

**THE INFLUENCE OF SERVICE QUALITY  
TOWARD CUSTOMERS SATISFACTION IN  
ORDER TO CREATE CUSTOMER LOYALTY IN  
SPBU PASTI PAS**

**(SPBU PASTI PAS ADISUCIPTO, LEMPUYANGAN AND  
BABARSARI YOGYAKARTA)**

**A THESIS**

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



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2011**

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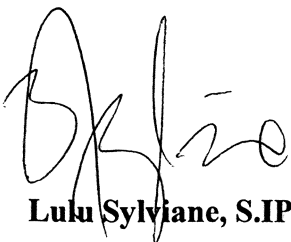
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## DECLARATION OF AUTHENTICITY

Herein I declare the originality of this thesis; I have not presented anyone else's work to obtain my university degree, nor have I presented anyone else's words, ideas or expression without acknowledgment. All quotations are cited and listed in the bibliography of this thesis.

If in the future this statement is proven to be false, I am willing to accept any sanction complying with the determined regulation for its consequence.

Jogjakarta, August 27<sup>th</sup>, 2011



Nugraha Ngesti Wibowo







For the people that I loved and important in the whole of my life;

Love You all

## ACKNOWLEDGMENT

### *Bismillahirrahmanirrahim*

#### *In the name of Allah,,, The Compassionate,,, The Merciful,,,*

The biggest thank I dedicated to the only God I do believe in. Because of Him everything is possible. Because of Him, miracle is always happened. Also to Muhammad, His Messenger, thank is always for you.

People won't be able to live alone; people won't be able to help him or herself by themselves, so people need others. This thesis is one of the smallest things shows that. However, I could finish my thesis with struggles and helps from many parties. The word 'thank' is proper to dedicate for them.

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## ABSTRACT

Wibowo, Nugraha Ngesti (2011) “The Influence of Service Quality toward Customer Satisfaction in order to create Customer Loyalty in SPBU PASTI PAS”: Management Department, International Program Faculty of Economics, Universitas Islam Indonesia.

*The main purpose of conducting this research is to analyze the influence of service quality toward customer satisfaction in order to create the loyalty from customer in the SPBU PASTI PAS Adisucipto Yogyakarta, SPBU PASTI PAS Lempuyangan Yogyakarta and SPBU PASTI PAS Babarsari Yogyakarta.*

*The method that use in this research is an empirical study with a study case and is in the form of quantitative and qualitative research. This research was done with variables, consist of service quality, customer satisfaction and customer loyalty. This research will use Structural Equation Model (SEM) as the statistical tool to analyze collected data. It is used to determine the correlation between service quality and customer satisfaction that influences customer loyalty. This study data were analyze using structural equation model (SEM) is processed by using AMOS 5.0 and 6.0.*

*As the findings, this research discovers that There are positive and significant influences between service quality to consumer loyalty, There are positive and significant influence between service quality to customer satisfaction, There are positive and significant effect between service quality and customer satisfaction on consumer loyalty in SPBU PASTI PAS Adisucipto Yogyