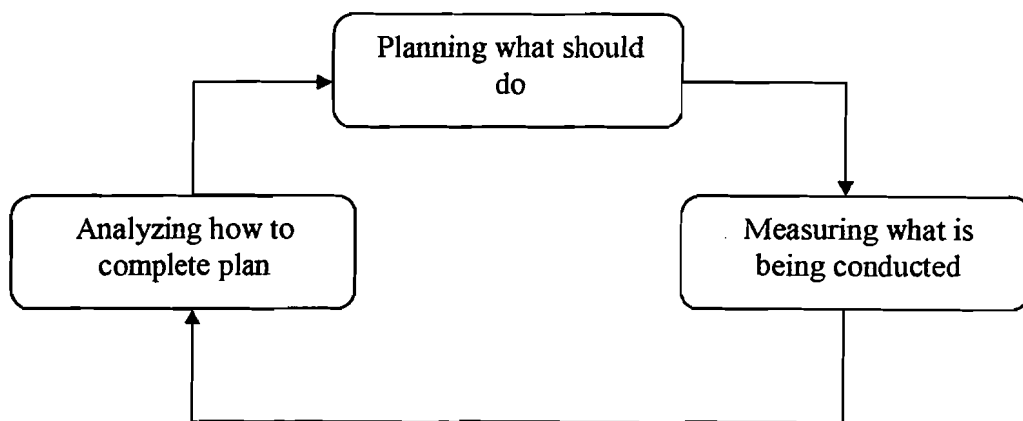
#### 2. Total Involvement

Total involvement here means total commitment. The management must provide the opportunity of quality improvement for all employees and must be able to show a good leadership that could positively inspire (through active participations and real actions) the organization they manage. They must also delegate responsibilities and authorities of work process completion to those who actually do certain jobs. Again, the management is also required to empower the employees that organization has. It is necessary to create a conducive climate and continuously supports the multidisciplinary work teams and the cross-functional in order to be able to actively participate in designing and improving products, services, processes, system, and the company's environment.

### 3. Measurement

In this scope, the essential purpose of TQS is determining the basic sizes, either internal or external for the organization and for the customers as well. Figure 2.5 describes a simple measurement system. The elements of this measurement system consist of:

- Determining the size of process and outputs;
- Identifying the outputs of critical work process and measuring their fitness with the customer's expectations;
- Correcting deviations and improving performances.



**Figure 2.5: Measurement in Excellent Services Cycle  
(Cited & adapted from Tjiptono, 2003: 58)**

### 4. Systematic Supports

Management is responsible for supervising the quality process by:

- Constructing the quality infrastructures that deal with the internal management structure;

- Connecting quality with the existing management system, such as:
  - Strategic planning;
  - Performance management;
  - Recognitions, rewards, and employees promotion;
  - Communication.

#### 5. Regular Improvement

Everyone is responsible for:

- Considering the whole works as a process;
- Anticipating the change of needs, wants, and customer's expectations;
- Applying an incremental improvement;
- Shortening the cycle time;
- Encouraging and with pleasure receiving the feedback without fear or worry.

#### **2.2.2.2. Conceptual Model of Service Quality**

Zeithaml, Parasuraman, and Berry developed this model. In this model, there are five gaps that might cause a service company unable to provide excellent services to the customers, as visualized by Figure 2.6. These service gaps are as follows:

1. Customer's Expectations – Management Perception Gap

It explains the different perception between the 'service-users' (customers) and the management about the customer's expectations. It is because the company misunderstands what the customers expected.

2. Management Perception – Expected Service Quality Gap

This gap exists because there is misinterpretation of the correct management perception about the customer's expectations into a service quality specification.

3. Expected Service Quality – Service Delivery Gap

This gap exists because human resources potential belongs to the company is incapable to achieve the common service quality standards.

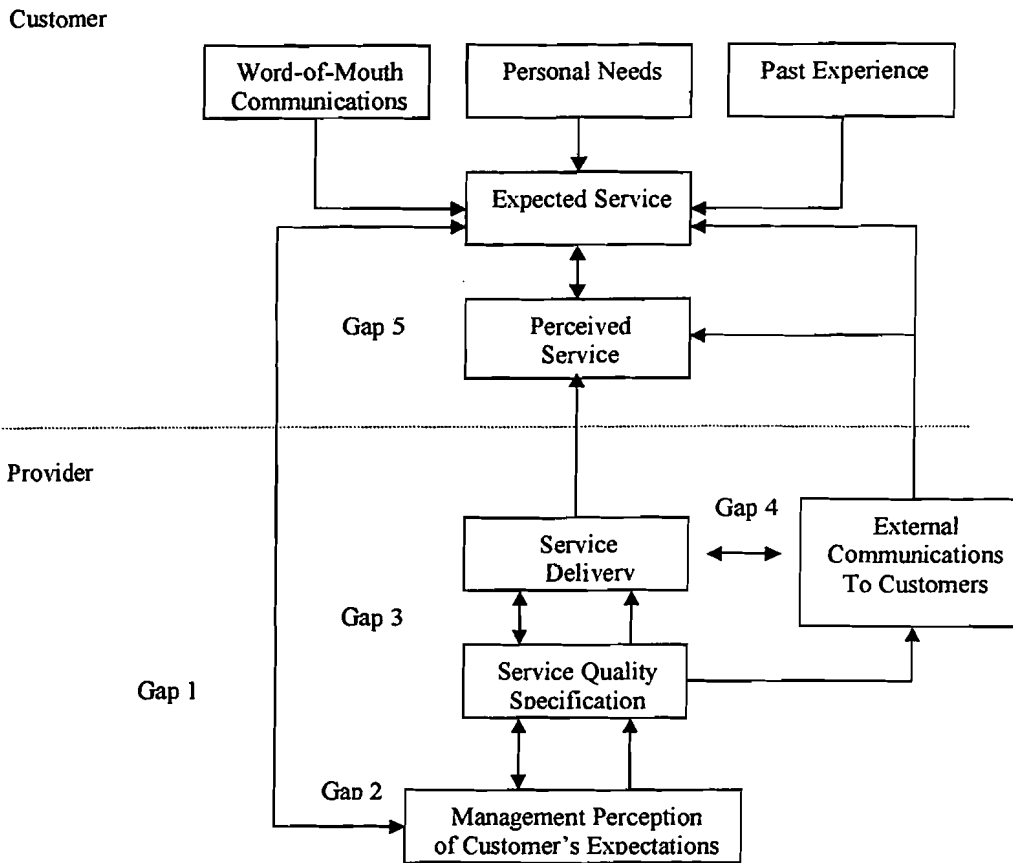
4. Service Delivery – External Communications to Customer Gap

This gap exists because a company cannot keep promises it previously communicated through various marketing promotions.

5. Expected Service – Perceived Service Gap

This gap exists as the consequences of the unfulfilled customer's expectations.





**Figure 2.6: Gap Model Analysis**  
 (Cited from Zeithaml, Parasuraman & Berry, 1990: 46)

### 2.2.2.3. The Benefits of Total Quality Service (TQS)

The implementation of Total Quality Service (TQS) would deliver several major benefits (Tjiptono, 2003: 59), which are as follows:

1. The increase of quality satisfaction index, which is measured with any measurement;
2. The increase of productivity and efficiency;
3. The increase of profits;

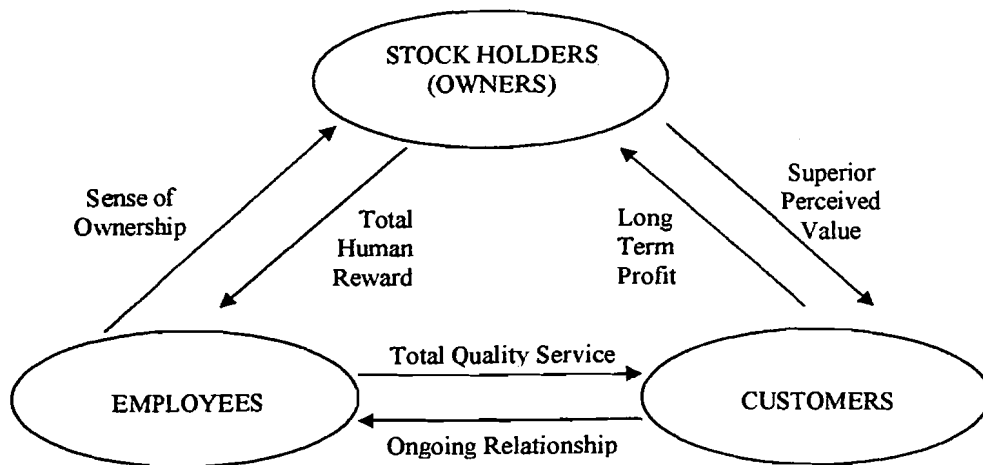
4. The increase of market share;
5. The increase of employee's morale and spirit;
6. The increase of customer satisfaction.

### **2.2.3. Customer Service And Customer Satisfaction**

#### **2.2.3.1. Value Creation And Value Adding**

To respond today's global competition in which the intensity is high, it moderately requires a fundamental shifting in business. As the consequences, profits are no longer the essential mission of a business, but the '*value creation*' and '*value adding*' for customers. Naturally, profits are vital consequences of the value creation and value adding process. It is now obviously understandable that profits are much closer to the outputs / results rather than the goals. To earn profits through a value creation process might be implemented in the way of (Tjiptono, 2003: 118):

- Upsizing the customer acquisition;
- Hiring better employees;
- Providing a total human reward for employees;
- Improving employees' productivity;
- Encouraging employees to offer values to customers;
- Building investments and better ownership structure.



**Figure 2.7: The Service Triangle  
(Cited from Tjiptono, 2003: 118)**

The value creation itself stands for the creation of satisfied customers, loyal employees, and higher profits. These could be achieved when a service organization completely understands the relationship among the aspects in the service triangle (Figure 2.7).

### **2.2.3.2. Customer Satisfaction**

Again, as a basic criterion in 'value-maximization', customers determine the expectations upon the values they will earn. Toward the chosen offer, they will evaluate whether or not it meets their expectations. Customer satisfaction after the purchase depends on the offer's performance (perceived performance). The definition of customer satisfaction according to Philip Kotler (1994: 40) is given below this:

*“Satisfaction is the level of a person’s felt state resulting from comparing a product’s perceived performance (or outcome) in relation to the person’s expectations.”<sup>4</sup>*

Thus the satisfaction level is a function of the difference between ‘*perceived performance*’ and ‘*expectations*’.

### **2.3. Hypothesis Formulation**

Hypothesis is a statement of supposition about the correlation between two or more variables. The hypothesis formulations this thesis presents are as follows:

1. There is significant relationship between the dependent variable (customer satisfaction) and five independent variables (tangible, reliability, responsiveness, assurance, and empathy) at PKU Muhammadiyah Hospital in Yogyakarta.
2. Reliability contributes most dominantly the customer satisfaction at PKU Muhammadiyah Hospital in Yogyakarta.

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<sup>4</sup> Kotler, Philip. (1994). *Marketing Management: Analysis, Planning, Implementation, and Control*; 8<sup>th</sup> Edition. New Jersey: Prentice-Hall International Inc. p. 40.

## **CHAPTER III**

### **RESEARCH METHOD**

#### **3.1. Research Method**

The research method used in this research is descriptive analysis and quantitative analysis. The descriptive analysis illustrates the data analysis in form of opinion and information of the characteristics of the research object analyzed. The quantitative analysis is used to quantify the data and, typically, applies some form of statistical analysis.

#### **3.2. Research Subject**

##### **1. Subject**

The subject of this research is the analysis of the health care service performance toward customer satisfaction at PKU Muhammadiyah Hospital in Yogyakarta.

##### **2. Population**

Population is the whole or individual unit becoming the suggestion or the research subject, which the characteristics will be supposed. The research population in this research thesis is all patients of PKU Muhammadiyah Hospital.

##### **3. Sample**

The representation of sample depends on these following factors, which are: (1) the desired '*confidence level*'; (2) tolerated '*standard of error*';

and (3) the number of 'dispersion' within generally estimated population (Polumbo, 1977: 279). Subject to this judgment, the application of 5% standard of error is considered feasible. Then the number of research sample is determined by the formula as follows (Lind and Mason, 1999: 356):

$$n = \left( \frac{z \cdot s}{E} \right)^2$$

Which:

n = Number of sample

z = Level of hypothesis validity

s = Deviation standard

E = Standard of error (5%)

The level of hypothesis is 95%. Thus, the z value from the normal distribution table is determined 1.96. The deviation standard is the variance of characteristic value as 0.25. This value is derived as the result from the hypothesis and the tolerated mistakes on research is 5% (0.05). The calculation is as follows:

$$n = \left( \frac{1.96 \cdot 0.25}{0.05} \right)^2$$

$$n = 96.04 \approx 100$$

From the calculation, it is stated that the sample size is 96 respondents.

For a practical reason, the sample size is considered 100 respondents.

#### 4. Sampling Method

In achieving the desired objective, the research sample to gather the data will use '*convenience sampling*'. It is a sampling method that is more effective and efficient to gather well-available information (Cooper and Emory, 1996: 212). It is the least expensive and least time consuming compared to other than sampling techniques.

### 3.3. Research Setting

This research study took place at PKU Muhammadiyah Hospital, which located on K.H. Ahmad Dahlan no. 20, Yogyakarta. The respondents this research observed were 100 patients of PKU Muhammadiyah Hospital.

### 3.4. Research Instruments

Questionnaire is the instrument used in this research to gather the information from the selected respondents. However, the design and the distribution of questionnaire should be well prepared in order to guarantee its objectivity. Subject to this requirement, a number of questionnaires need to be tested in purpose of knowing their validity and reliability. These validity test and reliability test are directed to ensure that these questionnaires are valid and reliable enough to be distributed to respondents. There were 25 questionnaires to be validity-tested and reliability-tested.

These validity test and reliability test are applied in three sections, according to the questionnaire construction, which are:

- Section I (Quality): about the quality expected by the patients of PKU Muhammadiyah Hospital;
- Section II (Performance): about the performance perceived by the patients of PKU Muhammadiyah Hospital; and
- Section III (Satisfaction): about the condition of satisfaction toward the health care service provided by PKU Muhammadiyah Hospital.

#### 3.4.1. Validity

Validity is defined as the ability of an instrument to express what becomes the main target of a measurement (Sutrisno Hadi, 1990: 1). The validity test uses '*item analysis technique*', which correlates the item score (X) with the instrument total score (Y). The formula that could be used to support this technique is '*Pearson's Product Moment*' correlation formula as follows:

$$r_{xy} = \frac{N \sum xy - (\sum x)(\sum y)}{\sqrt{[N \sum x^2 - (\sum x)^2][N \sum y^2 - (\sum y)^2]}}$$

Which:

$r_{xy}$  = correlation coefficient (product moment)

N = sample size

$\sum x$  = total item score



$\Sigma y$  = total instrument score

$\Sigma xy$  = total multiplication of item score and instrument score

$\Sigma x^2$  = total squared item score

$\Sigma y^2$  = total squared instrument score

The decision is taken by consulting the  $r_{count}$  with the  $r_{table}$ . If found the  $r_{count} < r_{table}$ , the item is considered '*invalid*'. In contrast, if the  $r_{count} > r_{table}$ , the item is considered '*valid*'. The  $r_{table}$  is calculated as follows:

$$df = n - 1$$

which:

$df$  = degree of freedom;

$n$  = number of items.

$$df = 25 - 1$$

$$df = 24$$

$$r_{table} = (5\%; 24) = 0.2598$$

Another could be applied by comparing the probability of those items correlation. If the probability (*p value*) is less than 0.05, the item is considered valid and *vice versa*. As an under liner, the correlation between item score and instrument total score should be positive and the probability is relatively small (less than 5%).

Following tables represent the results of validity test on Section I, II, and III:

**Table 3.1:**

**Result of Validity Test on Questionnaire's Section I (Quality)**

Item No.	Product Moment Correlations	r-table	Status
1	0.660	0.2598	<i>Valid</i>
2	0.878	0.2598	<i>Valid</i>
3	0.757	0.2598	<i>Valid</i>
4	0.832	0.2598	<i>Valid</i>
5	0.671	0.2598	<i>Valid</i>
6	0.713	0.2598	<i>Valid</i>
7	0.642	0.2598	<i>Valid</i>
8	0.807	0.2598	<i>Valid</i>
9	0.642	0.2598	<i>Valid</i>
10	0.720	0.2598	<i>Valid</i>
11	0.868	0.2598	<i>Valid</i>
12	0.868	0.2598	<i>Valid</i>
13	0.876	0.2598	<i>Valid</i>
14	0.762	0.2598	<i>Valid</i>
15	0.713	0.2598	<i>Valid</i>
16	0.884	0.2598	<i>Valid</i>
17	0.568	0.2598	<i>Valid</i>
18	0.772	0.2598	<i>Valid</i>
19	0.794	0.2598	<i>Valid</i>
20	0.558	0.2598	<i>Valid</i>
21	0.679	0.2598	<i>Valid</i>
22	0.726	0.2598	<i>Valid</i>
23	0.603	0.2598	<i>Valid</i>
24	0.615	0.2598	<i>Valid</i>
25	0.603	0.2598	<i>Valid</i>

Source: Data Processed

From those 25 question items that represent five service quality dimensions, all of them are '*valid*'. It means that none of them is disqualified of invalidity. As the consequence, all question items in Section I (Quality) can be used in this research to gather the information from the selected respondents.

**Table 3.2:**  
**Result of Validity Test on Questionnaire's Section II (Performance)**

Item No.	Product Moment Correlations	r-table	Status
1	0.645	0.2598	<i>Valid</i>
2	0.884	0.2598	<i>Valid</i>
3	0.725	0.2598	<i>Valid</i>
4	0.766	0.2598	<i>Valid</i>
5	0.719	0.2598	<i>Valid</i>
6	0.787	0.2598	<i>Valid</i>
7	0.636	0.2598	<i>Valid</i>
8	0.887	0.2598	<i>Valid</i>
9	0.636	0.2598	<i>Valid</i>
10	0.737	0.2598	<i>Valid</i>
11	0.791	0.2598	<i>Valid</i>
12	0.804	0.2598	<i>Valid</i>
13	0.804	0.2598	<i>Valid</i>
14	0.652	0.2598	<i>Valid</i>
15	0.847	0.2598	<i>Valid</i>
16	0.733	0.2598	<i>Valid</i>
17	0.831	0.2598	<i>Valid</i>
18	0.827	0.2598	<i>Valid</i>
19	0.673	0.2598	<i>Valid</i>
20	0.622	0.2598	<i>Valid</i>
21	0.856	0.2598	<i>Valid</i>
22	0.693	0.2598	<i>Valid</i>
23	0.840	0.2598	<i>Valid</i>
24	0.792	0.2598	<i>Valid</i>
25	0.803	0.2598	<i>Valid</i>

Source: Data Processed

From those 25 question items that represent five service quality dimensions, all of them are 'valid'. It means that none of them is disqualified of invalidity. As the consequence, all question items in Section II (Performance) can be used in this research to gather the information from the selected respondents.

**Table 3.3:**

**Result of Validity Test on Questionnaire's Section III (Satisfaction)**

Item No.	Product Moment Correlations	r-table	Status
1	0.841	0.2598	<i>Valid</i>
2	0.839	0.2598	<i>Valid</i>
3	0.913	0.2598	<i>Valid</i>
4	0.628	0.2598	<i>Valid</i>
5	0.730	0.2598	<i>Valid</i>

Source: Data Processed

From those 5 question items that represent five service quality dimensions, all of them are '*valid*'. It means that none of them is disqualified of invalidity. As the consequence, all question items in Section III (Satisfaction) can be used in this research to gather the information from the selected respondents.

**3.4.2. Reliability**

Reliability is the index value, which explains how reliable a measurement tool. The formula used to test the reliability is '*Alpha Technique*' (Masri Singarimbun and Sofyan Effendi, 1987: 142):

$$r_{11} = \left[ \frac{k}{(k-1)} \right] \left[ 1 - \frac{\sum \sigma_b^2}{\sigma_1^2} \right]$$

Which:

$r_{11}$  = Instrument Reliability

$k$  = Number of item

$\sum \sigma_b^2$  = Number of item variance

$\sigma_1^2$  = Total variance

In this reliability test, a question item is considered reliable if cronbach alpha exceeds 0.60 (Hadi, 1990: 60). Following tables represent the results of reliability test on Section I, II, and III:

**Table 3.4:**

**Result of Reliability Test on Questionnaire's Section I (Quality):**

Variables	<i>Cronbach Alpha</i>	r-table	Status
Tangible	0.8194	0.60	<i>Reliable</i>
Reliability	0.7497	0.60	<i>Reliable</i>
Responsiveness	0.8733	0.60	<i>Reliable</i>
Assurance	0.7700	0.60	<i>Reliable</i>
Empathy	0.6502	0.60	<i>Reliable</i>

**Table 3.5:**

**Result of Reliability Test on Questionnaire's Section II (Performance):**

Variables	<i>Cronbach Alpha</i>	r-table	Status
Tangible	0.8068	0.60	<i>Reliable</i>
Reliability	0.7802	0.60	<i>Reliable</i>
Responsiveness	0.8309	0.60	<i>Reliable</i>
Assurance	0.7887	0.60	<i>Reliable</i>
Empathy	0.8545	0.60	<i>Reliable</i>

**Table 3.6:**

**Result of Reliability Test on Questionnaire's Section III (Satisfaction):**

Variable	<i>Cronbach Alpha</i>	r-table	Status
Cust. Satisfaction	0.8461	0.60	<i>Reliable</i>

After the reliability test is made, it is stated that all question items are 'reliable' as shown on the tables above. It means that all question items asked in Section I, II, and III can be used in this research to gather the information from the selected respondents.

### **3.5. Research Variables**

This research study uses variables as follows:

#### **1. Independent Variables (X)**

- Tangible
- Reliability
- Responsiveness
- Assurance
- Empathy

#### **2. Dependent Variable (Y)**

- Customer Satisfaction

### **3.6. Research Procedures**

Systematically, the procedures applied in this research are:

#### **1. Interview**

The researcher asked the hospital director a number of questions about the company profile and the actual progress the hospital makes. The medical facilities condition and other subjects related were also asked.

#### **2. Passing the questionnaires**

The researcher needs to explain the respondents how to fill the questionnaire correctly. It is to avoid technical errors in filling the questionnaires.

### 3. Validity and reliability test

There were 25 questionnaires to be validity and reliability tested before spreading 100 questionnaires to the selected respondents. It was aimed to find out whether or not the answers and questionnaire design valid and reliable enough to be spread to respondents.

### 4. Data analysis

The data were analyzed by using Pearson's Product Moment and Cronbach Alpha.

### 5. Data interpretation

The data were displayed into data interpretation so that easily understood.

## 3.7. Technique of Data Analysis

### 3.7.1. Descriptive Analysis

Basically, descriptive analysis describes or illustrates the data analysis in the form of opinion or information as toward the situation of research objects analyzed. It could be based on the given perspective theory utilized to provide clearer description about the relationship between variables used in this research. In its process, this kind of analysis is applied to enrich the comprehension of quantitative analysis result by using the '*Likert scale*' that is ranging from agree strongly = 5, agree somewhat = 4, neutral = 3, disagree somewhat = 2, and disagree strongly = 1 (Rangkuti, 1997: 66).

### 3.7.2. Quantitative Analysis

Quantitative analysis is an analysis that is presented in the form of numbers or calculation. Therefore, within this analysis, given statistical methods are used to describe the relationship among variables of quantity. The statistical methods to be applied are '*multiple linear regressions*', t-test, and F-test.

#### 1. Multiple Linear Regressions

The general formula of '*multiple linear regressions model*' is as follows:

$$Y = \alpha + \beta_1X_1 + \beta_2X_2 + \dots + \beta_iX_i + \text{error}$$

Which:

Y = Customer satisfaction

$\alpha$  = Constant

$\beta_1, \beta_2, \dots, \beta_i$  = Regression coefficient associated with the independent variables

$X_1, X_2, \dots, X_i$  and the error ;  $X_1$  = tangible ;  $X_2$  = reliability ;

$X_3$  = responsiveness ;  $X_4$  = Assurance ;  $X_5$  = Empathy.

#### 2. Partially Test (t-test)

The t-test is done, primarily, to know whether or not there is significant relationship between the dependent variable (Y) and independent variables ( $X_1, X_2, X_3, X_4,$  and  $X_5$ ) partially. If  $t_{\text{count}}$  is larger than  $t_{\text{table}}$ , so the hypothesis is accepted ( $H_0$  is rejected and  $H_a$  is accepted). It means that, partially, there is significant relationship between the dependent variable (Y) and the independent variables ( $X_1, X_2, X_3, X_4,$  and  $X_5$ ). In



contrast, if  $t_{count}$  is smaller than  $t_{table}$ , the hypothesis is rejected ( $H_0$  is accepted and  $H_a$  is rejected). Therefore, partially, there is no significant relationship between the dependent variable (Y) and the independent variables ( $X_1$ ,  $X_2$ ,  $X_3$ ,  $X_4$ , and  $X_5$ ).

The hypothesis test of service quality dimensions toward the customer satisfaction follows these steps as follows:

1. Determining the formulation for  $H_0$  and  $H_a$

$H_0$ : Partially, there is no significant relationship between the dependent variable (customer satisfaction) and each independent variable (tangible, reliability, responsiveness, assurance, and empathy) at PKU Muhammadiyah Hospital in Yogyakarta.

$H_a$ : Partially, there is significant relationship between the dependent variable (customer satisfaction) and each independent variable (tangible, reliability, responsiveness, assurance, and empathy) at PKU Muhammadiyah Hospital in Yogyakarta.

2. Determining level of significance

$$t_{table} = t, \alpha/1; df = n-5-1$$

$$\alpha = 5\% (0.05)$$

3. Test criteria

$H_0$  is accepted, and  $H_a$  is rejected if:  $t_{count} < t_{table}$ ;

$H_0$  is rejected, and  $H_a$  is accepted if:  $t_{count} > t_{table}$ .

4. Determining  $t_{table}$

5. Conclusion:  $H_0$  is rejected or accepted

3. Simultaneously Test (F-test)

The F-test is done, primarily, to know whether or not there is significant relationship between the dependent variable (Y) and independent variables ( $X_1$ ,  $X_2$ ,  $X_3$ ,  $X_4$ , and  $X_5$ ) simultaneously. If  $F_{count}$  is larger than  $F_{table}$ , so the hypothesis is accepted ( $H_0$  is rejected and  $H_a$  is accepted). It means, simultaneously, there is significant relationship between the dependent variable (Y) and the independent variables ( $X_1$ ,  $X_2$ ,  $X_3$ ,  $X_4$ , and  $X_5$ ). In contrast, if  $F_{count}$  is smaller than  $F_{table}$ , the hypothesis is rejected ( $H_0$  is accepted and  $H_a$  is rejected). Therefore, simultaneously, there is no significant relationship between the dependent variable (Y) and the independent variables ( $X_1$ ,  $X_2$ ,  $X_3$ ,  $X_4$ , and  $X_5$ ). To know whether or not service quality dimensions simultaneously have significant relationship with customer satisfaction at PKU Muhammadiyah Hospital in Yogyakarta, it uses analysis of variance (ANOVA). The steps are as follows:

1. Determining the formulation for  $H_0$  and  $H_a$

$H_0$ : Simultaneously, there is no significant relationship between the dependent variable (customer satisfaction) and five independent variables (tangible, reliability, responsiveness,

assurance, and empathy) at PKU Muhammadiyah Hospital in Yogyakarta.

Ha: Simultaneously, there is significant relationship between the dependent variable (customer satisfaction) and five independent variables (tangible, reliability, responsiveness, assurance, and empathy) at PKU Muhammadiyah Hospital in Yogyakarta.

2. Determining level of significance

$$F_{table} = F, \alpha/1; df = n-5-1$$

$$\alpha = 5\% (0.05)$$

3. Determining degrees of freedom (df)

4. Test criteria

$H_0$  is accepted, and  $H_a$  is rejected if:  $F_{count} < F_{table}$ ;

$H_0$  is rejected, and  $H_a$  is accepted if:  $F_{count} > F_{table}$ .

5. Determining  $F_{table}$

Conclusion:  $H_0$  is rejected or accepted

**CHAPTER IV**  
**RESEARCH FINDINGS, DISCUSSION, AND IMPLICATIONS**

**4.1. Research Description**

Descriptive analysis is applied to map the research respondents' characteristics as identified in the questionnaire forms. The characteristics identified are gender, age, education, occupation, and income.

**4.1.1. Characteristics on Gender**

From the Table 4.1 below, the proportion of gender can be presented as follows:

**Table 4.1:**  
**Respondents' Characteristics Based on Gender**

<b>Gender</b>	<b>Frequency</b>	<b>Percentage</b>
Male	76	76%
Female	24	24%
<b>Total</b>	<b>100</b>	<b>100%</b>

Source: Primary data

Table 4.1 shows that 76% of respondents or 76 patients of PKU Muhammadiyah Hospital are male, and 24% or 24 patients are female. There are more male than female because most men do not really concern of their own health as most women do, so that men are easily sick than women.

#### 4.1.2. Characteristics on Age

The researcher classified the respondents into 8 age ranges. From the Table 4.2 below, the proportion of age ranges can be presented as follows:

**Table 4.2:**  
**Respondents' Characteristics Based on Age**

<b>Age Ranges</b>	<b>Frequency</b>	<b>Percentage</b>
25 years old and under	13	13%
26 – 30 years old	6	6%
31 – 35 years old	26	26%
36 – 40 years old	22	22%
41 – 45 years old	4	4%
46 – 50 years old	7	7%
51 – 55 years old	18	18%
56 years old and above	4	4%
<b>Total</b>	<b>100</b>	<b>100%</b>

Source: Primary data

Table 4.2 shows that the majority of patients of PKU Muhammadiyah Hospital are in the age range of 31 – 35 years old (26 patients or 26%). It is enabled because of this age range is categorized in productive age. Less awareness of self-health quality that appeared by hard workings attitude makes them easily sick.

### 4.1.3. Characteristics on Education

Based on the respondents' educational backgrounds, the researcher classified them into 5 groups. They were junior high school, high school, diploma, bachelor degree, and magisterial and doctoral degree. From the Table 4.3 below, the proportion of education backgrounds can be presented as follows:

**Table 4.3:**  
**Respondents' Characteristics Based on Education**

<b>Education Backgrounds</b>	<b>Frequency</b>	<b>Percentage</b>
Junior High School	15	15%
High School	19	19%
Diploma	39	39%
Bachelor Degree	26	26%
Magisterial Degree and Doctoral Degree	1	1%
<b>Total</b>	<b>100</b>	<b>100%</b>

Source: Primary data

Table 4.3 shows that the majority of respondents' educational background is diploma (39 people or 39%). It is followed by bachelor degree (26 people or 26%); high school (19 people or 19%); junior high school (15 people or 15%); and magisterial and doctoral degree (1 person or 1%).

#### 4.1.4. Characteristics on Occupation

The researcher classified respondents' occupations into 5 groups, which were civil servant, private, military, entrepreneur, and employee. From the Table 4.4 below, the proportion of occupations can be presented as follows:

**Table 4.4:**  
**Respondents' Characteristics Based on Occupation**

<b>Occupations</b>	<b>Frequency</b>	<b>Percentage</b>
Civil Servant	12	12%
Private	28	28%
Military	15	15%
Entrepreneur	27	27%
Employee	18	18%
<b>Total</b>	<b>100</b>	<b>100%</b>

Source: Primary data

Table 4.4 shows that the majority of respondents' occupation is private (28 people or 28%). It is followed by entrepreneur (27 people or 27%); employee (18 people or 18%); military (15 people or 15%); and civil servant (12 people or 12%).

#### 4.1.5. Characteristics on Income

Based on monthly income ranges, the researcher classified them into 5 groups. From the Table 4.5 below, the proportion of income ranges can be presented as follows:

**Table 4.5:**  
**Respondents' Characteristics Based on Income**

<b>Income Ranges (Rp.)</b>	<b>Frequency</b>	<b>Percentage</b>
Under 500,000.	11	11%
500,000. – 750,000.	6	6%
750,000. – 1,000,000.	17	17%
1,000,000. – 1,500,000.	47	47%
Above 1,500,000.	19	19%
<b>Total</b>	<b>100</b>	<b>100%</b>

Source: Primary data

Table 4.5 shows that the majority of respondents' income range is Rp. 1,000,000. – Rp. 1,500,000. (47 people or 47%). It is followed by above Rp. 1,500,000. (19 people or 19%); Rp. 750,000. – Rp. 1,000,000. (17 people or 17%); under Rp. 500,000. (11 people or 11%); and Rp. 500,000. – Rp. 750,000. (6 people or 6%).

#### 4.2. Research Findings

In this research study, the data processing is done through testing the hypothesis. This hypothesis test is intended to find out whether or not there



is significant relationship between the dependent variable (Y) and independent variables (X). Also, it is intended to find out whether or not *reliability* contributes most dominantly the customer satisfaction at PKU Muhammadiyah Hospital in Yogyakarta.

To fulfill this purpose, the thesis writer uses the statistical measurement, which is multiple linear regressions.

#### 4.2.1. First Hypothesis

The first hypothesis stated that there is significant relationship between the dependent variable (customer satisfaction) and five independent variables (tangible, reliability, responsiveness, assurance, and empathy) at PKU Muhammadiyah Hospital in Yogyakarta.

- **Multiple Linear Regressions Analysis**

In this research thesis, the relationship between tangible ( $X_1$ ), reliability ( $X_2$ ), responsiveness ( $X_3$ ), assurance ( $X_4$ ), empathy ( $X_5$ ) and customer satisfaction ( $Y$ ) is formulated in this equation model:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5$$

Which:

$\alpha$  = Constant

$\beta_1$  = Regression coefficient of  $X_1$  (tangible)

$\beta_2$  = Regression coefficient of  $X_2$  (reliability)

$\beta_3$  = Regression coefficient of  $X_3$  (responsiveness)

$\beta_4$  = Regression coefficient of  $X_4$  (assurance)

$\beta_5$  = Regression coefficient of  $X_5$  (empathy)

To analyze multiple linear regressions, the researcher applied SPSS version 10.00 for Windows. The result of the analysis is presented in Table 4.6 as follows:

**Table 4.6:**  
**Summary of Linear Regression Analysis**

Variables	Coefficients ( $\beta$ )	t-count	Sig. t	Result Status
Constant	-0.71			Significant
Tangible ( $X_1$ )	0.174	4.594	0.000	Significant
Reliability ( $X_2$ )	0.316	5.781	0.000	Significant
Responsiveness ( $X_3$ )	0.204	3.440	0.001	Significant
Assurance ( $X_4$ )	0.159	2.781	0.007	Significant
Empathy ( $X_5$ )	0.176	3.979	0.000	Significant
Standard of error	= 0.131	F-count	= 117.855	
Adjusted R Square	= 0.855	Sig. F	= 0.000	
R Square	= 0.862	F-table	= 2.3113	
R	= 0.929	t-table	= 1.6612	

Source: Primary data

Based on the multiple linear regressions analysis result using SPSS version 10.00 for Windows, the equation model is obtained as follows:

$$Y = -0.071 + 0.174X_1 + 0.316X_2 + 0.204X_3 + 0.159X_4 + 0.176X_5$$

Multiple linear regressions is used to analyze the relationship between service quality dimensions and customer satisfaction toward the performance perceived by the patients from the current health care service provided by PKU Muhammadiyah Hospital in Yogyakarta. To analyze how significant the relationship between those variables, it is necessary to organize hypothetical tests.

- **Partially Hypothetical Test Analysis (T-test Analysis)**

To examine whether or not there is significant relationship between the dependent variable (customer satisfaction) and five independent variables (tangible, reliability, responsiveness, assurance, and empathy) partially, T-test analysis (regression coefficients analysis) is used.

A. The t-test for tangible ( $X_1$ ) toward customer satisfaction (Y)

1. Formulation for  $H_0$  and  $H_a$

$H_0$ : Partially, there is no significant relationship between customer satisfaction (Y) and tangible ( $X_1$ ).

Ha: Partially, there is significant relationship between customer satisfaction (Y) and tangible (X<sub>1</sub>).

2. Testing criteria

Ho is rejected and Ha is accepted if  $t_{count} > t_{table}$

Ho is accepted and Ha is rejected if  $t_{count} < t_{table}$

3. Testing result

By applying 5% significance level, it is obtained that the score of  $t_{table}$  is 1.6612 (one side test), and the  $t_{count}$  is 4.594. Because the  $t_{count}$  is larger than  $t_{table}$  ( $4.594 > 1.6612$ ), then Ho is rejected and Ha is accepted. It means that partially, there is significant relationship between customer satisfaction (Y) and tangible (X<sub>1</sub>).

B. The t-test for reliability (X<sub>2</sub>) toward customer satisfaction (Y)

1. Formulation for Ho and Ha

Ho: Partially, there is no significant relationship between customer satisfaction (Y) and reliability (X<sub>2</sub>).

Ha: Partially, there is significant relationship between customer satisfaction (Y) and reliability (X<sub>2</sub>).

2. Testing criteria

Ho is rejected and Ha is accepted if  $t_{count} > t_{table}$

Ho is accepted and Ha is rejected if  $t_{count} < t_{table}$

### 3. Testing result

By applying 5% significance level, it is obtained that the score of  $t_{table}$  is 1.6612 (one side test), and the  $t_{count}$  is 5.781. Because the  $t_{count}$  is larger than  $t_{table}$  ( $5.781 > 1.6612$ ), then  $H_0$  is rejected and  $H_a$  is accepted. It means that partially, there is significant relationship between customer satisfaction (Y) and reliability ( $X_2$ ).

## C. The t-test for responsiveness ( $X_3$ ) toward customer satisfaction (Y)

### 1. Formulation for $H_0$ and $H_a$

$H_0$ : Partially, there is no significant relationship between customer satisfaction (Y) and responsiveness ( $X_3$ ).

$H_a$ : Partially, there is significant relationship between customer satisfaction (Y) and responsiveness ( $X_3$ ).

### 2. Testing criteria

$H_0$  is rejected and  $H_a$  is accepted if  $t_{count} > t_{table}$

$H_0$  is accepted and  $H_a$  is rejected if  $t_{count} < t_{table}$

### 3. Testing result

By applying 5% significance level, it is obtained that the score of  $t_{table}$  is 1.6612 (one side test), and the  $t_{count}$  is 3.440. Because the  $t_{count}$  is larger than  $t_{table}$  ( $3.440 > 1.6612$ ), then  $H_0$  is rejected and  $H_a$  is accepted. It means that partially, there is significant

relationship between customer satisfaction (Y) and responsiveness (X<sub>3</sub>).

D. The t-test for assurance (X<sub>4</sub>) toward customer satisfaction (Y)

1. Formulation for Ho and Ha

Ho: Partially, there is no significant relationship between customer satisfaction (Y) and assurance (X<sub>4</sub>).

Ha: Partially, there is significant relationship between customer satisfaction (Y) and assurance (X<sub>4</sub>).

2. Testing criteria

Ho is rejected and Ha is accepted if  $t_{count} > t_{table}$

Ho is accepted and Ha is rejected if  $t_{count} < t_{table}$

3. Testing result

By applying 5% significance level, it is obtained that the score of  $t_{table}$  is 1.6612 (one side test), and the  $t_{count}$  is 2.781. Because the  $t_{count}$  is larger than  $t_{table}$  ( $2.781 > 1.6612$ ), then Ho is rejected and Ha is accepted. It means that partially, there is significant relationship between customer satisfaction (Y) and assurance (X<sub>4</sub>).

E. The t-test for empathy (X<sub>5</sub>) toward customer satisfaction (Y)

1. Formulation for Ho and Ha

Ho: Partially, there is no significant relationship between customer satisfaction (Y) and empathy (X<sub>5</sub>).

Ha: Partially, there is significant relationship between customer satisfaction (Y) and empathy (X<sub>5</sub>).

2. Testing criteria

Ho is rejected and Ha is accepted if  $t_{count} > t_{table}$

Ho is accepted and Ha is rejected if  $t_{count} < t_{table}$

3. Testing result

By applying 5% significance level, it is obtained that the score of  $t_{table}$  is 1.6612 (one side test), and the  $t_{count}$  is 3.979. Because the  $t_{count}$  is larger than  $t_{table}$  ( $3.979 > 1.6612$ ), then Ho is rejected and Ha is accepted. It means that partially, there is significant relationship between customer satisfaction (Y) and empathy (X<sub>5</sub>).

• **Simultaneously Hypothetical Test Analysis (F-test Analysis)**

Simultaneously hypothetical test is a test for multiple linear regressions, to test whether or not there is significant relationship between the dependent variable (customer satisfaction) and five independent variables (tangible, reliability, responsiveness, assurance, and empathy) simultaneously.

### 1. Formulation for Ho and Ha

**Ho:** Simultaneously, there is no significant relationship between the dependent variable (customer satisfaction) and five independent variables (tangible, reliability, responsiveness, assurance, and empathy).

**Ha:** Simultaneously, there is significant relationship between the dependent variable (customer satisfaction) and five independent variables (tangible, reliability, responsiveness, assurance, and empathy).

### 2. Testing criteria

Ho is rejected and Ha is accepted if  $F_{count} > F_{table}$

Ho is accepted and Ha is rejected if  $F_{count} < F_{table}$

### 3. Testing result

By applying 5% significance level, it is obtained that the score of  $F_{table}$  is 2.3113 and the  $F_{count}$  is 117.855. Because the  $F_{count}$  is larger than  $F_{table}$  ( $117.855 > 2.3113$ ), then Ho is rejected and Ha is accepted. It means that simultaneously, there is significant relationship between the dependent variable (customer satisfaction) and five independent variables (tangible, reliability, responsiveness, assurance, and empathy) at PKU Muhammadiyah Hospital in Yogyakarta.



- **Multiple Correlation Coefficients Analysis**

It is used to define the significance of relationship between all independent variables simultaneously toward the dependent variable. Based on the statistical calculation using SPSS 10.00 for Windows, it is defined that the *R-value* is 0.929. It lies on the range 0.50 – 1.00, which means that the relationship is very significant.

Also, the value of determination coefficient ( $R^2$ ) is defined. It is 0.862 or 86.20%. It indicates that service quality dimensions contribute 86.20% of influences toward the customer satisfaction at PKU Muhammadiyah Hospital in Yogyakarta, and remaining 13.80% is influenced by other variables beyond the equation model.

#### **4.2.2. Second Hypothesis**

The second hypothesis says reliability contributes most dominantly the customer satisfaction at PKU Muhammadiyah Hospital in Yogyakarta. It is formulated to prove scientifically whether or not reliability is the most dominant factor affecting the customer satisfaction. The five service quality dimensions to be measured here are tangible, reliability, responsiveness, assurance, and empathy toward the customer satisfaction. The result will inform us which one among those five determines the highest customer's perception about the current health care service provided by PKU Muhammadiyah Hospital. From the multiple linear regressions statistical result by using SPSS for Windows Release 10.00, it is stated that reliability

(X<sub>2</sub>) contributes most dominantly the customer satisfaction (Y) with the highest positive regression coefficient (0.316). It is followed by responsiveness (X<sub>3</sub>) at the second by 0.204; empathy (X<sub>5</sub>) at the third by 0.176; tangible (X<sub>1</sub>) at the fourth by 0.174; and the fifth is assurance (X<sub>4</sub>) by 0.159. Refer to the second hypothesis test; reliability is proven statistically the service quality dimension that contributes most dominantly the customer satisfaction at PKU Muhammadiyah Hospital in Yogyakarta.

### 4.3. Implications

The mathematical model that describes the influence of tangible (X<sub>1</sub>), reliability (X<sub>2</sub>), responsiveness (X<sub>3</sub>), assurance (X<sub>4</sub>), and empathy (X<sub>5</sub>) toward the customer satisfaction (Y) can be written in the following equation:

$$Y = -0.071 + 0.174X_1 + 0.316X_2 + 0.204X_3 + 0.159X_4 + 0.176X_5$$

Based on the above mathematical model of multiple linear regressions, following interpretations can be made:

1. The constant value is -0.071. It means that if all variables tangible (X<sub>1</sub>), reliability (X<sub>2</sub>), responsiveness (X<sub>3</sub>), assurance (X<sub>4</sub>), and empathy (X<sub>5</sub>) remain constant or equal zero (0), the customer satisfaction will decrease by 0.071 score.

2. Tangible ( $X_1$ ) is one of variables that affect the customer satisfaction ( $Y$ ) with positive regression coefficient 0.174. It means if tangible ( $X_1$ ) increases by 1 score, the customer satisfaction ( $Y$ ) will increase by 0.174 score with the assumption that  $X_2$ ,  $X_3$ ,  $X_4$ , and  $X_5$  remain constant.
3. Reliability ( $X_2$ ) is one of variables that affect the customer satisfaction ( $Y$ ) with positive regression coefficient 0.316. It means if reliability ( $X_2$ ) increases by 1 score, the customer satisfaction ( $Y$ ) will increase by 0.316 score with the assumption that  $X_1$ ,  $X_3$ ,  $X_4$ , and  $X_5$  remain constant.
4. Responsiveness ( $X_3$ ) is one of variables that affect the customer satisfaction ( $Y$ ) with positive regression coefficient 0.204. It means if responsiveness ( $X_3$ ) increases by 1 score, the customer satisfaction ( $Y$ ) will increase by 0.204 score with the assumption that  $X_1$ ,  $X_2$ ,  $X_4$ , and  $X_5$  remain constant.
5. Assurance ( $X_4$ ) is one of variables that affect the customer satisfaction ( $Y$ ) with positive regression coefficient 0.159. It means if assurance ( $X_4$ ) increases by 1 score, the customer satisfaction ( $Y$ ) will increase by 0.159 score with the assumption that  $X_1$ ,  $X_2$ ,  $X_3$ , and  $X_5$  remain constant.
6. Empathy ( $X_5$ ) is one of variables that affect the customer satisfaction ( $Y$ ) with positive regression coefficient 0.176. It means if empathy ( $X_5$ ) increases by 1 score, the customer satisfaction ( $Y$ ) will increase by 0.176 score with the assumption that  $X_1$ ,  $X_2$ ,  $X_3$ , and  $X_4$  remain constant.

7. In general, PKU Muhammadiyah Hospital has already satisfied its customers (the patients and their families), whose average score of customer satisfaction (Y) equals to 4.69.
8. In term of dominance, it is noticed that reliability (X<sub>2</sub>) contributes most dominantly the customer satisfaction at PKU Muhammadiyah Hospital, whose regression coefficient is 0.316.

## CHAPTER V

### CONCLUSIONS AND RECOMMENDATIONS

This chapter presents some conclusions and recommendations relevant to the research findings and research data analysis presented in Chapter IV. All conclusions presented here are based on the empirical findings from the research respondents. Again, the conclusions presented here are focused on the result of research hypothetical tests.

#### 5.1. Conclusions

- I. The mathematical model that explains the relationship between tangible ( $X_1$ ), reliability ( $X_2$ ), responsiveness ( $X_3$ ), assurance ( $X_4$ ), empathy ( $X_5$ ) and customer satisfaction ( $Y$ ) can be formulated in the equation below this:

$$Y = -0.071 + 0.174X_1 + 0.316X_2 + 0.204X_3 + 0.159X_4 + 0.176X_5$$

Based on the above mathematical model of multiple linear regressions, following interpretations can be made:

- a. The constant value is -0.071. It means that if all variables tangible ( $X_1$ ), reliability ( $X_2$ ), responsiveness ( $X_3$ ), assurance ( $X_4$ ), and empathy ( $X_5$ ) remain constant or equal zero (0), the customer satisfaction will decrease by 0.071 score.

- b. If tangible ( $X_1$ ) increases by 1 score, the customer satisfaction ( $Y$ ) will increase by 0.174 score with the assumption that  $X_2$ ,  $X_3$ ,  $X_4$ , and  $X_5$  remain constant.
  - c. If reliability ( $X_2$ ) increases by 1 score, the customer satisfaction ( $Y$ ) will increase by 0.316 score with the assumption that  $X_1$ ,  $X_3$ ,  $X_4$ , and  $X_5$  remain constant.
  - d. If responsiveness ( $X_3$ ) increases by 1 score, the customer satisfaction ( $Y$ ) will increase by 0.204 score with the assumption that  $X_1$ ,  $X_2$ ,  $X_4$ , and  $X_5$  remain constant.
  - e. If assurance ( $X_4$ ) increases by 1 score, the customer satisfaction ( $Y$ ) will increase by 0.159 score with the assumption that  $X_1$ ,  $X_2$ ,  $X_3$ , and  $X_5$  remain constant.
  - f. If empathy ( $X_5$ ) increases by 1 score, the customer satisfaction ( $Y$ ) will increase by 0.176 score with the assumption that  $X_1$ ,  $X_2$ ,  $X_3$ , and  $X_4$  remain constant.
  - g. In term of dominance, it is noticed that reliability ( $X_2$ ) contributes most dominantly the customer satisfaction at PKU Muhammadiyah Hospital, whose regression coefficient is 0.316.
2. Simultaneously, tangible ( $X_1$ ), reliability ( $X_2$ ), responsiveness ( $X_3$ ), assurance ( $X_4$ ), and empathy ( $X_5$ ) influence significantly the customer satisfaction ( $Y$ ). It can be proven statistically, which  $R = 0.929$ . It lies on the range 0.50 – 1.00, which means that the relationship is very significant.  $F_{count}$  (117.855) is bigger than  $F_{table}$  (2.3113). Based on the

multiple regression analysis, it is found that the value of determination coefficient ( $R^2$ ) is 0.862 or 86.20%. It means that 86.20% of influences toward the customer satisfaction at PKU Muhammadiyah Hospital in Yogyakarta is contributed by service quality dimensions, and remaining 13.80% is influenced by other variables beyond the equation model.

3. In general, PKU Muhammadiyah Hospital has already satisfied its customers (the patients and their families), whose average score of customer satisfaction (Y) equals to 4.69.

## **5.2. Recommendations**

Based on the data analysis and conclusions, the thesis writer delivers several recommendations to PKU Muhammadiyah Hospital in Yogyakarta as considerations in setting several policies, which are as follows:

1. The management of PKU Muhammadiyah Hospital Yogyakarta needs to preserve the good performance of all service quality dimensions, even though it has already scored positive customer satisfaction. It is taken to continuously maintain the loyalty and reliance of its patients and public generally.
2. The management of PKU Muhammadiyah Hospital Yogyakarta needs to organize regular survey to identify the actual satisfaction of its patients. It will be helpful to evaluate whether or not the current performance provided already satisfies the patients.

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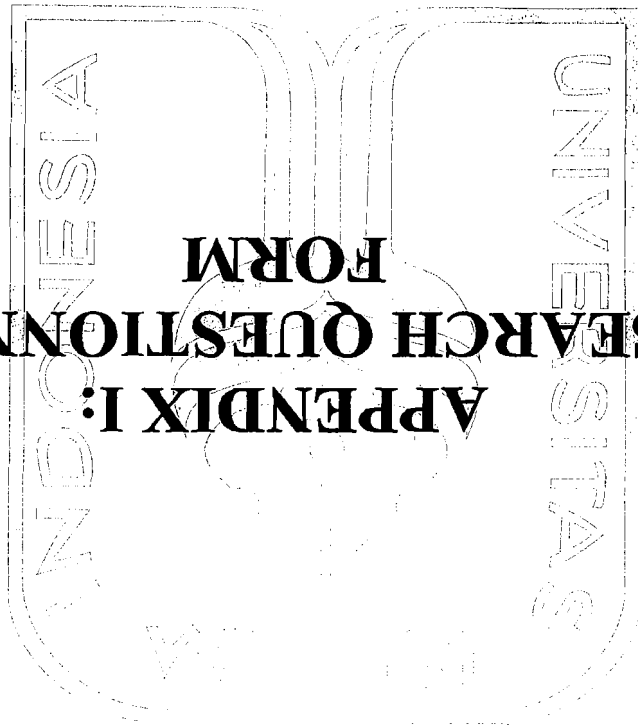
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**APPENDIX I:  
RESEARCH QUESTIONNAIRE  
FORM**



## KUISIONER

Karakteristik responden:

1. Nama :
2. Alamat :

Mohon dijawab dengan memberi tanda *cross check (X)* pada pilihan yang paling sesuai dengan kondisi saudara sendiri.

3. Apa jenis kelamin saudara?
  - a. Laki-laki
  - b. Perempuan
  
4. Berapakah usia saudara?
  - a.  $\leq 25$  tahun
  - b. 26 – 30 tahun
  - c. 31 – 35 tahun
  - d. 36- 40 tahun
  - e. 41 – 45 tahun
  - f. 46 – 50 tahun
  - g. 51 – 55 tahun
  - h.  $\geq 56$  tahun
  
5. Apa pendidikan terakhir saudara?
  - a. SLTP
  - b. SLTA
  - c. Diploma
  - d. Strata 1
  - e. Strata 2 & Strata 3

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6. Apa pekerjaan saudara?
  - a. Pegawai Negeri
  - b. Swasta
  - c. Militer (TNI / Polri)
  - d. Wiraswasta
  - e. Karyawan
  
7. Berapakah rata-rata penghasilan saudara per bulannya ?
  - a. Kurang dari Rp. 500.000
  - b. Rp. 500.000 – Rp. 750.000
  - c. Rp. 750.000 – Rp. 1.000.000
  - d. Rp. 1.000.000 – Rp.1.500.000
  - e. Diatas Rp. 1.500.000

## BAGIAN I. KUALITAS PELAYANAN

Pertanyaan – pertanyaan berikut berhubungan dengan opini / pendapat Anda tentang jasa yang seharusnya diberikan oleh sebuah rumah sakit umum untuk memberikan pelayanan yang benar – benar berkualitas bagi pasiennya.

Pilihlah jawaban yang Anda anggap sesuai dengan kondisi yang dirasakan, dengan ketentuan sebagai berikut: SS=Sangat Setuju, S=Setuju, N=Netral, TS=Tidak Setuju, STS=Sangat Tidak Setuju.

STATEMENTS	S	S	N	T	S
	S	S	N	S	T
1. RSUD seharusnya memiliki peralatan dan teknologi kedokteran modern.					
2. Fasilitas fisik RSUD seharusnya lengkap.					
3. Paramedis dan dokter seharusnya berpakaian rapi dan bersih.					
4. Lingkungan RSUD seharusnya bersih, nyaman, dan tidak berisik.					
5. Fasilitas pelayanan kesehatan harus selalu siap.					
6. RSUD harus siap untuk memberikan pelayanan kesehatan.					
7. Dalam menangani pasien, dokter dan paramedis harus profesional, simpatik, dan meyakinkan.					
8. RSUD dan kualitas pelayanannya harus dapat diandalkan.					
9. RSUD harus dapat memberikan pelayanan yang profesional dan tepat waktu dan sasaran.					
10. RSUD harus memiliki citra yang baik					
11. RSUD harus dapat memenuhi harapan-harapan pasien dan keluarga pasien.					
12. Dokter dan paramedis harus selalu siap memberikan pertolongan medis kepada pasien.					
13. Dokter dan paramedis harus mampu memberikan pelayanan yang terbaik kepada pasien dan keluarga pasien.					
14. Dokter harus dapat memberikan jawaban atas pertanyaan keluarga pasien dan memberikan penjelasan yang rinci tentang penyakit pasien.					
15. Dokter dan paramedis harus dapat memberikan terapi (cara penyembuhan) yang tepat untuk penyakit pasien.					
16. Pasien harus dapat merasa aman dan nyaman selama menjalani perawatan di RSUD.					
17. Kualitas pelayanan kesehatan yang diberikan RSUD harus memenuhi harapan pasien dan keluarga pasien.					
18. RSUD harus memiliki citra kualitas yang baik di masyarakat.					
19. RSUD harus dapat memberikan jaminan kualitas pelayanan kesehatan yang unggul kepada masyarakat.					
20. RSUD harus melayani pasien dan keluarga pasien dengan sopan santun.					
21. RSUD harus mengarahkan karyawannya untuk melayani pasien secara personal.					
22. RSUD harus memelihara hubungan yang baik dengan pasien dan keluarga pasien.					
23. RSUD harus memenuhi kebutuhan pasien selama masa perawatan.					

24. Dokter dan paramedis harus dapat memahami keadaan pasien dan kesulitan-kesulitan yang ditimbulkan oleh pasien.					
25. Dokter dan paramedis harus sabar dalam merawat pasien.					

## BAGIAN II. KINERJA

Pernyataan-pernyataan berikut berhubungan dengan penilaian/perasaan Anda terhadap kinerja RSU PKU Muhammadiyah Yogyakarta berdasarkan pengalaman Anda sebagai pasien.

Pilihlah jawaban yang Anda anggap sesuai dengan kondisi yang dirasakan, dengan ketentuan sebagai berikut: SS=Sangat Setuju, S=Setuju, N=Netral, TS=Tidak Setuju, STS=Sangat Tidak Setuju.

STATEMENTS	S	S	N	T	S
	S			S	T
1. PKU Muhammadiyah telah memiliki peralatan dan teknologi kedokteran modern.					
2. Fasilitas fisik yang dimiliki PKU Muhammadiyah lengkap.					
3. Paramedis dan dokter berpakaian rapi dan bersih.					
4. Lingkungan PKU Muhammadiyah bersih, nyaman, dan tidak berisik.					
5. Fasilitas pelayanan kesehatan selalu siap.					
6. PKU Muhammadiyah siap memberikan pelayanan kesehatan.					
7. Dalam menangani pasien, dokter dan paramedisnya sangat profesional, simpatik, dan meyakinkan.					
8. PKU Muhammadiyah dan kualitas pelayanannya dapat diandalkan.					
9. PKU Muhammadiyah memberikan pelayanan yang profesional dan tepat waktu dan sasaran.					
10. PKU Muhammadiyah memiliki citra yang baik.					
11. PKU Muhammadiyah memenuhi harapan-harapan pasien dan keluarga pasien.					
12. Dokter dan paramedisnya selalu siap memberikan pertolongan medis kepada pasien.					
13. Dokter dan paramedisnya memberikan pelayanan yang terbaik kepada pasien dan keluarga pasien.					
14. Dokter memberikan jawaban atas pertanyaan keluarga pasien dan memberikan penjelasan yang rinci tentang penyakit pasien.					
15. Dokter dan paramedisnya memberikan terapi (cara penyembuhan) yang tepat untuk penyakit pasien.					
16. Pasien merasa aman dan nyaman selama menjalani perawatan di PKU Muhammadiyah.					
17. Kualitas pelayanan kesehatan yang diberikan PKU Muhammadiyah telah memenuhi harapan pasien dan keluarga pasien.					
18. PKU Muhammadiyah memiliki citra kualitas yang baik di masyarakat.					
19. PKU Muhammadiyah telah memberikan jaminan kualitas pelayanan kesehatan yang unggul kepada masyarakat.					
20. PKU Muhammadiyah telah melayani pasien dan keluarga pasien dengan sopan santun.					
21. PKU Muhammadiyah telah mengarahkan karyawannya untuk melayani pasien secara personal.					
22. PKU Muhammadiyah telah memelihara hubungan yang baik dengan pasien dan keluarga pasien.					

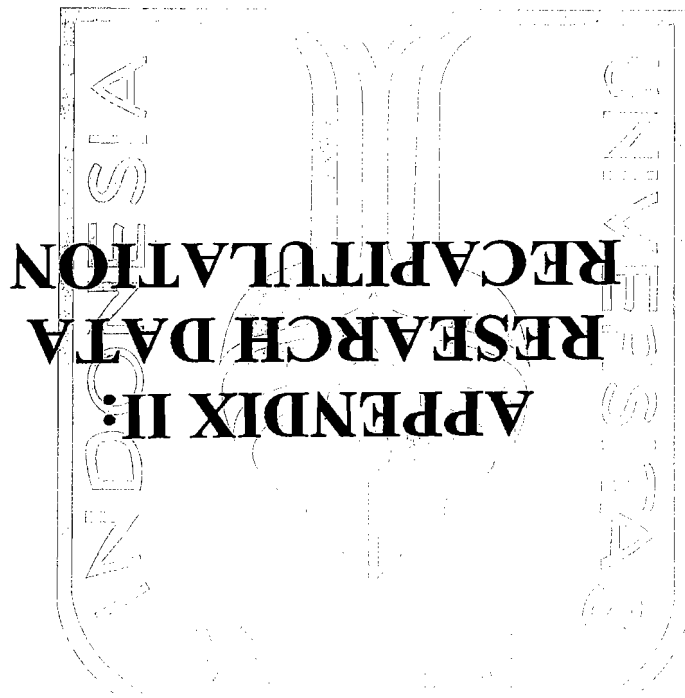
23. PKU Muhammadiyah memenuhi kebutuhan pasien selama masa perawatan.					
24. Dokter dan paramedisnya sangat memahami keadaan pasien dan kesulitan-kesulitan yang ditimbulkan oleh pasien.					
25. Dokter dan paramedisnya telah menunjukkan kesabaran dalam merawat pasien .					

### BAGIAN III. KEPUASAN PELANGGAN

Pilihlah jawaban yang Anda anggap sesuai dengan kondisi yang dirasakan, dengan ketentuan sebagai berikut: SS=Sangat Setuju, S=Setuju, N=Netral, TS=Tidak Setuju, STS=Sangat Tidak Setuju.

STATEMENTS	S	S	N	T	S
	S				S
1. Secara umum, faktor tangible yang diberikan oleh RSU PKU Muhammadiyah Yogyakarta memuaskan konsumen.					
2. Secara umum, faktor reliability yang diberikan oleh RSU PKU Muhammadiyah Yogyakarta memuaskan konsumen.					
3. Secara umum, faktor responsiveness yang diberikan oleh RSU PKU Muhammadiyah Yogyakarta memuaskan konsumen.					
4. Secara umum, faktor assurance yang diberikan oleh RSU PKU Muhammadiyah Yogyakarta memuaskan konsumen.					
5. Secara umum, faktor empathy yang diberikan oleh RSU PKU Muhammadiyah Yogyakarta memuaskan konsumen.					





## Section I Quality

		X <sub>1</sub>					Total	Mean
Resp	1	2	3	4	5			
1	4	5	5	5	4	23	4.6	
2	5	5	5	5	5	25	5	
3	5	5	4	5	5	24	4.8	
4	5	5	4	5	4	23	4.6	
5	4	4	4	4	4	20	4	
6	5	5	5	5	5	25	5	
7	5	5	5	5	4	24	4.8	
8	4	4	4	4	4	20	4	
9	4	5	5	5	5	24	4.8	
10	5	5	5	5	5	25	5	
11	5	4	4	4	5	22	4.4	
12	5	5	5	5	5	25	5	
13	4	4	4	4	4	20	4	
14	4	4	5	5	4	22	4.4	
15	5	5	4	4	5	23	4.6	
16	4	4	4	4	4	20	4	
17	4	3	4	4	4	19	3.8	
18	5	5	5	5	4	24	4.8	
19	4	4	4	4	4	20	4	
20	4	4	4	4	4	20	4	
21	4	5	4	5	4	22	4.4	
22	4	4	4	4	4	20	4	
23	5	4	4	4	4	21	4.2	
24	5	4	4	4	4	21	4.2	
25	5	4	4	4	5	22	4.4	
26	5	4	4	4	4	21	4.2	
27	4	4	4	4	4	20	4	
28	5	5	4	5	5	24	4.8	
29	5	5	5	5	5	25	5	
30	5	5	5	5	4	24	4.8	
31	5	5	4	5	5	24	4.8	
32	5	5	4	4	4	22	4.4	
33	5	5	5	4	5	24	4.8	
34	5	5	5	4	4	23	4.6	
35	5	5	5	4	4	23	4.6	
36	5	5	4	4	5	23	4.6	
37	4	4	5	5	5	23	4.6	
38	5	5	5	5	5	25	5	
39	4	5	5	5	5	24	4.8	
40	5	5	5	5	5	25	5	
41	4	4	5	5	4	22	4.4	
42	4	4	4	4	4	20	4	
43	4	4	4	4	4	20	4	
44	5	5	5	5	5	25	5	
45	4	4	4	4	4	20	4	
46	5	5	5	5	5	25	5	
47	4	4	5	5	4	22	4.4	
48	4	4	4	4	4	20	4	
49	5	5	5	5	4	24	4.8	
50	4	4	4	4	4	20	4	

		X <sub>2</sub>					Total	Mean
Resp	6	7	8	9	10			
1	4	5	4	4	4	21	4.2	
2	4	5	5	5	5	24	4.8	
3	5	5	5	5	4	24	4.8	
4	4	4	5	5	4	22	4.4	
5	4	4	5	5	5	23	4.6	
6	5	5	5	5	5	25	5	
7	5	5	5	5	5	25	5	
8	4	4	4	4	4	20	4	
9	5	5	5	4	4	23	4.6	
10	5	5	5	5	5	25	5	
11	5	5	4	5	5	24	4.8	
12	5	5	5	5	5	25	5	
13	4	4	4	4	4	20	4	
14	4	5	5	5	4	23	4.6	
15	5	5	5	4	5	24	4.8	
16	4	4	4	5	5	22	4.4	
17	4	4	3	4	4	19	3.8	
18	4	5	5	5	5	24	4.8	
19	4	4	4	4	4	20	4	
20	4	4	4	4	4	20	4	
21	5	4	5	5	5	24	4.8	
22	4	5	4	5	4	22	4.4	
23	4	5	4	5	4	22	4.4	
24	4	5	4	5	4	22	4.4	
25	5	5	5	4	4	23	4.6	
26	5	4	4	4	4	21	4.2	
27	4	5	4	5	4	22	4.4	
28	5	4	4	4	4	21	4.2	
29	5	4	4	5	5	23	4.6	
30	5	5	5	5	4	24	4.8	
31	5	4	4	5	5	23	4.6	
32	4	3	4	5	5	21	4.2	
33	5	5	5	4	5	24	4.8	
34	5	5	5	4	4	23	4.6	
35	4	5	5	5	5	24	4.8	
36	5	4	4	4	4	21	4.2	
37	4	4	4	4	4	20	4	
38	5	4	4	4	4	21	4.2	
39	5	4	5	4	5	23	4.6	
40	5	5	5	5	4	24	4.8	
41	4	5	4	4	5	22	4.4	
42	4	4	4	4	4	20	4	
43	4	4	4	4	4	20	4	
44	5	5	5	4	5	24	4.8	
45	4	5	5	5	5	24	4.8	
46	5	5	5	5	5	25	5	
47	4	5	5	5	4	23	4.6	
48	4	4	4	4	4	20	4	
49	4	5	5	5	4	23	4.6	
50	4	4	4	4	4	20	4	

		X <sub>3</sub>					Total	Mean
Resp	11	12	13	14	15			
1	5	5	5	4	4	23	4.6	
2	4	5	4	4	5	22	4.4	
3	5	5	5	5	5	25	5	
4	5	5	5	5	5	25	5	
5	4	4	4	5	5	22	4.4	
6	5	5	5	5	5	25	5	
7	5	5	5	5	4	24	4.8	
8	4	4	4	4	4	20	4	
9	5	5	5	5	5	25	5	
10	5	5	5	5	5	25	5	
11	5	5	5	5	5	25	5	
12	5	5	5	5	5	25	5	
13	4	4	4	4	4	20	4	
14	4	5	5	4	5	23	4.6	
15	5	5	5	5	5	25	5	
16	4	4	4	5	4	21	4.2	
17	4	4	3	4	4	19	3.8	
18	5	5	4	5	4	23	4.6	
19	4	4	4	3	4	19	3.8	
20	4	4	4	4	4	20	4	
21	5	5	4	5	4	23	4.6	
22	5	5	5	5	5	25	5	
23	5	5	5	5	5	25	5	
24	5	5	5	5	5	25	5	
25	4	4	4	5	5	22	4.4	
26	5	5	5	4	4	23	4.6	
27	5	5	5	5	5	25	5	
28	4	5	5	5	5	24	4.8	
29	5	4	5	4	5	23	4.6	
30	4	5	5	5	4	23	4.6	
31	5	5	5	4	4	23	4.6	
32	5	4	5	3	4	21	4.2	
33	5	5	4	5	5	24	4.8	
34	4	5	4	4	4	21	4.2	
35	5	4	5	4	5	23	4.6	
36	4	4	5	5	5	23	4.6	
37	5	4	4	4	4	21	4.2	
38	5	4	5	5	4	23	4.6	
39	4	4	4	4	4	20	4	
40	4	5	4	4	4	21	4.2	
41	4	5	5	4	4	22	4.4	
42	4	4	4	4	4	20	4	
43	4	4	4	4	4	20	4	
44	5	5	5	5	5	25	5	
45	4	5	5	4	4	22	4.4	
46	5	5	5	5	5	25	5	
47	4	5	5	4	4	22	4.4	
48	4	4	4	4	4	20	4	
49	4	5	5	4	5	23	4.6	
50	4	4	4	4	4	20	4	

X <sub>1</sub>							
Resp	1	2	3	4	5	Total	Mean
51	5	4	5	5	5	24	4.8
52	5	5	5	5	4	24	4.8
53	4	4	4	4	4	20	4
54	4	5	4	5	5	23	4.6
55	3	4	5	5	5	22	4.4
56	5	5	4	4	4	22	4.4
57	4	4	4	4	4	20	4
58	4	4	4	4	4	20	4
59	5	5	4	5	4	23	4.6
60	4	4	4	4	4	20	4
61	5	5	5	5	5	25	5
62	5	5	4	4	4	22	4.4
63	4	4	4	4	4	20	4
64	4	4	4	4	4	20	4
65	5	5	4	5	4	23	4.6
66	4	4	4	4	4	20	4
67	4	4	4	4	4	20	4
68	5	4	4	5	4	22	4.4
69	4	4	4	4	4	20	4
70	4	4	4	4	4	20	4
71	5	5	4	5	4	23	4.6
72	4	4	4	4	4	20	4
73	5	5	5	5	5	25	5
74	5	5	5	5	5	25	5
75	5	5	5	5	4	24	4.8
76	4	4	5	5	5	23	4.6
77	5	5	5	5	5	25	5
78	4	4	4	4	4	20	4
79	5	4	4	5	5	23	4.6
80	5	5	5	5	5	25	5
81	4	4	4	4	4	20	4
82	4	5	5	4	5	23	4.6
83	5	5	4	4	5	23	4.6
84	5	5	5	5	5	25	5
85	5	5	5	5	5	25	5
86	5	5	5	5	5	25	5
87	5	5	5	5	5	25	5
88	4	5	5	5	4	23	4.6
89	5	5	5	5	5	25	5
90	4	4	4	4	4	20	4
91	5	5	5	5	5	25	5
92	5	5	5	5	5	25	5
93	4	4	4	4	4	20	4
94	5	4	4	5	5	23	4.6
95	5	5	5	5	5	25	5
96	4	4	4	4	4	20	4
97	5	5	5	5	5	25	5
98	5	5	5	5	5	25	5
99	4	4	4	4	4	20	4
100	4	5	5	5	5	24	4.8

X <sub>2</sub>							
Resp	6	7	8	9	10	Total	Mean
51	4	4	4	4	5	21	4.2
52	4	5	5	5	4	23	4.6
53	4	4	4	4	4	20	4
54	5	4	4	5	5	23	4.6
55	4	5	5	5	4	23	4.6
56	4	5	5	5	4	23	4.6
57	4	4	4	4	4	20	4
58	4	4	4	4	4	20	4
59	4	5	5	5	5	24	4.8
60	4	4	4	4	4	20	4
61	4	5	5	5	5	24	4.8
62	4	5	5	5	4	23	4.6
63	4	4	4	4	4	20	4
64	4	4	4	4	4	20	4
65	4	5	5	5	5	24	4.8
66	4	4	4	4	4	20	4
67	4	4	4	4	4	20	4
68	4	5	5	5	4	23	4.6
69	4	4	4	4	4	20	4
70	4	4	4	4	4	20	4
71	4	5	5	5	5	24	4.8
72	4	4	4	4	4	20	4
73	5	5	5	5	5	25	5
74	5	5	5	5	4	24	4.8
75	4	4	5	4	5	22	4.4
76	5	5	5	5	5	25	5
77	5	5	5	5	5	25	5
78	4	4	4	4	4	20	4
79	5	5	4	5	4	23	4.6
80	5	5	5	5	4	24	4.8
81	4	4	4	4	4	20	4
82	5	5	5	5	5	25	5
83	5	5	5	5	4	24	4.8
84	5	5	5	5	5	25	5
85	5	5	5	5	5	25	5
86	5	5	5	4	5	24	4.8
87	5	5	5	5	5	25	5
88	5	5	5	5	5	25	5
89	5	5	5	5	5	25	5
90	4	4	4	4	4	20	4
91	5	5	5	5	5	25	5
92	5	5	5	5	5	25	5
93	4	4	4	4	4	20	4
94	5	5	5	5	5	25	5
95	5	5	5	5	5	25	5
96	4	4	4	4	4	20	4
97	5	5	5	4	4	23	4.6
98	5	5	5	5	5	25	5
99	4	4	4	4	4	20	4
100	5	4	5	5	5	24	4.8

X <sub>3</sub>							
Resp	11	12	13	14	15	Total	Mean
51	5	5	5	4	4	23	4.6
52	5	4	5	4	4	22	4.4
53	4	4	4	4	4	20	4
54	4	5	4	5	5	23	4.6
55	3	5	5	4	5	22	4.4
56	5	5	5	4	5	24	4.8
57	4	4	4	4	4	20	4
58	4	4	4	4	4	20	4
59	4	5	5	4	5	23	4.6
60	4	4	4	4	4	20	4
61	5	4	5	4	5	23	4.6
62	5	5	5	4	5	24	4.8
63	4	4	4	4	4	20	4
64	4	4	4	4	4	20	4
65	4	5	5	4	5	23	4.6
66	4	4	4	4	4	20	4
67	4	4	4	4	4	20	4
68	5	5	5	4	5	24	4.8
69	4	4	4	4	4	20	4
70	4	4	4	4	4	20	4
71	4	5	5	4	5	23	4.6
72	4	4	4	4	4	20	4
73	5	5	5	5	5	25	5
74	5	5	5	5	5	25	5
75	5	4	5	4	4	22	4.4
76	5	5	5	5	5	25	5
77	5	5	5	5	5	25	5
78	4	4	4	4	4	20	4
79	5	5	5	5	5	25	5
80	5	5	5	5	5	25	5
81	4	4	4	4	4	20	4
82	5	5	5	5	5	25	5
83	4	5	5	5	5	24	4.8
84	5	5	5	5	5	25	5
85	5	5	5	5	5	25	5
86	5	5	5	5	5	25	5
87	5	5	5	5	5	25	5
88	5	5	5	5	5	25	5
89	5	5	5	5	5	25	5
90	4	4	4	4	4	20	4
91	5	5	5	5	5	25	5
92	5	5	5	5	5	25	5
93	4	4	4	4	4	20	4
94	5	5	5	5	5	25	5
95	5	5	5	5	5	25	5
96	4	4	4	4	4	20	4
97	5	5	5	5	5	25	5
98	5	5	5	5	5	25	5
99	4	4	4	4	4	20	4
100	5	5	5	4	5	24	4.8

$X_4$ 

Resp	16	17	18	19	20	Total	Mean
1	4	5	4	5	4	22	4.4
2	5	5	4	5	4	23	4.6
3	5	5	4	5	5	24	4.8
4	5	5	5	5	4	24	4.8
5	5	5	5	5	4	24	4.8
6	5	5	5	5	5	25	5
7	5	5	5	5	5	25	5
8	4	4	4	4	4	20	4
9	5	4	5	5	5	24	4.8
10	5	4	5	5	4	23	4.6
11	5	4	5	5	5	24	4.8
12	5	5	5	5	4	24	4.8
13	4	4	4	4	4	20	4
14	5	4	5	4	5	23	4.6
15	4	4	5	4	4	21	4.2
16	4	4	5	5	5	23	4.6
17	3	4	3	3	4	17	3.4
18	4	4	4	4	4	20	4
19	4	4	3	4	4	19	3.8
20	4	4	4	4	4	20	4
21	5	4	5	4	5	23	4.6
22	5	5	5	4	5	24	4.8
23	5	5	4	5	4	23	4.6
24	5	5	4	5	4	23	4.6
25	5	5	4	4	4	22	4.4
26	4	4	4	4	4	20	4
27	5	5	4	5	4	23	4.6
28	4	4	4	5	4	21	4.2
29	4	5	4	4	4	21	4.2
30	4	4	5	5	5	23	4.6
31	4	4	5	4	5	22	4.4
32	5	5	5	3	5	23	4.6
33	4	5	4	5	5	23	4.6
34	4	5	5	5	5	24	4.8
35	4	5	4	4	4	21	4.2
36	5	4	4	5	4	22	4.4
37	5	5	5	5	4	24	4.8
38	5	4	5	4	5	23	4.6
39	4	4	5	4	5	22	4.4
40	5	5	5	4	4	23	4.6
41	5	4	5	4	4	22	4.4
42	4	4	4	4	4	20	4
43	4	4	4	4	4	20	4
44	5	5	4	5	5	24	4.8
45	5	4	5	4	4	22	4.4
46	5	5	5	5	5	25	5
47	5	4	5	5	4	23	4.6
48	4	4	4	4	4	20	4
49	5	4	5	5	5	24	4.8
50	4	4	4	4	4	20	4

 $X_5$ 

Resp	21	22	23	24	25	Total	Mean
1	4	4	5	5	5	23	4.6
2	5	5	5	4	5	24	4.8
3	5	4	5	5	5	24	4.8
4	5	5	5	4	4	23	4.6
5	5	5	5	5	4	24	4.8
6	5	5	5	5	5	25	5
7	5	5	5	4	5	24	4.8
8	4	4	4	4	4	20	4
9	5	5	5	5	5	25	5
10	5	5	5	5	5	25	5
11	5	5	5	4	4	23	4.6
12	5	5	5	4	5	24	4.8
13	4	4	4	4	4	20	4
14	4	4	5	5	4	22	4.4
15	4	5	5	5	5	24	4.8
16	4	5	5	5	5	24	4.8
17	3	3	5	4	5	20	4
18	5	5	4	5	5	24	4.8
19	4	4	4	3	4	19	3.8
20	4	4	4	4	4	20	4
21	4	5	4	5	4	22	4.4
22	4	5	4	5	4	22	4.4
23	5	5	4	5	4	23	4.6
24	5	5	4	5	4	23	4.6
25	4	5	5	5	5	24	4.8
26	4	5	4	4	5	22	4.4
27	4	5	4	4	5	22	4.4
28	4	4	5	5	5	23	4.6
29	5	4	4	5	5	23	4.6
30	4	4	5	5	5	23	4.6
31	5	5	4	5	4	23	4.6
32	4	5	5	5	5	24	4.8
33	5	5	4	5	5	24	4.8
34	4	4	4	5	4	21	4.2
35	4	4	4	4	4	20	4
36	5	4	5	4	4	22	4.4
37	4	4	4	4	4	20	4
38	4	5	4	5	5	23	4.6
39	4	4	5	5	4	22	4.4
40	4	4	4	5	4	21	4.2
41	4	5	5	4	4	22	4.4
42	4	4	4	4	4	20	4
43	4	4	4	4	4	20	4
44	5	5	5	4	4	23	4.6
45	4	5	5	4	4	22	4.4
46	5	5	5	5	5	25	5
47	4	4	5	5	4	22	4.4
48	4	4	4	4	4	20	4
49	4	3	4	4	4	19	3.8
50	4	4	4	4	4	20	4

X <sub>4</sub>							
Resp	16	17	18	19	20	Total	Mean
51	5	5	5	4	4	23	4.6
52	5	4	4	4	4	21	4.2
53	4	4	4	4	4	20	4
54	5	5	5	5	4	24	4.8
55	5	3	4	5	3	20	4
56	5	5	5	5	4	24	4.8
57	4	4	4	4	4	20	4
58	4	4	4	4	4	20	4
59	5	5	5	5	4	24	4.8
60	4	4	4	4	4	20	4
61	5	5	5	5	4	24	4.8
62	5	5	5	5	4	24	4.8
63	4	4	4	4	4	20	4
64	4	4	4	4	4	20	4
65	5	5	5	5	4	24	4.8
66	4	4	4	4	4	20	4
67	4	4	4	4	4	20	4
68	5	5	5	5	4	24	4.8
69	4	4	4	4	4	20	4
70	4	4	4	4	4	20	4
71	5	5	5	5	4	24	4.8
72	4	4	4	4	4	20	4
73	5	5	5	5	5	25	5
74	5	5	4	5	5	24	4.8
75	5	5	5	5	4	24	4.8
76	5	5	5	5	5	25	5
77	5	5	5	5	5	25	5
78	4	4	4	4	4	20	4
79	5	5	5	5	5	25	5
80	5	5	5	5	5	25	5
81	4	4	4	4	4	20	4
82	5	5	5	5	5	25	5
83	5	5	5	5	5	25	5
84	5	5	5	5	5	25	5
85	5	5	5	5	5	25	5
86	5	5	5	5	5	25	5
87	5	5	5	5	5	25	5
88	5	5	5	5	5	25	5
89	5	5	5	5	5	25	5
90	4	4	4	4	4	20	4
91	5	5	5	5	5	25	5
92	5	5	5	5	5	25	5
93	5	5	5	5	5	25	5
94	5	5	5	5	5	25	5
95	5	5	5	5	5	25	5
96	4	4	4	4	4	20	4
97	5	5	5	5	5	25	5
98	5	5	5	5	5	25	5
99	4	4	4	4	4	20	4
100	5	5	5	5	4	24	4.8

X <sub>5</sub>							
Resp	21	22	23	24	25	Total	Mean
51	3	4	4	5	5	21	4.2
52	4	4	5	4	4	21	4.2
53	4	4	4	4	4	20	4
54	4	3	4	4	5	20	4
55	3	3	4	5	5	20	4
56	5	4	5	4	4	22	4.4
57	4	4	4	4	4	20	4
58	4	4	4	4	4	20	4
59	4	4	5	4	4	21	4.2
60	4	4	4	4	4	20	4
61	3	4	5	5	5	22	4.4
62	5	4	5	4	4	22	4.4
63	4	4	4	4	4	20	4
64	4	4	4	4	4	20	4
65	4	4	5	4	4	21	4.2
66	4	4	4	4	4	20	4
67	4	4	4	4	4	20	4
68	5	4	5	4	4	22	4.4
69	4	4	4	4	4	20	4
70	4	4	4	4	4	20	4
71	4	4	5	4	4	21	4.2
72	4	4	4	4	4	20	4
73	5	5	5	5	5	25	5
74	5	5	5	5	5	25	5
75	4	4	5	5	5	23	4.6
76	5	5	5	5	5	25	5
77	5	5	5	5	5	25	5
78	4	4	4	4	4	20	4
79	5	5	5	5	5	25	5
80	5	5	5	5	5	25	5
81	4	4	4	4	4	20	4
82	5	5	5	5	5	25	5
83	5	4	5	5	5	24	4.8
84	5	5	5	5	5	25	5
85	5	5	5	5	5	25	5
86	5	5	5	5	5	25	5
87	5	5	5	5	5	25	5
88	5	5	5	5	5	25	5
89	5	5	5	4	4	23	4.6
90	4	4	4	4	4	20	4
91	5	5	5	5	4	24	4.8
92	5	5	5	5	5	25	5
93	5	5	5	5	5	25	5
94	5	5	5	5	5	25	5
95	5	5	5	5	5	25	5
96	4	4	4	4	4	20	4
97	5	5	5	5	5	25	5
98	5	5	5	5	5	25	5
99	4	4	4	4	4	20	4
100	4	4	5	5	5	23	4.6

## Section II Performance

Resp	X <sub>1</sub>					Total	Mean
	1	2	3	4	5		
1	4	4	5	3	4	20	4
2	4	5	5	5	4	23	4.6
3	4	4	5	5	4	22	4.4
4	5	5	5	5	5	25	5
5	5	5	5	5	4	24	4.8
6	4	5	5	5	4	23	4.6
7	5	5	5	5	5	25	5
8	4	4	4	4	4	20	4
9	5	5	5	5	5	25	5
10	5	5	5	5	5	25	5
11	5	5	5	4	3	22	4.4
12	5	5	5	5	5	25	5
13	5	5	5	5	5	25	5
14	4	4	5	5	5	23	4.6
15	5	5	5	5	5	25	5
16	4	4	5	5	5	23	4.6
17	4	4	4	4	4	20	4
18	5	5	5	5	5	25	5
19	5	5	5	5	5	25	5
20	4	4	4	4	4	20	4
21	5	5	5	5	5	25	5
22	5	4	4	4	4	21	4.2
23	5	4	4	4	4	21	4.2
24	5	4	4	4	4	21	4.2
25	5	5	5	4	5	24	4.8
26	5	4	4	4	4	21	4.2
27	5	4	4	4	4	21	4.2
28	2	2	4	4	4	16	3.2
29	1	1	5	5	5	17	3.4
30	4	4	5	5	5	23	4.6
31	2	2	4	3	4	15	3
32	1	1	3	4	5	14	2.8
33	4	4	4	4	4	20	4
34	5	4	4	4	4	21	4.2
35	2	2	4	5	5	18	3.6
36	4	4	4	5	5	22	4.4
37	2	2	4	4	4	16	3.2
38	3	3	4	4	4	18	3.6
39	5	4	4	4	4	21	4.2
40	5	4	3	4	3	19	3.8
41	4	5	5	5	4	23	4.6
42	4	2	3	4	3	16	3.2
43	5	5	5	5	5	25	5
44	5	5	5	3	4	22	4.4
45	4	4	4	4	4	20	4
46	4	5	5	5	5	24	4.8
47	4	4	5	5	4	22	4.4
48	4	4	4	4	4	20	4
49	5	5	5	5	4	24	4.8
50	4	4	4	4	4	20	4

Resp	X <sub>2</sub>					Total	Mean
	6	7	8	9	10		
1	4	5	4	3	5	21	4.2
2	4	5	5	5	5	24	4.8
3	5	5	5	5	5	25	5
4	5	5	5	4	5	24	4.8
5	5	5	5	5	5	25	5
6	5	5	5	5	4	24	4.8
7	5	5	5	5	5	25	5
8	4	4	4	4	4	20	4
9	5	5	5	4	5	24	4.8
10	5	5	5	5	5	25	5
11	5	5	5	5	5	25	5
12	5	5	5	5	5	25	5
13	5	4	5	5	5	24	4.8
14	4	5	5	5	5	24	4.8
15	5	5	5	5	5	25	5
16	5	5	5	5	5	25	5
17	4	4	4	4	4	20	4
18	5	5	5	5	5	25	5
19	5	5	5	5	5	25	5
20	4	4	4	4	4	20	4
21	5	4	4	5	5	23	4.6
22	4	5	5	4	5	23	4.6
23	4	5	4	5	4	22	4.4
24	4	5	4	5	4	22	4.4
25	5	5	5	4	5	24	4.8
26	4	4	4	5	5	22	4.4
27	4	5	4	5	4	22	4.4
28	4	4	4	4	5	21	4.2
29	4	4	4	5	4	21	4.2
30	5	4	4	4	4	21	4.2
31	4	4	5	5	5	23	4.6
32	5	5	5	4	4	23	4.6
33	5	5	5	5	5	25	5
34	5	4	5	4	4	22	4.4
35	5	4	4	4	5	22	4.4
36	5	4	4	4	5	22	4.4
37	5	5	5	5	5	25	5
38	5	5	5	5	4	24	4.8
39	4	5	4	5	4	22	4.4
40	5	4	4	4	4	21	4.2
41	4	5	5	4	5	23	4.6
42	3	4	4	4	5	20	4
43	5	5	5	5	5	25	5
44	5	5	4	5	4	23	4.6
45	4	4	4	4	4	20	4
46	5	4	5	5	5	24	4.8
47	4	5	5	5	4	23	4.6
48	4	4	4	4	4	20	4
49	4	5	5	5	4	23	4.6
50	4	4	4	4	4	20	4

Resp	X <sub>3</sub>					Total	Mean
	11	12	13	14	15		
1	5	4	5	4	4	22	4.4
2	5	5	5	4	5	24	4.8
3	5	5	5	4	5	24	4.8
4	5	5	5	5	5	25	5
5	5	5	5	4	5	24	4.8
6	4	5	5	5	5	24	4.8
7	5	5	5	5	5	25	5
8	4	4	4	4	4	20	4
9	5	5	5	5	4	24	4.8
10	5	5	5	5	5	25	5
11	5	5	5	4	5	24	4.8
12	5	5	5	5	5	25	5
13	5	5	5	5	5	25	5
14	5	5	5	4	5	24	4.8
15	5	5	5	5	5	25	5
16	5	5	5	5	5	25	5
17	4	4	4	4	4	20	4
18	5	5	4	5	5	24	4.8
19	5	5	5	4	5	24	4.8
20	4	4	4	4	4	20	4
21	5	5	5	5	5	25	5
22	4	5	4	4	4	21	4.2
23	5	5	5	5	5	25	5
24	5	5	5	5	5	25	5
25	4	4	5	5	5	23	4.6
26	5	5	4	5	4	23	4.6
27	5	5	5	5	5	25	5
28	4	4	4	4	4	20	4
29	4	4	4	4	4	20	4
30	5	4	4	4	5	22	4.4
31	4	5	4	4	4	21	4.2
32	4	4	5	5	5	23	4.6
33	4	4	5	5	5	23	4.6
34	4	4	4	4	4	20	4
35	5	5	4	4	4	22	4.4
36	5	5	5	5	5	25	5
37	4	5	4	4	5	22	4.4
38	5	4	4	4	4	21	4.2
39	5	5	5	4	5	24	4.8
40	4	3	3	4	5	19	3.8
41	4	5	5	5	5	24	4.8
42	5	4	4	3	4	20	4
43	4	5	5	5	5	24	4.8
44	5	5	5	5	5	25	5
45	4	4	4	4	4	20	4
46	5	5	5	5	5	25	5
47	4	5	5	4	4	22	4.4
48	4	4	4	4	4	20	4
49	4	5	5	4	5	23	4.6
50	4	4	4	4	4	20	4

X <sub>1</sub>							
Resp	1	2	3	4	5	Total	Mean
51	5	4	5	4	4	22	4.4
52	3	5	5	4	4	21	4.2
53	4	5	5	5	4	23	4.6
54	3	5	5	4	4	21	4.2
55	4	4	5	4	5	22	4.4
56	4	5	5	4	4	22	4.4
57	5	5	5	5	5	25	5
58	4	4	4	4	4	20	4
59	4	5	5	5	5	24	4.8
60	4	4	4	5	5	22	4.4
61	4	5	5	4	4	22	4.4
62	4	5	5	4	4	22	4.4
63	5	5	5	5	5	25	5
64	4	4	4	4	4	20	4
65	4	5	5	5	5	24	4.8
66	4	4	4	5	5	22	4.4
67	4	5	4	4	5	22	4.4
68	4	5	5	4	4	22	4.4
69	5	5	5	5	5	25	5
70	4	4	4	4	4	20	4
71	4	5	5	5	5	24	4.8
72	4	4	4	5	5	22	4.4
73	4	5	5	4	4	22	4.4
74	5	5	5	4	5	24	4.8
75	4	5	5	5	4	23	4.6
76	4	4	5	5	5	23	4.6
77	5	5	5	5	5	25	5
78	5	5	5	4	4	23	4.6
79	5	5	5	5	5	25	5
80	5	5	5	5	5	25	5
81	3	4	5	5	5	22	4.4
82	5	5	5	5	5	25	5
83	5	5	5	5	4	24	4.8
84	5	5	5	4	4	23	4.6
85	5	5	5	5	5	25	5
86	5	5	5	5	5	25	5
87	4	5	5	5	4	23	4.6
88	5	5	5	5	5	25	5
89	4	4	5	5	5	23	4.6
90	4	4	4	4	4	20	4
91	5	5	5	5	5	25	5
92	5	5	4	4	5	23	4.6
93	5	5	5	4	4	23	4.6
94	5	4	4	5	5	23	4.6
95	5	5	5	5	5	25	5
96	5	5	5	4	5	24	4.8
97	5	5	5	5	5	25	5
98	5	4	5	4	5	23	4.6
99	5	5	3	3	3	19	3.8
100	4	5	5	5	5	24	4.8

X <sub>2</sub>							
Resp	6	7	8	9	10	Total	Mean
51	4	5	5	4	5	23	4.6
52	4	5	5	5	5	24	4.8
53	4	5	5	5	5	24	4.8
54	4	5	4	4	5	22	4.4
55	5	5	5	4	5	24	4.8
56	4	5	5	4	5	23	4.6
57	5	5	5	5	5	25	5
58	4	4	4	4	4	20	4
59	5	5	5	5	5	25	5
60	5	4	5	5	5	24	4.8
61	5	5	5	5	5	25	5
62	4	5	5	4	5	23	4.6
63	5	5	5	5	5	25	5
64	4	4	4	4	4	20	4
65	5	5	5	5	5	25	5
66	5	4	5	5	5	24	4.8
67	5	5	4	4	4	22	4.4
68	4	5	5	4	5	23	4.6
69	5	5	5	5	5	25	5
70	4	4	4	4	4	20	4
71	5	5	5	5	5	25	5
72	5	4	5	5	5	24	4.8
73	4	5	5	4	4	22	4.4
74	5	4	4	4	5	22	4.4
75	4	4	5	5	5	23	4.6
76	5	5	5	4	5	24	4.8
77	5	5	5	5	5	25	5
78	4	5	5	4	5	23	4.6
79	5	5	5	5	5	25	5
80	5	4	5	5	5	24	4.8
81	5	5	5	4	5	24	4.8
82	5	5	5	5	5	25	5
83	5	5	5	5	5	25	5
84	4	5	5	4	5	23	4.6
85	5	5	5	5	5	25	5
86	5	5	5	5	5	25	5
87	4	5	5	5	5	24	4.8
88	5	5	5	5	5	25	5
89	5	5	5	5	5	25	5
90	4	4	4	4	4	20	4
91	5	5	5	5	5	25	5
92	5	5	4	5	5	24	4.8
93	4	5	5	5	5	24	4.8
94	5	5	5	5	5	25	5
95	5	5	5	5	5	25	5
96	5	5	5	4	5	24	4.8
97	5	5	5	5	5	25	5
98	5	5	4	4	5	23	4.6
99	4	4	3	3	4	18	3.6
100	5	4	5	5	5	24	4.8

X <sub>3</sub>							
Resp	11	12	13	14	15	Total	Mean
51	5	4	4	4	5	22	4.4
52	4	4	4	5	5	22	4.4
53	5	4	5	4	5	23	4.6
54	4	5	5	5	5	24	4.8
55	4	5	4	4	4	21	4.2
56	5	4	5	5	4	23	4.6
57	5	5	5	5	5	25	5
58	4	4	4	4	4	20	4
59	4	5	5	4	4	22	4.4
60	5	5	4	5	4	23	4.6
61	4	5	5	4	4	22	4.4
62	5	4	5	5	4	23	4.6
63	5	5	5	5	5	25	5
64	4	4	4	4	4	20	4
65	4	5	5	4	4	22	4.4
66	5	5	4	5	4	23	4.6
67	5	5	4	4	4	22	4.4
68	5	4	5	5	4	23	4.6
69	5	5	5	5	5	25	5
70	5	5	5	5	5	25	5
71	4	5	5	4	4	22	4.4
72	5	5	4	4	4	22	4.4
73	5	5	4	4	4	22	4.4
74	5	5	4	5	5	24	4.8
75	5	4	5	4	5	23	4.6
76	5	5	5	5	5	25	5
77	5	5	5	5	5	25	5
78	5	5	5	4	5	24	4.8
79	5	5	5	5	5	25	5
80	5	4	5	5	5	24	4.8
81	5	5	5	4	4	23	4.6
82	5	5	5	5	5	25	5
83	5	5	5	5	5	25	5
84	4	5	5	4	5	23	4.6
85	5	5	5	5	5	25	5
86	5	4	4	5	5	23	4.6
87	5	5	5	4	4	23	4.6
88	5	5	5	5	5	25	5
89	5	5	5	5	5	25	5
90	5	5	5	5	5	25	5
91	5	5	5	5	5	25	5
92	4	5	5	5	4	23	4.6
93	5	5	5	5	5	25	5
94	5	5	5	5	5	25	5
95	5	5	5	5	5	25	5
96	5	5	5	4	4	23	4.6
97	5	5	5	5	5	25	5
98	5	5	5	5	5	25	5
99	4	4	3	4	4	19	3.8
100	5	5	5	4	5	24	4.8

$X_4$ 

Resp	16	17	18	19	20	Total	Mean
1	4	5	5	5	5	24	4.8
2	5	5	5	4	5	24	4.8
3	5	5	5	5	5	25	5
4	5	5	5	5	5	25	5
5	5	5	5	5	5	25	5
6	4	5	4	4	5	22	4.4
7	5	5	5	5	5	25	5
8	4	4	4	4	4	20	4
9	5	5	5	5	4	24	4.8
10	5	5	5	5	5	25	5
11	5	5	5	5	5	25	5
12	5	5	5	5	4	24	4.8
13	5	5	5	4	5	24	4.8
14	5	5	5	5	5	25	5
15	5	5	5	5	5	25	5
16	5	4	5	5	4	23	4.6
17	4	4	4	4	4	20	4
18	5	5	5	4	4	23	4.8
19	5	5	4	5	5	24	4.8
20	4	4	4	4	4	20	4
21	5	4	4	4	5	22	4.4
22	4	4	4	5	5	22	4.4
23	5	5	5	5	5	25	5
24	5	5	5	5	5	25	5
25	5	4	4	5	4	22	4.4
26	5	4	5	5	5	24	4.8
27	5	5	5	5	5	25	5
28	4	4	4	4	4	20	4
29	5	4	5	4	5	23	4.6
30	5	4	4	4	4	21	4.2
31	3	4	4	5	4	20	4
32	5	5	5	5	4	24	4.8
33	5	5	4	4	5	23	4.6
34	4	5	5	5	5	24	4.8
35	4	5	4	5	5	23	4.6
36	5	5	4	4	4	22	4.4
37	4	4	4	5	4	21	4.2
38	5	5	5	5	4	24	4.8
39	4	5	4	5	5	23	4.6
40	4	4	4	4	4	20	4
41	5	5	5	5	5	25	5
42	5	4	5	3	4	21	4.2
43	5	5	5	5	5	25	5
44	5	5	4	5	5	24	4.8
45	4	4	4	4	4	20	4
46	5	5	4	5	5	24	4.8
47	5	4	5	5	4	23	4.6
48	4	4	4	4	4	20	4
49	5	4	5	5	5	24	4.8
50	4	4	4	4	4	20	4

 $X_5$ 

Resp	21	22	23	24	25	Total	Mean
1	4	4	4	4	5	21	4.2
2	5	5	5	4	5	24	4.8
3	5	4	4	5	5	23	4.6
4	5	4	5	5	5	24	4.8
5	5	5	5	5	5	25	5
6	5	5	5	5	5	25	5
7	5	4	4	5	4	22	4.4
8	4	4	4	4	4	20	4
9	5	5	5	5	5	25	5
10	5	5	5	5	5	25	5
11	5	5	5	5	5	25	5
12	5	5	4	4	5	23	4.6
13	5	4	5	5	5	24	4.8
14	5	5	4	5	5	24	4.8
15	5	5	5	5	5	25	5
16	5	5	5	5	5	25	5
17	4	4	4	4	4	20	4
18	4	5	4	4	4	21	4.2
19	5	5	5	5	5	25	5
20	4	4	4	4	4	20	4
21	4	5	5	5	4	23	4.6
22	5	5	5	5	5	25	5
23	5	5	5	5	5	25	5
24	5	5	5	5	5	25	5
25	5	5	5	5	5	25	5
26	5	4	5	5	5	24	4.8
27	5	5	5	5	5	25	5
28	2	4	4	4	4	18	3.6
29	5	5	5	5	5	25	5
30	4	5	5	5	5	24	4.8
31	5	5	5	4	5	24	4.8
32	4	4	5	5	5	23	4.6
33	4	5	4	4	4	21	4.2
34	5	4	4	5	5	23	4.6
35	5	5	5	5	5	25	5
36	4	4	5	4	4	21	4.2
37	5	4	4	4	5	22	4.4
38	4	5	5	4	5	23	4.6
39	5	5	5	5	5	25	5
40	4	4	4	4	4	20	4
41	4	5	4	5	5	23	4.6
42	3	4	3	4	4	18	3.6
43	5	5	4	5	4	23	4.6
44	5	5	5	4	4	23	4.6
45	4	4	4	4	4	20	4
46	4	5	5	5	5	24	4.8
47	4	4	5	5	4	22	4.4
48	4	4	4	4	4	20	4
49	4	3	4	4	4	19	3.8
50	4	4	4	4	4	20	4



$X_4$ 

Resp	16	17	18	19	20	Total	Mean
51	5	5	5	5	5	25	5
52	5	5	5	5	5	25	5
53	5	5	5	5	4	24	4.8
54	5	4	5	5	5	24	4.8
55	5	4	5	5	4	23	4.6
56	5	5	5	4	4	23	4.6
57	5	5	5	5	5	25	5
58	4	5	5	5	5	24	4.8
59	5	5	5	5	5	25	5
60	5	5	5	5	5	25	5
61	5	5	5	4	4	23	4.6
62	5	5	5	4	4	23	4.6
63	5	5	5	5	5	25	5
64	5	5	5	5	5	25	5
65	5	5	5	5	5	25	5
66	5	5	5	5	5	25	5
67	5	5	5	5	5	25	5
68	5	5	5	4	4	23	4.6
69	5	5	5	5	5	25	5
70	5	5	5	5	5	25	5
71	5	5	5	5	5	25	5
72	5	5	5	5	5	25	5
73	5	5	5	4	4	23	4.6
74	5	5	5	5	4	24	4.8
75	5	5	5	4	4	23	4.6
76	5	5	5	5	5	25	5
77	5	5	5	5	5	25	5
78	5	5	5	5	5	25	5
79	5	5	5	5	5	25	5
80	5	5	5	5	5	25	5
81	5	5	5	5	5	25	5
82	5	5	5	5	5	25	5
83	5	5	5	5	5	25	5
84	5	5	5	4	5	24	4.8
85	5	5	5	5	5	25	5
86	5	5	5	4	5	24	4.8
87	5	5	5	5	4	24	4.8
88	5	5	5	5	5	25	5
89	5	5	5	5	5	25	5
90	5	5	5	5	5	25	5
91	5	5	5	5	5	25	5
92	5	5	5	5	5	25	5
93	5	5	5	5	4	24	4.8
94	5	5	5	5	5	25	5
95	5	5	5	5	5	25	5
96	5	5	5	5	5	25	5
97	5	5	5	5	5	25	5
98	5	5	5	5	5	25	5
99	5	4	5	4	5	23	4.6
100	5	5	5	5	5	25	5

 $X_5$ 

Resp	21	22	23	24	25	Total	Mean
51	4	5	5	5	5	24	4.8
52	4	5	5	5	5	24	4.8
53	4	5	5	5	5	24	4.8
54	3	4	3	4	5	19	3.8
55	3	5	5	5	4	22	4.4
56	4	4	5	5	5	23	4.6
57	5	5	5	5	5	25	5
58	4	4	4	4	4	20	4
59	4	4	4	5	5	22	4.4
60	4	4	5	5	5	23	4.6
61	4	4	5	5	5	23	4.6
62	4	4	5	5	5	23	4.6
63	5	5	5	5	5	25	5
64	4	4	4	4	4	20	4
65	4	4	4	5	5	22	4.4
66	4	4	5	5	5	23	4.6
67	5	5	5	5	5	25	5
68	4	4	5	5	5	23	4.6
69	5	5	5	5	5	25	5
70	4	4	4	4	4	20	4
71	4	4	4	5	5	22	4.4
72	4	4	5	5	5	23	4.6
73	4	4	5	5	5	23	4.6
74	5	5	5	5	5	25	5
75	4	5	5	4	4	22	4.4
76	5	5	5	5	5	25	5
77	5	5	5	5	5	25	5
78	5	4	5	5	5	24	4.8
79	5	5	5	5	5	25	5
80	5	5	5	5	5	25	5
81	4	5	5	5	5	24	4.8
82	5	5	5	5	5	25	5
83	5	5	4	5	5	24	4.8
84	4	4	4	4	5	21	4.2
85	5	5	5	5	5	25	5
86	5	5	5	5	5	25	5
87	4	4	5	4	4	21	4.2
88	5	5	5	5	5	25	5
89	5	5	5	5	5	25	5
90	5	5	5	5	5	25	5
91	5	5	5	5	5	25	5
92	5	5	5	5	5	25	5
93	4	4	5	5	5	23	4.6
94	5	5	5	5	5	25	5
95	5	5	5	5	5	25	5
96	4	4	4	4	4	20	4
97	5	5	5	5	5	25	5
98	5	5	5	5	5	25	5
99	3	3	4	5	4	19	3.8
100	4	4	5	5	5	23	4.6

**DATA**  
**Customer Satisfaction (Y)**

resp	1	2	3	4	5	Total	Mean
1	4	4	4	5	4	21	4.2
2	5	5	5	5	5	25	5
3	4	5	5	5	5	24	4.8
4	5	5	5	5	5	25	5
5	5	5	5	5	5	25	5
6	5	5	5	4	5	24	4.8
7	5	5	5	5	4	24	4.8
8	4	4	4	4	4	20	4
9	5	5	5	5	5	25	5
10	5	5	5	5	5	25	5
11	5	5	5	5	5	25	5
12	5	5	5	5	5	25	5
13	5	5	5	5	5	25	5
14	5	5	5	5	5	25	5
15	5	5	5	5	5	25	5
16	5	5	5	5	5	25	5
17	4	4	4	4	4	20	4
18	5	5	5	5	4	24	4.8
19	5	5	5	5	5	25	5
20	4	4	4	4	4	20	4
21	5	5	5	4	5	24	4.8
22	4	5	4	4	5	22	4.4
23	4	4	5	5	5	23	4.6
24	4	4	5	5	5	23	4.6
25	5	5	5	4	5	24	4.8
26	4	4	5	5	5	23	4.6
27	4	4	5	5	5	23	4.6
28	4	4	4	4	4	20	4
29	5	4	4	5	5	23	4.6
30	5	4	4	4	5	22	4.4
31	4	5	4	4	5	22	4.4
32	1	5	5	5	5	21	4.2
33	4	5	5	5	4	23	4.6
34	4	4	4	5	4	21	4.2
35	5	4	4	5	5	23	4.6
36	4	4	5	4	4	21	4.2
37	4	5	4	4	4	21	4.2
38	4	5	4	5	5	23	4.6
39	4	4	5	5	5	23	4.6
40	4	4	4	4	4	20	4
41	5	5	5	5	5	25	5
42	3	4	4	4	4	19	3.8
43	5	5	5	5	5	25	5
44	5	5	5	5	5	25	5
45	4	4	4	4	4	20	4
46	5	5	5	5	5	25	5
47	4	5	4	5	4	22	4.4
48	4	4	4	4	4	20	4
49	5	5	5	5	4	24	4.8
50	4	4	4	4	4	20	4

Y

resp	1	2	3	4	5	Total	Mean
51	4	5	4	5	5	23	4.6
52	4	5	4	5	5	23	4.6
53	5	5	5	5	5	25	5
54	4	4	5	5	4	22	4.4
55	4	5	4	5	5	23	4.6
56	4	5	5	5	5	24	4.8
57	5	5	5	5	5	25	5
58	4	4	4	5	4	21	4.2
59	5	5	4	5	4	23	4.6
60	4	5	5	5	5	24	4.8
61	4	5	4	5	5	23	4.6
62	4	5	5	5	5	24	4.8
63	5	5	5	5	5	25	5
64	4	4	4	5	4	21	4.2
65	5	5	4	5	4	23	4.6
66	4	5	5	5	5	24	4.8
67	4	4	4	5	5	22	4.4
68	4	5	5	5	5	24	4.8
69	5	5	5	5	5	25	5
70	4	4	5	5	4	22	4.4
71	5	5	4	5	4	23	4.6
72	4	5	5	5	5	24	4.8
73	4	4	4	5	5	22	4.4
74	5	4	5	5	5	24	4.8
75	5	5	5	5	4	24	4.8
76	5	5	5	5	5	25	5
77	5	5	5	5	5	25	5
78	5	5	5	5	5	25	5
79	5	5	5	5	5	25	5
80	5	5	5	5	5	25	5
81	5	5	5	5	5	25	5
82	5	5	5	5	5	25	5
83	5	5	5	5	5	25	5
84	5	5	5	5	4	24	4.8
85	5	5	5	5	5	25	5
86	5	5	5	5	5	25	5
87	5	5	5	5	4	24	4.8
88	5	5	5	5	5	25	5
89	5	5	5	5	5	25	5
90	4	4	5	5	4	22	4.4
91	5	5	5	5	5	25	5
92	5	5	5	5	5	25	5
93	5	5	5	5	5	25	5
94	5	5	5	5	5	25	5
95	5	5	5	5	5	25	5
96	5	5	5	5	4	24	4.8
97	5	5	5	5	5	25	5
98	5	5	5	5	5	25	5
99	3	4	4	5	4	20	4
100	5	5	5	5	5	25	5

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**APPENDIX III:  
VALIDITY AND RELIABILITY  
TEST**

## Validity of Quality Tangible

### Correlations

#### Correlations

		Total
Tangible 1 Quality	Pearson Correlation	.723**
	Sig. (2-tailed)	.000
	N	100
Tangible 2 Quality	Pearson Correlation	.844**
	Sig. (2-tailed)	.000
	N	100
Tangible 3 Quality	Pearson Correlation	.783**
	Sig. (2-tailed)	.000
	N	100
Tangible 4 Quality	Pearson Correlation	.822**
	Sig. (2-tailed)	.000
	N	100
Tangible 5 Quality	Pearson Correlation	.756**
	Sig. (2-tailed)	.000
	N	100
Total	Pearson Correlation	1.000
	Sig. (2-tailed)	.
	N	100

\*\* . Correlation is significant at the 0.01 level (2-tailed).

## Validity of Quality Reliability

### Correlations

#### Correlations

		Total
Reliability 1 Quality	Pearson Correlation	.668**
	Sig. (2-tailed)	.000
	N	100
Reliability 2 Quality	Pearson Correlation	.785**
	Sig. (2-tailed)	.000
	N	100
Reliability 3 Quality	Pearson Correlation	.854**
	Sig. (2-tailed)	.000
	N	100
Reliability 4 Quality	Pearson Correlation	.764**
	Sig. (2-tailed)	.000
	N	100
Reliability 5 Quality	Pearson Correlation	.696**
	Sig. (2-tailed)	.000
	N	100
Total	Pearson Correlation	1.000
	Sig. (2-tailed)	.
	N	100

\*\* . Correlation is significant at the 0.01 level (2-tailed).

## Validity of Quality Responsiveness

### Correlations

#### Correlations

		Total
Responsiveness 1 Quality	Pearson Correlation	.768**
	Sig. (2-tailed)	.000
	N	100
Responsiveness 2 Quality	Pearson Correlation	.823**
	Sig. (2-tailed)	.000
	N	100
Responsiveness 3 Quality	Pearson Correlation	.829**
	Sig. (2-tailed)	.000
	N	100
Responsiveness 4 Quality	Pearson Correlation	.771**
	Sig. (2-tailed)	.000
	N	100
Responsiveness 5 Quality	Pearson Correlation	.825**
	Sig. (2-tailed)	.000
	N	100
Total	Pearson Correlation	1.000
	Sig. (2-tailed)	.
	N	100

\*\* . Correlation is significant at the 0.01 level (2-tailed).

## Validity of Quality Assurance

### Correlations

#### Correlations

		Total
Assurance 1 Quality	Pearson Correlation	.839**
	Sig. (2-tailed)	.000
	N	100
Assurance 2 Quality	Pearson Correlation	.774**
	Sig. (2-tailed)	.000
	N	100
Assurance 3 Quality	Pearson Correlation	.820**
	Sig. (2-tailed)	.000
	N	100
Assurance 4 Quality	Pearson Correlation	.792**
	Sig. (2-tailed)	.000
	N	100
Assurance 5 Quality	Pearson Correlation	.672**
	Sig. (2-tailed)	.000
	N	100
Total	Pearson Correlation	1.000
	Sig. (2-tailed)	.
	N	100

\*\* . Correlation is significant at the 0.01 level (2-tailed).



## Validity of Quality Empathy

### Correlations

#### Correlations

		Total
Empathy 1 Quality	Pearson Correlation	.744**
	Sig. (2-tailed)	.000
	N	100
Empathy 2 Quality	Pearson Correlation	.794**
	Sig. (2-tailed)	.000
	N	100
Empathy 3 Quality	Pearson Correlation	.718**
	Sig. (2-tailed)	.000
	N	100
Empathy 4 Quality	Pearson Correlation	.735**
	Sig. (2-tailed)	.000
	N	100
Empathy 5 Quality	Pearson Correlation	.719**
	Sig. (2-tailed)	.000
	N	100
Total	Pearson Correlation	1.000
	Sig. (2-tailed)	.
	N	100

\*\* . Correlation is significant at the 0.01 level (2-tailed).

## Validity of Performance Tangible

### Correlations

#### Correlations

		Total
Tangible 1 Performance	Pearson Correlation	.731**
	Sig. (2-tailed)	.000
	N	100
Tangible 2 Performance	Pearson Correlation	.851**
	Sig. (2-tailed)	.000
	N	100
Tangible 3 Performance	Pearson Correlation	.741**
	Sig. (2-tailed)	.000
	N	100
Tangible 4 Performance	Pearson Correlation	.629**
	Sig. (2-tailed)	.000
	N	100
Tangible 5 Performance	Pearson Correlation	.552**
	Sig. (2-tailed)	.000
	N	100
Total	Pearson Correlation	1.000
	Sig. (2-tailed)	.
	N	100

\*\* . Correlation is significant at the 0.01 level (2-tailed).

## Validity of Performance Reliability

### Correlations

#### Correlations

		Total
Reliability 1 Performance	Pearson Correlation	.667**
	Sig. (2-tailed)	.000
	N	100
Reliability 2 Performance	Pearson Correlation	.654**
	Sig. (2-tailed)	.000
	N	100
Reliability 3 Performance	Pearson Correlation	.837**
	Sig. (2-tailed)	.000
	N	100
Reliability 4 Performance	Pearson Correlation	.698**
	Sig. (2-tailed)	.000
	N	100
Reliability 5 Performance	Pearson Correlation	.693**
	Sig. (2-tailed)	.000
	N	100
Total	Pearson Correlation	1.000
	Sig. (2-tailed)	.
	N	100

\*\* . Correlation is significant at the 0.01 level (2-tailed).

## Validity of Performance Responsiveness

### Correlations

#### Correlations

		Total
Responsiveness 1 Performance	Pearson Correlation	.665**
	Sig. (2-tailed)	.000
	N	100
Responsiveness 2 Performance	Pearson Correlation	.681**
	Sig. (2-tailed)	.000
	N	100
Responsiveness 3 Performance	Pearson Correlation	.785**
	Sig. (2-tailed)	.000
	N	100
Responsiveness 4 Performance	Pearson Correlation	.727**
	Sig. (2-tailed)	.000
	N	100
Responsiveness 5 Performance	Pearson Correlation	.735**
	Sig. (2-tailed)	.000
	N	100
Total	Pearson Correlation	1.000
	Sig. (2-tailed)	.
	N	100

\*\* . Correlation is significant at the 0.01 level (2-tailed).

## Validity of Performance Assurance Correlations

### Correlations

		Total
Assurance 1 Performance	Pearson Correlation	.696**
	Sig. (2-tailed)	.000
	N	100
Assurance 2 Performance	Pearson Correlation	.766**
	Sig. (2-tailed)	.000
	N	100
Assurance 3 Performance	Pearson Correlation	.766**
	Sig. (2-tailed)	.000
	N	100
Assurance 4 Performance	Pearson Correlation	.682**
	Sig. (2-tailed)	.000
	N	100
Assurance 5 Performance	Pearson Correlation	.703**
	Sig. (2-tailed)	.000
	N	100
Total	Pearson Correlation	1.000
	Sig. (2-tailed)	.
	N	100

\*\* . Correlation is significant at the 0.01 level (2-tailed).

## Validity of Performance Empathy

### Correlations

#### Correlations

		Total
Empathy 1 Performance	Pearson Correlation	.797**
	Sig. (2-tailed)	.000
	N	100
Empathy 2 Performance	Pearson Correlation	.745**
	Sig. (2-tailed)	.000
	N	100
Empathy 3 Performance	Pearson Correlation	.783**
	Sig. (2-tailed)	.000
	N	100
Empathy 4 Performance	Pearson Correlation	.752**
	Sig. (2-tailed)	.000
	N	100
Empathy 5 Performance	Pearson Correlation	.767**
	Sig. (2-tailed)	.000
	N	100
Total	Pearson Correlation	1.000
	Sig. (2-tailed)	.
	N	100

\*\* . Correlation is significant at the 0.01 level (2-tailed).

## Validity of Customer Satisfaction

### Correlations

#### Correlations

		Total
Customer Satisfaction 1	Pearson Correlation	.732**
	Sig. (2-tailed)	.000
	N	100
Customer Satisfaction 2	Pearson Correlation	.757**
	Sig. (2-tailed)	.000
	N	100
Customer Satisfaction 3	Pearson Correlation	.766**
	Sig. (2-tailed)	.000
	N	100
Customer Satisfaction 4	Pearson Correlation	.614**
	Sig. (2-tailed)	.000
	N	100
Customer Satisfaction 5	Pearson Correlation	.678**
	Sig. (2-tailed)	.000
	N	100
Total	Pearson Correlation	1.000
	Sig. (2-tailed)	.
	N	100

\*\* . Correlation is significant at the 0.01 level (2-tailed).

## Reliability

\*\*\*\*\* Method 1 (space saver) will be used for this analysis \*\*\*\*\*

### RELIABILITY ANALYSIS - SCALE (ALPHA)

		Mean	Std Dev	Cases
1.	TANGIBL1	4.5400	.5207	100.0
2.	TANGIBL2	4.5300	.5214	100.0
3.	TANGIBL3	4.4600	.5009	100.0
4.	TANGIBL4	4.5400	.5009	100.0
5.	TANGIBL5	4.4400	.4989	100.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	22.5100	3.9898	1.9974	5

#### Reliability Coefficients

N of Cases = 100.0

N of Items = 5

Alpha = .9447



## Reliability

\*\*\*\*\* Method 1 (space saver) will be used for this analysis \*\*\*\*\*

### RELIABILITY ANALYSIS - SCALE (ALPHA)

		Mean	Std Dev	Cases
1.	RELIA1	4.4500	.5000	100.0
2.	RELIA2	4.5600	.5187	100.0
3.	RELIA3	4.5400	.5207	100.0
4.	RELIA4	4.5600	.4989	100.0
5.	RELIA5	4.4400	.4989	100.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	22.5500	3.6641	1.9142	5

#### Reliability Coefficients

N of Cases = 100.0

N of Items = 5

Alpha = .8106

## Reliability

\*\*\*\*\* Method 1 (space saver) will be used for this analysis \*\*\*\*\*

### RELIABILITY ANALYSIS - SCALE (ALPHA)

		Mean	Std Dev	Cases
1.	RESP1	4.5200	.5218	100.0
2.	RESP2	4.6100	.4902	100.0
3.	RESP3	4.6100	.5104	100.0
4.	RESP4	4.4400	.5379	100.0
5.	RESP5	4.5400	.5009	100.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	22.7200	4.2238	2.0552	5

#### Reliability Coefficients

N of Cases = 100.0

N of Items = 5

Alpha = .8613

## Reliability

\*\*\*\*\* Method 1 (space saver) will be used for this analysis \*\*\*\*\*

### RELIABILITY ANALYSIS - SCALE (ALPHA)

		Mean	Std Dev	Cases
1.	ASSUR1	4.6100	.5104	100.0
2.	ASSUR2	4.5300	.5214	100.0
3.	ASSUR3	4.5500	.5389	100.0
4.	ASSUR4	4.5500	.5389	100.0
5.	ASSUR5	4.3900	.5104	100.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	22.6300	4.1748	2.0432	5

#### Reliability Coefficients

N of Cases = 100.0

N of Items = 5

Alpha = .8387

## Reliability

\*\*\*\*\* Method 1 (space saver) will be used for this analysis \*\*\*\*\*

### RELIABILITY ANALYSIS - SCALE (ALPHA)

		Mean	Std Dev	Cases
1.	EMPATY1	4.3900	.5667	100.0
2.	EMPATY2	4.4300	.5730	100.0
3.	EMPATY3	4.5700	.4976	100.0
4.	EMPATY4	4.5100	.5221	100.0
5.	EMPATY5	4.4700	.5016	100.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	22.3700	3.9122	1.9779	5

#### Reliability Coefficients

N of Cases = 100.0

N of Items = 5

Alpha = .7959

## Reliability

\*\*\*\*\* Method 1 (space saver) will be used for this analysis \*\*\*\*\*

### RELIABILITY ANALYSIS - SCALE (ALPHA)

		Mean	Std Dev	Cases
1.	TANGIBL1	4.3000	.8819	100.0
2.	TANGIBL2	4.3900	.8978	100.0
3.	TANGIBL3	4.6200	.5646	100.0
4.	TANGIBL4	4.4900	.5773	100.0
5.	TANGIBL5	4.4600	.5759	100.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	22.2600	6.2954	2.5091	5

#### Reliability Coefficients

N of Cases = 100.0

N of Items = 5

Alpha = .7402

## Reliability

\*\*\*\*\* Method 1 (space saver) will be used for this analysis \*\*\*\*\*

### RELIABILITY ANALYSIS - SCALE (ALPHA)

		Mean	Std Dev	Cases
1.	RELIA1	4.5900	.5143	100.0
2.	RELIA2	4.6900	.4648	100.0
3.	RELIA3	4.6800	.4899	100.0
4.	RELIA4	4.5800	.5352	100.0
5.	RELIA5	4.7300	.4462	100.0

Statistics for	Mean	Variance	Std Dev	N of
SCALE	23.2700	3.0274	1.7399	Variables 5

#### Reliability Coefficients

N of Cases = 100.0

N of Items = 5

Alpha = .7520

## Reliability

\*\*\*\*\* Method 1 (space saver) will be used for this analysis \*\*\*\*\*

### RELIABILITY ANALYSIS - SCALE (ALPHA)

		Mean	Std Dev	Cases
1.	RESP1	4.6700	.4726	100.0
2.	RESP2	4.7000	.4820	100.0
3.	RESP3	4.6600	.5168	100.0
4.	RESP4	4.5200	.5218	100.0
5.	RESP5	4.6200	.4878	100.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	23.1700	3.1930	1.7869	5

#### Reliability Coefficients

N of Cases = 100.0

N of Items = 5

Alpha = .7673

## Reliability

\*\*\*\*\* Method 1 (space saver) will be used for this analysis \*\*\*\*\*

### RELIABILITY ANALYSIS - SCALE (ALPHA)

		Mean	Std Dev	Cases
1.	ASSUR1	4.8200	.4115	100.0
2.	ASSUR2	4.7700	.4230	100.0
3.	ASSUR3	4.7800	.4163	100.0
4.	ASSUR4	4.7200	.4731	100.0
5.	ASSUR5	4.6800	.4688	100.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	23.7700	2.5021	1.5818	5

#### Reliability Coefficients

N of Cases = 100.0

N of Items = 5

Alpha = .7678



## Reliability

\*\*\*\*\* Method 1 (space saver) will be used for this analysis \*\*\*\*\*

### RELIABILITY ANALYSIS - SCALE (ALPHA)

		Mean	Std Dev	Cases
1.	EMPATY1	4.4600	.6264	100.0
2.	EMPATY2	4.5500	.5389	100.0
3.	EMPATY3	4.6600	.5168	100.0
4.	EMPATY4	4.7200	.4513	100.0
5.	EMPATY5	4.7400	.4408	100.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	23.1300	3.9324	1.9830	5

#### Reliability Coefficients

N of Cases = 100.0

N of Items = 5

Alpha = .8216

## Reliability

\*\*\*\*\* Method 1 (space saver) will be used for this analysis \*\*\*\*\*

### RELIABILITY ANALYSIS - SCALE (ALPHA)

		Mean	Std Dev	Cases
1.	CUSTOM1	4.5200	.6432	100.0
2.	CUSTOM2	4.7100	.4560	100.0
3.	CUSTOM3	4.6900	.4648	100.0
4.	CUSTOM4	4.8300	.3775	100.0
5.	CUSTOM5	4.6900	.4648	100.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	23.4400	2.9560	1.7193	5

#### Reliability Coefficients

N of Cases = 100.0

N of Items = 5

Alpha = .7441

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STATISTICAL CALCULATION  
APPENDIX IV:  
RESULT



## Frequencies

### Statistics

		Gender	Age	Education	Occupation	Income
N	Valid	100	100	100	100	100
	Missing	0	0	0	0	0
Mean		1.24	4.11	2.79	3.11	3.57
Std. Error of Mean		.04	.21	.10	.13	.12
Median		1.00	4.00	3.00	3.00	4.00
Mode		1	3	3	2	4
Std. Deviation		.43	2.07	1.03	1.32	1.19
Variance		.18	4.28	1.06	1.76	1.42
Range		1	7	4	4	4
Minimum		1	1	1	1	1
Maximum		2	8	5	5	5
Sum		124	411	279	311	357

## Frequency Table

### Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	76	76.0	76.0	76.0
	Female	24	24.0	24.0	100.0
	Total	100	100.0	100.0	

### Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	25 years old and under	13	13.0	13.0	13.0
	26 - 30 years old	6	6.0	6.0	19.0
	31 - 35 years old	26	26.0	26.0	45.0
	36 - 40 years old	22	22.0	22.0	67.0
	41 - 45 years old	4	4.0	4.0	71.0
	46 - 50 years old	7	7.0	7.0	78.0
	51 - 55 years old	18	18.0	18.0	96.0
	56 years old and above	4	4.0	4.0	100.0
	Total	100	100.0	100.0	

### Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Junior High School	15	15.0	15.0	15.0
	High School	19	19.0	19.0	34.0
	Diploma	39	39.0	39.0	73.0
	Bachelor Degree	26	26.0	26.0	99.0
	Magister and Doctoral Degree	1	1.0	1.0	100.0
	Total	100	100.0	100.0	

### Occupation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Civil Servant	12	12.0	12.0	12.0
	Private	28	28.0	28.0	40.0
	Military	15	15.0	15.0	55.0
	Entrepreneur	27	27.0	27.0	82.0
	Employee	18	18.0	18.0	100.0
	Total	100	100.0	100.0	

### Income

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Under 500.000	11	11.0	11.0	11.0
	500.000 - 750.000	6	6.0	6.0	17.0
	750.000 - 1.000.000	17	17.0	17.0	34.0
	1.000.000 - 1.500.000	47	47.0	47.0	81.0
	Above 1.500.000	19	19.0	19.0	100.0
	Total	100	100.0	100.0	

## Regression

### Descriptive Statistics

	Mean	Std. Deviation	N
Kepuasan Pelanggan (Customer Satisfaction)	4.688	.344	100
Tangible Variable	4.452	.502	100
Reliability Variable	4.654	.348	100
Responsiveness Variable	4.634	.357	100
Assurance Variable	4.754	.316	100
Empathy Variable	4.626	.397	100

### Correlations

		Kepuasan Pelanggan (Customer Satisfaction)	Tangible Variable	Reliability Variable
Pearson Correlation	Kepuasan Pelanggan (Customer Satisfaction)	1.000	.762	.804
	Tangible Variable	.762	1.000	.629
	Reliability Variable	.804	.629	1.000
	Responsiveness Variable	.794	.652	.622
	Assurance Variable	.699	.545	.548
	Empathy Variable	.697	.442	.555
Sig. (1-tailed)	Kepuasan Pelanggan (Customer Satisfaction)	.	.000	.000
	Tangible Variable	.000	.	.000
	Reliability Variable	.000	.000	.
	Responsiveness Variable	.000	.000	.000
	Assurance Variable	.000	.000	.000
	Empathy Variable	.000	.000	.000
N	Kepuasan Pelanggan (Customer Satisfaction)	100	100	100
	Tangible Variable	100	100	100
	Reliability Variable	100	100	100
	Responsiveness Variable	100	100	100
	Assurance Variable	100	100	100
	Empathy Variable	100	100	100

**Correlations**

		Responsiveness Variable	Assurance Variable	Empathy Variable
Pearson Correlation	Kepuasan Pelanggan (Customer Satisfaction)	.794	.699	.697
	Tangible Variable	.652	.545	.442
	Reliability Variable	.622	.548	.555
	Responsiveness Variable	1.000	.639	.612
	Assurance Variable	.639	1.000	.512
	Empathy Variable	.612	.512	1.000
Sig. (1-tailed)	Kepuasan Pelanggan (Customer Satisfaction)	.000	.000	.000
	Tangible Variable	.000	.000	.000
	Reliability Variable	.000	.000	.000
	Responsiveness Variable	.	.000	.000
	Assurance Variable	.000	.	.000
	Empathy Variable	.000	.000	.
N	Kepuasan Pelanggan (Customer Satisfaction)	100	100	100
	Tangible Variable	100	100	100
	Reliability Variable	100	100	100
	Responsiveness Variable	100	100	100
	Assurance Variable	100	100	100
	Empathy Variable	100	100	100

**Variables Entered/Removed<sup>a</sup>**

Model	Variables Entered	Variables Removed	Method
1	Empathy Variable, Tangible Variable, Assurance Variable, Reliability Variable, Responsiveness Variable <sup>a</sup>		Enter

a. All requested variables entered.

b. Dependent Variable: Kepuasan Pelanggan (Customer Satisfaction)

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.929 <sup>a</sup>	.862	.855	.131

a. Predictors: (Constant), Empathy Variable, Tangible Variable, Assurance Variable, Reliability Variable, Responsiveness Variable

**ANOVA<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.095	5	2.019	117.855	.000 <sup>a</sup>
	Residual	1.610	94	.017		
	Total	11.706	99			

a. Predictors: (Constant), Empathy Variable, Tangible Variable, Assurance Variable, Reliability Variable, Responsiveness Variable

b. Dependent Variable: Kepuasan Pelanggan (Customer Satisfaction)

**Coefficients<sup>a</sup>**

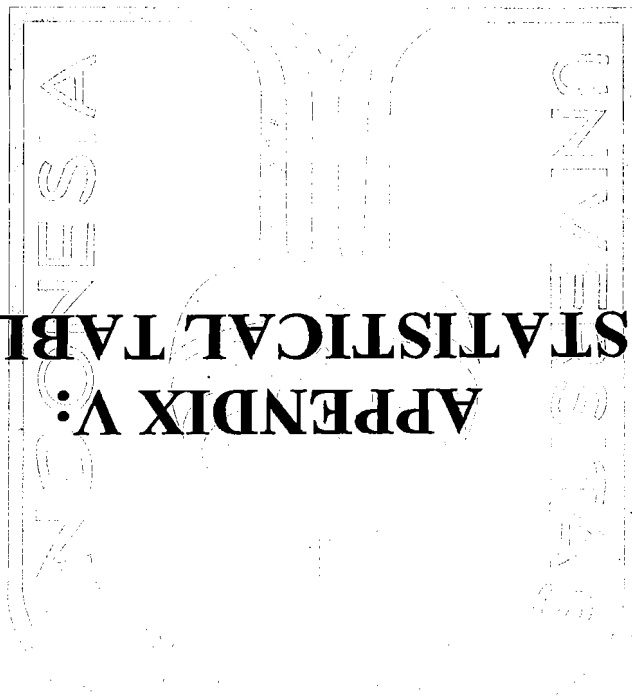
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.071	.221		-.322	.748
	Tangible Variable	.174	.038	.253	4.594	.000
	Reliability Variable	.316	.055	.320	5.781	.000
	Responsiveness Variable	.204	.059	.212	3.440	.001
	Assurance Variable	.159	.057	.146	2.781	.007
	Empathy Variable	.176	.044	.203	3.979	.000

a. Dependent Variable: Kepuasan Pelanggan (Customer Satisfaction)





**APPENDIX V:  
STATISTICAL TABLES**



TABEL DISTRIBUSI-t

	10%	5%	2,5%	1%
1	3,08	6,31	12,71	31,82
2	1,89	2,92	4,30	6,96
3	1,64	2,35	3,18	4,54
4	1,53	2,13	2,78	3,75
5	1,48	2,02	2,57	3,36
6	1,44	1,94	2,45	3,14
7	1,41	1,89	2,36	3,00
8	1,40	1,86	2,31	2,90
9	1,38	1,83	2,26	2,82
10	1,37	1,81	2,23	2,76
11	1,36	1,80	2,20	2,72
12	1,36	1,78	2,18	2,68
13	1,35	1,77	2,16	2,65
14	1,35	1,76	2,14	2,62
15	1,34	1,75	2,13	2,60
16	1,34	1,75	2,12	2,58
17	1,33	1,74	2,11	2,57
18	1,33	1,73	2,10	2,55
19	1,33	1,73	2,09	2,54
20	1,33	1,72	2,09	2,53
21	1,32	1,72	2,08	2,52
22	1,32	1,72	2,07	2,51
23	1,32	1,71	2,07	2,50
24	1,32	1,71	2,06	2,49
25	1,32	1,71	2,06	2,49
26	1,31	1,71	2,06	2,48
27	1,31	1,70	2,05	2,47
28	1,31	1,70	2,05	2,47
29	1,31	1,70	2,05	2,46
30	1,31	1,70	2,04	2,46
31	1,31	1,70	2,04	2,45
32	1,31	1,69	2,04	2,45
33	1,31	1,69	2,03	2,44
34	1,31	1,69	2,03	2,44
35	1,31	1,69	2,03	2,44
36	1,31	1,69	2,03	2,43
37	1,30	1,69	2,03	2,43
38	1,30	1,69	2,02	2,43
39	1,30	1,68	2,02	2,43
40	1,30	1,68	2,02	2,42
41	1,30	1,68	2,02	2,42
42	1,30	1,68	2,02	2,42
43	1,30	1,68	2,02	2,42
44	1,30	1,68	2,02	2,41
45	1,30	1,68	2,01	2,41
46	1,30	1,68	2,01	2,41
47	1,30	1,68	2,01	2,41
48	1,30	1,68	2,01	2,41
49	1,30	1,68	2,01	2,40
50	1,30	1,68	2,01	2,40

	10%	5%	2,5%	1%
51	1,30	1,68	2,01	2,40
52	1,30	1,67	2,01	2,40
53	1,30	1,67	2,01	2,40
54	1,30	1,67	2,00	2,40
55	1,30	1,67	2,00	2,40
56	1,30	1,67	2,00	2,39
57	1,30	1,67	2,00	2,39
58	1,30	1,67	2,00	2,39
59	1,30	1,67	2,00	2,39
60	1,30	1,67	2,00	2,39
61	1,30	1,67	2,00	2,39
62	1,30	1,67	2,00	2,39
63	1,30	1,67	2,00	2,39
64	1,29	1,67	2,00	2,39
65	1,29	1,67	2,00	2,39
66	1,29	1,67	2,00	2,38
67	1,29	1,67	2,00	2,38
68	1,29	1,67	2,00	2,38
69	1,29	1,67	1,99	2,38
70	1,29	1,67	1,99	2,38
71	1,29	1,67	1,99	2,38
72	1,29	1,67	1,99	2,38
73	1,29	1,67	1,99	2,38
74	1,29	1,67	1,99	2,38
75	1,29	1,67	1,99	2,38
76	1,29	1,67	1,99	2,38
77	1,29	1,66	1,99	2,38
78	1,29	1,66	1,99	2,38
79	1,29	1,66	1,99	2,37
80	1,29	1,66	1,99	2,37
81	1,29	1,66	1,99	2,37
82	1,29	1,66	1,99	2,37
83	1,29	1,66	1,99	2,37
84	1,29	1,66	1,99	2,37
85	1,29	1,66	1,99	2,37
86	1,29	1,66	1,99	2,37
87	1,29	1,66	1,99	2,37
88	1,29	1,66	1,99	2,37
89	1,29	1,66	1,99	2,37
90	1,29	1,66	1,99	2,37
91	1,29	1,66	1,99	2,37
92	1,29	1,66	1,99	2,37
93	1,29	1,66	1,99	2,37
94	1,29	1,66	1,99	2,37
95	1,29	1,66	1,99	2,37
96	1,29	1,66	1,98	2,37
97	1,29	1,66	1,98	2,37
98	1,29	1,66	1,98	2,37
99	1,29	1,66	1,98	2,36
100	1,29	1,66	1,98	2,36

TABEL F (5%)

		df pembilang									
		1	2	3	4	5	6	7	8	9	10
df penyebut	51	4,030	3,179	2,786	2,553	2,397	2,283	2,195	2,126	2,069	2,022
	52	4,027	3,175	2,783	2,550	2,393	2,279	2,192	2,122	2,066	2,018
	53	4,023	3,172	2,779	2,546	2,389	2,275	2,188	2,119	2,062	2,015
	54	4,020	3,168	2,776	2,543	2,386	2,272	2,185	2,115	2,059	2,011
	55	4,016	3,165	2,773	2,540	2,383	2,269	2,181	2,112	2,055	2,008
	56	4,013	3,162	2,769	2,537	2,380	2,266	2,178	2,109	2,052	2,005
	57	4,010	3,159	2,766	2,534	2,377	2,263	2,175	2,106	2,049	2,001
	58	4,007	3,156	2,764	2,531	2,374	2,260	2,172	2,103	2,046	1,998
	59	4,004	3,153	2,761	2,528	2,371	2,257	2,169	2,100	2,043	1,995
	60	4,001	3,150	2,758	2,525	2,368	2,254	2,167	2,097	2,040	1,993
	61	3,998	3,148	2,755	2,523	2,366	2,251	2,164	2,094	2,037	1,990
	62	3,996	3,145	2,753	2,520	2,363	2,249	2,161	2,092	2,035	1,987
	63	3,993	3,143	2,751	2,518	2,361	2,246	2,159	2,089	2,032	1,985
	64	3,991	3,140	2,748	2,515	2,358	2,244	2,156	2,087	2,030	1,982
	65	3,989	3,138	2,746	2,513	2,356	2,242	2,154	2,084	2,027	1,980
	66	3,986	3,136	2,744	2,511	2,354	2,239	2,152	2,082	2,025	1,977
	67	3,984	3,134	2,742	2,509	2,352	2,237	2,150	2,080	2,023	1,975
	68	3,982	3,132	2,739	2,507	2,350	2,235	2,148	2,078	2,021	1,973
	69	3,980	3,130	2,737	2,505	2,348	2,233	2,145	2,076	2,019	1,971
	70	3,978	3,128	2,736	2,503	2,346	2,231	2,143	2,074	2,017	1,969
	71	3,976	3,126	2,734	2,501	2,344	2,229	2,142	2,072	2,015	1,967
	72	3,974	3,124	2,732	2,499	2,342	2,227	2,140	2,070	2,013	1,965
	73	3,972	3,122	2,730	2,497	2,340	2,226	2,138	2,068	2,011	1,963
	74	3,970	3,120	2,728	2,495	2,338	2,224	2,136	2,066	2,009	1,961
	75	3,968	3,119	2,727	2,494	2,337	2,222	2,134	2,064	2,007	1,959
	76	3,967	3,117	2,725	2,492	2,335	2,220	2,133	2,063	2,006	1,958
	77	3,965	3,115	2,723	2,490	2,333	2,219	2,131	2,061	2,004	1,956
	78	3,963	3,114	2,722	2,489	2,332	2,217	2,129	2,059	2,002	1,954
	79	3,962	3,112	2,720	2,487	2,330	2,216	2,128	2,058	2,001	1,953
	80	3,960	3,111	2,719	2,486	2,329	2,214	2,126	2,056	1,999	1,951
	81	3,959	3,109	2,717	2,484	2,327	2,213	2,125	2,055	1,998	1,950
	82	3,957	3,108	2,716	2,483	2,326	2,211	2,123	2,053	1,996	1,948
	83	3,956	3,107	2,715	2,482	2,324	2,210	2,122	2,052	1,995	1,947
	84	3,955	3,105	2,713	2,480	2,323	2,209	2,121	2,051	1,993	1,945
	85	3,953	3,104	2,712	2,479	2,322	2,207	2,119	2,049	1,992	1,944
	86	3,952	3,103	2,711	2,478	2,321	2,206	2,118	2,048	1,991	1,943
	87	3,951	3,101	2,709	2,476	2,319	2,205	2,117	2,047	1,989	1,941
	88	3,949	3,100	2,708	2,475	2,318	2,203	2,115	2,045	1,988	1,940
	89	3,948	3,099	2,707	2,474	2,317	2,202	2,114	2,044	1,987	1,939
	90	3,947	3,098	2,706	2,473	2,316	2,201	2,113	2,043	1,986	1,938
	91	3,946	3,097	2,705	2,472	2,315	2,200	2,112	2,042	1,984	1,936
	92	3,945	3,095	2,704	2,471	2,313	2,199	2,111	2,041	1,983	1,935
	93	3,943	3,094	2,703	2,470	2,312	2,198	2,110	2,040	1,982	1,934
	94	3,942	3,093	2,701	2,469	2,311	2,197	2,109	2,038	1,981	1,933
	95	3,941	3,092	2,700	2,467	2,310	2,196	2,108	2,037	1,980	1,932
	96	3,940	3,091	2,699	2,466	2,309	2,195	2,106	2,036	1,979	1,931
	97	3,939	3,090	2,698	2,465	2,308	2,194	2,105	2,035	1,978	1,930
	98	3,938	3,089	2,697	2,465	2,307	2,193	2,104	2,034	1,977	1,929
	99	3,937	3,088	2,696	2,464	2,306	2,192	2,103	2,033	1,976	1,928
	100	3,936	3,087	2,696	2,463	2,305	2,191	2,103	2,032	1,975	1,927

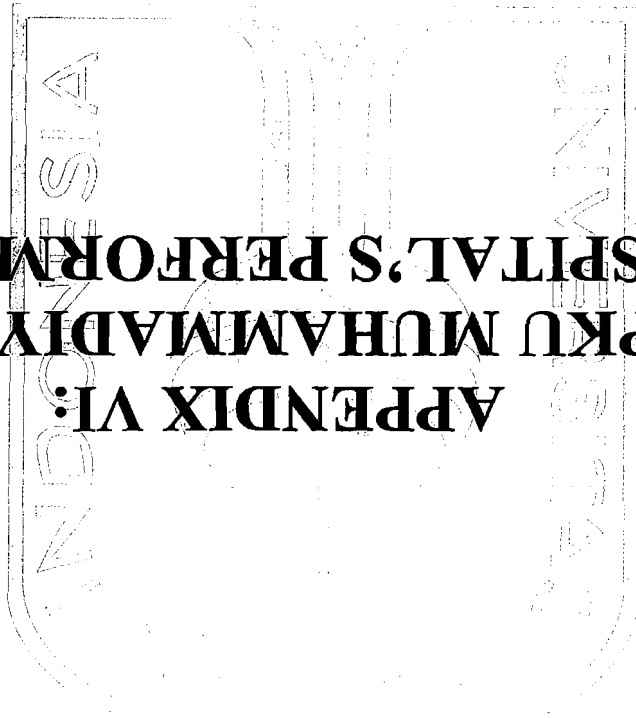
Tabel r Product Moment (satu sisi)

df	5%	df	5%
1	0,9511	51	0,1789
2	0,8000	52	0,1772
3	0,6870	53	0,1755
4	0,6084	54	0,1739
5	0,5509	55	0,1723
6	0,5067	56	0,1708
7	0,4716	57	0,1693
8	0,4428	58	0,1678
9	0,4187	59	0,1664
10	0,3981	60	0,1650
11	0,3802	61	0,1636
12	0,3646	62	0,1623
13	0,3507	63	0,1610
14	0,3383	64	0,1598
15	0,3271	65	0,1586
16	0,3170	66	0,1574
17	0,3077	67	0,1562
18	0,2992	68	0,1550
19	0,2914	69	0,1539
20	0,2841	70	0,1528
21	0,2774	71	0,1517
22	0,2711	72	0,1507
23	0,2653	73	0,1497
24	0,2598	74	0,1486
25	0,2546	75	0,1477
26	0,2497	76	0,1467
27	0,2451	77	0,1457
28	0,2407	78	0,1448
29	0,2366	79	0,1439
30	0,2327	80	0,1430
31	0,2289	81	0,1421
32	0,2254	82	0,1412
33	0,2220	83	0,1404
34	0,2187	84	0,1396
35	0,2156	85	0,1387
36	0,2126	86	0,1379
37	0,2097	87	0,1371
38	0,2070	88	0,1364
39	0,2043	89	0,1356
40	0,2018	90	0,1348
41	0,1993	91	0,1341
42	0,1970	92	0,1334
43	0,1947	93	0,1327
44	0,1925	94	0,1320
45	0,1903	95	0,1313
46	0,1883	96	0,1306
47	0,1863	97	0,1299
48	0,1843	98	0,1292
49	0,1825	99	0,1286
50	0,1806	100	0,1279

df	5%	df	5%
101	0,1273	151	0,1042
102	0,1267	152	0,1038
103	0,1261	153	0,1035
104	0,1255	154	0,1032
105	0,1249	155	0,1028
106	0,1243	156	0,1025
107	0,1237	157	0,1022
108	0,1231	158	0,1019
109	0,1226	159	0,1015
110	0,1220	160	0,1012
111	0,1215	161	0,1009
112	0,1209	162	0,1006
113	0,1204	163	0,1003
114	0,1199	164	0,1000
115	0,1193	165	0,0997
116	0,1188	166	0,0994
117	0,1183	167	0,0991
118	0,1178	168	0,0988
119	0,1173	169	0,0985
120	0,1168	170	0,0982
121	0,1163	171	0,0979
122	0,1159	172	0,0976
123	0,1154	173	0,0973
124	0,1149	174	0,0971
125	0,1145	175	0,0968
126	0,1140	176	0,0965
127	0,1136	177	0,0962
128	0,1131	178	0,0960
129	0,1127	179	0,0957
130	0,1123	180	0,0954
131	0,1118	181	0,0952
132	0,1114	182	0,0949
133	0,1110	183	0,0947
134	0,1106	184	0,0944
135	0,1102	185	0,0941
136	0,1098	186	0,0939
137	0,1094	187	0,0936
138	0,1090	188	0,0934
139	0,1086	189	0,0931
140	0,1082	190	0,0929
141	0,1078	191	0,0927
142	0,1074	192	0,0924
143	0,1070	193	0,0922
144	0,1067	194	0,0919
145	0,1063	195	0,0917
146	0,1059	196	0,0915
147	0,1056	197	0,0912
148	0,1052	198	0,0910
149	0,1049	199	0,0908
150	0,1045	200	0,0905



**APPENDIX VI:  
PKU MUHAMMADIYAH  
HOSPITAL'S PERFORMANCE**



PENAMPILAN RSU PKU MUHAMMADIYAH YOGYAKARTA  
Catur Wulan I Tahun 2004

No	JENIS KEGIATAN	Rata-rata	Pencapaian			
		2003	Januari	Februari	Maret	April
1	<b>UNIT RAWAT JALAN</b>					
	Total Kunjungan Poliklinik	5350	5875	4993	6422	4922
	UMUM	352	365	355	476	315
	PENYAKIT DALAM	915	1047	825	1006	600
	PENYAKIT JANTUNG	123	121	27	120	64
	PENYAKIT SYARAF	221	238	238	276	270
	PENYAKIT JIWA	65	94	50	75	38
	PENYAKIT MATA	163	197	141	253	216
	PENYAKIT THT	305	357	297	397	327
	PENYAKIT GIGI	395	425	364	429	419
	PENYAKIT KULIT & KELAMIN	173	190	147	174	157
	PENYAKIT ANAK	940	997	1023	1352	1046
	PENYAKIT UMUM	376	428	387	483	379
	BEDAH TULANG	275	298	256	263	228
	BEDAH UROLOGI	78	73	58	101	82
	BEDAH SYARAF	58	53	58	115	31
	BEDAH THORAX	7	4	5	7	8
	BEDAH GIGI & MULUT	10	10	7	10	14
	BEDAH ANAK	20	18	6	12	5
	BEDAH DIGESTIF	15	6	3	20	9
	OBSGYN	861	853	726	853	784
2	<b>IGD</b>					
	Total Kunjungan IGD	4034	4371	4047	4980	4122
	Angka Kecelakaan	355	242	294	308	277
	1. Lalu Lintas	192	168	199	210	203
	2. Rumah Tangga	21	20	32	26	20
	3. Kerja	21	20	13	24	15
	4. Lain-lain	121	34	50	48	39
	Angka Kematian	4	6	3	5	4
	1. Berdasarkan Sebab					
	a. Kecelakaan	1	2	3	3	0
	b. Non Kecelakaan	3	4	0	2	4
	2. Berdasarkan Kedatangan					
	a. Sebelum di IGD	2	3	1	2	2
	b. Di IGD	3	3	2	3	2
	Kunjungan per Shift					
	1. Pagi	1705	1830	1672	1965	1645
	2. Sore	1690	1717	1679	2120	1670
	3. Malam	665	824	692	895	807

3	UNIT RAWAT INAP				
Jumlah TT	218	218	218	218	218
Jumlah Penderita Yang Dirawat	1130	1144	1164	1160	1078
Jumlah Penderita Keluar (H+M)	1102	1280	1103	1138	1089
BOR	70.58%	73.72%	77.11%	76.33%	74.99%
LOS	3.68	4.07	4	4.4	3.28
BTO	60.41	70.44	70.8	65.04	79.78
TOI	1.68	1.56	1.44	1.35	1.19
GDR	52.51	44.27	57.11	43.95	49.79
NDR	24.21	25.71	23.17	16.06	22.32
Jumlah Operasi	335	337	379	312	346
a. Operasi Khusus	65	69	80	65	68
b. Operasi Besar	127	113	115	128	120
c. Operasi Sedang	109	126	160	93	131
d. Operasi Kecil	34	29	24	26	27
4	UNIT KEGIATAN PENUNJANG				
Jumlah Layanan Farmasi					
Rawat Inap					
a. Resep 1. Jumlah Lembar	8039	9359	8211	8917	8127
2. Jumlah R/	23206	25793	22814	24264	23619
b. Generik1. Jumlah Lembar	444	616	494	589	535
2. Jumlah R/	681	777	605	695	627
Rawat Jalan					
a. Resep 1. Jumlah Lembar	8800	9917	9067	11076	9389
2. Jumlah R/	20744	23294	20840	26183	21954
b. Generik1. Jumlah Lembar	3095	3479	3141	4020	3360
2. Jumlah R/	5171	5729	4988	6541	5470
Jml Pem Laboratorium	12728	17945	15934	19909	13575
Jumlah Tindakan Fisioterapi	2636	2294	2138	2749	2346
Jumlah Pemeriksaan Radiologi	1459	1693	1484	1640	1425
a. Tanpa Bahan Kontras	1117	1146	1027	1130	1048
b. Dengan Bahan Kontras	55	59	42	61	64
c. Foto Gigi	85	98	79	100	108
d. CT Scan	153	169	172	156	205
EEG	30	27	18	36	40
EKG	195	250	231	230	254
USG	205	220	221	275	260

PENAMPILAN RSU PKU MUHAMMADIYAH YOGYAKARTA  
Maret 2004

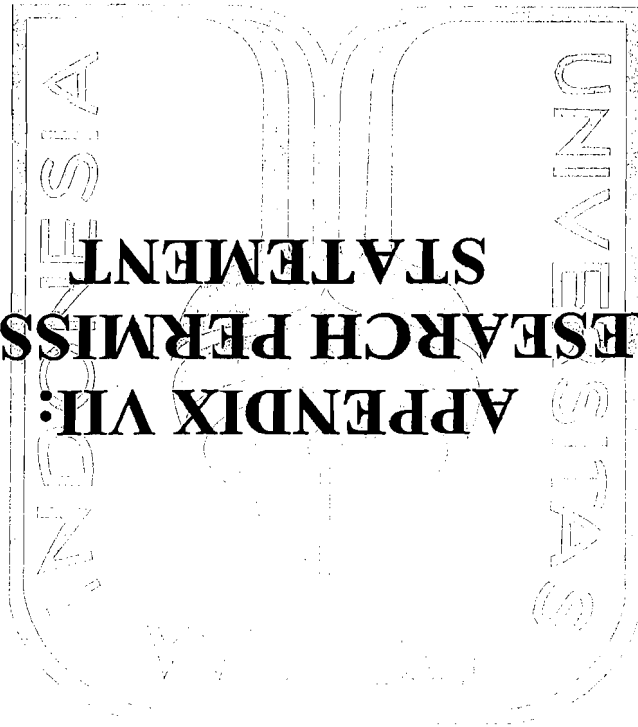
No	JENIS KEGUATAN	PENCAPAIAN	
		Maret	April
1	UNIT RAWAT JALAN		
	Total Kunjungan Poliklinik	6422	4922
	UMUM	476	315
	PENYAKIT DALAM	1006	600
	PENYAKIT JANTUNG	120	64
	PENYAKIT SYARAF	276	270
	PENYAKIT JIWA	75	38
	PENYAKIT MATA	253	216
	PENYAKIT THT	397	327
	PENYAKIT GIGI	429	419
	PENYAKIT KULIT &KELAMIN	174	157
	PENYAKIT ANAK	1352	1046
	PENYAKIT UMUM	483	379
	BEDAH TULANG	263	228
	BEDAH UROLOGI	101	82
	BEDAH SYARAF	115	31
	BEDAH THORAX	7	8
	BEDAH GIGI & MULUT	10	14
	BEDAH ANAK	12	5
	BEDAH DIGESTIF	20	9
	OBSGYN	853	784
2	IGD		
	Total Kunjungan IGD	4980	4122
	Angka Kecelakaan	308	277
	1.Lalu Lintas	210	203
	2.Rumah Tangga	26	20
	3.Kerja	24	15
	4.Lain-lain	48	39
	Angka kematian	5	4
	1.Berdasarkan Sebab		
	a.Kecelakaan	3	0
	b.Non Kecelakaan	2	4
	2.Berdasarkan Kedatangan		
	a.Sebelum di IGD	2	2
	b.Di IGD	3	2
	Kunjungan per Shift		
	1.Pagi	1965	1645
	2.Sore	2120	1670
	3.Malam	895	807



3	UNIT RAWATINAP		
	Jumlah TT	218	218
	Jumlah Penderita yang Dirawat	1160	1078
	Jumlah Penderita Keluar (H+M)	1138	1089
	BOR	76.33%	74.99%
	LOS	4.4	3.28
	BTO	65.04	79.78
	Tol	1.35	1.19
	GDR	43.95	49.79
	NDR	16.06	22.32
	Jumlah Operasi	312	346
	a. Operasi Khusus	65	68
	b. Operasi Besar	128	120
	c. Operasi Sedang	93	131
	d. Operasi kecil	26	27
4	UNIT KEGIATAN PENUNJANG		
	Jumlah Layanan Farmasi		
	Rawat Inap		
	a. Resep 1. Jumlah Lembar	8917	8127
	2. Jumlah R/	24264	23619
	b. Generik1. Jumlah Lembar	589	535
	2. Jumlah R/	695	627
	Rawat Jalan		
	a. Resep 1. Jumlah Lembar	11076	9389
	2. Jumlah R/	26183	21954
	b. Generik1. Jumlah Lembar	4020	3360
	2. Jumlah R/	6541	5470
	Jml Pem Laboratorium	19909	13575
	Jumlah Tindakan Fisioterapi	2749	2346
	Jumlah Pemeriksaan Radiologi	1640	1425
	a. Tanpa Bahan Kontras	1130	1048
	b. Dengan Bahan Kontras	61	64
	c. Foto Gigi	100	108
	d. CT Scan	156	205
	EEG	36	40
	EKG	230	254
	USG	275	260



**APPENDIX VII:  
RESEARCH PERMISSION  
STATEMENT**





## RUMAH SAKIT PKU MUHAMMADIYAH

Jl. KH. Ahmad Dahlan 20 Yogyakarta 55122

Telepon : (0274) 512653 (Hunting)  
IGD : (0274) 566635  
Faximile : (0274) 566129  
E-Mail : pku@yogya.wasantara.net.id / rs@pkujogja.com  
Website : www.pkujogja.com

Rekening Bank  
Bank Mandiri Cabang Yogyakarta  
RS PKU Muhammadiyah  
Yogyakarta  
AC.009.2043.435

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

### SURAT KETERANGAN

NO : 2438 /E-IV/PI.24.6/XI/2004

Assalamu'alaikum Wr.Wb.

Direktur RS PKU Muhammadiyah Yogyakarta memberikan keterangan bahwa :

Nama : Mirza Monanda  
NIM : 97311408  
Asal Institusi : Fakultas Ekonomi Universitas Islam Indonesia Yogyakarta

Telah selesai melaksanakan Penelitian di Rumah Sakit PKU Muhammadiyah Yogyakarta dengan judul :

**"AN ANALYSIS OF HEALTH CARE SERVICE PERFORMANCE TOWARD THE  
CUSTOMER SATISFACTION AT P.K.U MUHAMMADIYAH HOSPITAL IN  
YOGYAKARTA "**

Demikian surat keterangan ini dibuat, untuk dapat dipergunakan sebagaimana mestinya.

Wassalamu'alaikum Wr. Wb.

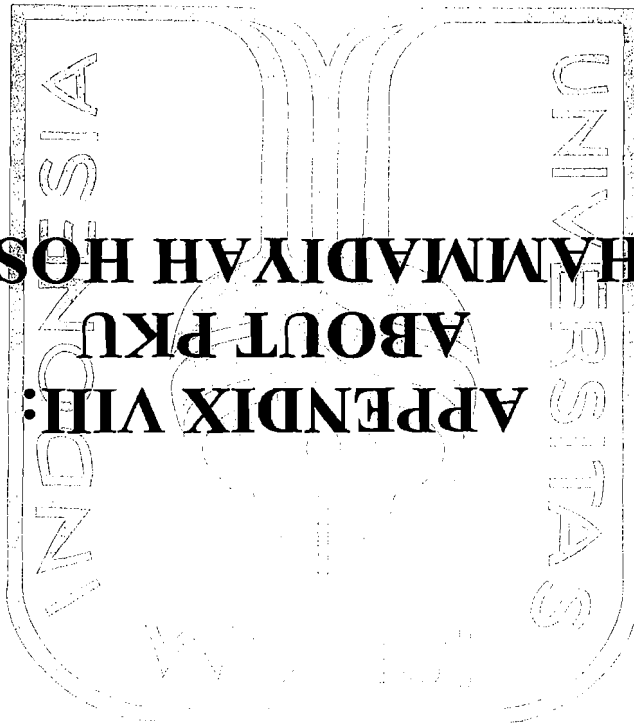
Yogyakarta, 1 November 2004

Direktur,

dr. H. Muhammad Iqbal, Sp. PD  
NBM. 753.483/4



**MUHAMMADIYAH HOSPITAL  
ABOUT PKU  
APPENDIX VIII:**



## **RSU PKU MUHAMMADIYAH YOGYAKARTA**

### **SEJARAH**

RSU PKU Muhammadiyah awalnya didirikan berupa klinik dan poliklinik pada tanggal 15 Februari 1923 lokasi pertama di Jagang Notoprajan No. 72 Yogyakarta. Awalnya bernama PKO (Penolong Kesengsaraan Oemoem) dengan maksud menyediakan pelayanan kesehatan bagi kaum dhuafa'. Didirikan atas inisiatif H.M. Sudjak yang didukung sepenuhnya oleh K.H. Ahmad Dahlan. Seiring dengan waktu, nama PKO berubah menjadi PKU (Pembina Kesejahteraan Umat).

RSU PKU Muhammadiyah adalah salah satu rumah sakit swasta di Yogyakarta yang merupakan amal usaha Pimpinan Pusat Persyarikatan Muhammadiyah. Merupakan rumah sakit terakreditasi 12 bidang pelayanan dengan type C plus. Selain memberikan pelayanan kesehatan juga digunakan sebagai tempat pendidikan bagi calon dokter dan perawat.

### **VISI**

Menjadi rumah sakit Islam yang berdasar pada Al Qur'an dan Sunnah Rasulullah SAW, dan sebagai rujukan terpercaya di Daerah Istimewa Yogyakarta dan Jawa Tengah dengan kualitas pelayanan kesehatan yang Islami, profesional, cepat, nyaman dan bermutu, setara dengan kualitas pelayanan rumah sakit- rumah sakit terkemuka di Indonesia dan Asia.

### **MISI**

1. Mewujudkan derajat kesehatan yang optimal bagi semua lapisan masyarakat melalui pendekatan pemeliharaan, pencegahan, pengobatan, pemulihan kesehatan secara menyeluruh sesuai dengan peraturan/ ketentuan perundang-undangan.
2. Mewujudkan peningkatan mutu bagi tenaga kesehatan melalui sarana pelatihan dan pendidikan yang diselenggarakan secara profesional dan sesuai tuntutan ajaran Islam.
3. Mewujudkan da'wah Islam, amar ma'ruf nahi munkar di bidang kesehatan dengan senantiasa menjaga tali silaturahmi, sebagai bagian dari da'wah Muhammadiyah.

### **FALSAFAH**

- Jagalah dirimu dan keluargamu dari siksa api neraka (QS. At-Tahrim: 6)
- Dan apabila aku sakit, Dia-lah yang menyembuhkan aku (QS, Asy-Syuara : 80)

RSU (Rumah Sakit Umum) PKU (Pembina Kesejahteraan Umat) Muhammadiyah adalah perwujudan dari amal shalih sebagai sarana ibadah yang dilandasi iman dan taqwa kepada Allah SWT.

### **NILAI-NILAI YANG DIKEMBANGKAN**

RSU PKU Muhammadiyah Yogyakarta dikelola berdasarkan manajemen entrepreneurial yang bertumpu pada nilai-nilai yang bersumber dari Al Qur'an yaitu:

- Amanah
- Sidiq
- Fathonah
- Tabligh
- Inovatif
- Silaturahmi

### **TUJUAN**

Pertumbuhan dan perkembangan RSU PKU yang mampu mendukung tersedianya sarana dan jasa pelayanan kesehatan yang berkualitas tinggi bagi kebutuhan semua lapisan masyarakat

### **PILAR-PILAR ORGANISASI**

Untuk menggerakkan roda organisasi secara efektif dan menjalankan strategi organisasi dalam rangka mencapai tujuan maka pilar-pilar yang harus dibangun adalah :

- Kultur kerja berbasis komitmen, kompetensi dan prestasi
- Standar manajemen kinerja yaitu pengukuran prestasi sistem penilaian, pengembangan dan reward
- Proses pengambilan keputusan, sistem komunikasi, peraturan-peraturan yang mendukung proses kerja
- Kapasitas melakukan perubahan (otoritas dan kualitas kemampuan SDI/SDM)
- Kepemimpinan yang bertumpu pada entrepreneurial leadership (kepemimpinan yang berorientasi ke depan)

### **PELAYANAN RAWAT JALAN DAN RAWAT INAP RSU PKU MUHAMMADIYAH YOGYAKARTA**

- Instalasi Gawat Darurat
- Klinik Umum
- Klinik Penyakit Dalam
- Klinik Penyakit Jantung
- Klinik Penyakit Syaraf

- Klinik Penyakit Jiwa
- Klinik Penyakit Mata
- Klinik Penyakit THT
- Klinik Penyakit Gigi
- Klinik Penyakit Kulit & Kelamin
- Klinik Penyakit Paru
- Kamar Bersalin
- Klinik Rematologi
- Klinik Penyakit Anak
- Klinik Bedah Umum
- Klinik Bedah Tulang
- Klinik Bedah Urologi
- Klinik Bedah Plastik
- Klinik Bedah Dada
- Klinik Bedah Gigi & Mulut
- Klinik Bedah Anak
- Klinik Bedah Saluran Pencernaan
- Klinik Rehabilitasi Medik
- Kamar Operasi
- Klinik Penyakit Kandungan dan Kehamilan
- Klinik Bedah Ginjal dan Saluran Air Kemih
- Unit Perawatan Intensif
- Unit Perawatan Intensif Jantung

#### **UNIT PENUNJANG PELAYANAN MEDIS**

- Farmasi (24 jam)
- Laboratorium (24 Jam)
- Radiologi (24 Jam)
- Gizi
- Fisioterapi
- Rekam Listrik Jantung (EKG)
- Rekam Listrik Otak dan Pemetaan Otak (Brain Mapping)
- Rekam Suara Ultra (USG)
- Laparaskopi
- CTG
- Gastroduo Denoscopy
- EEG
- Treadmill
- TUR
- Endoskopi
- Haemodialisa
- Bronkhoskopi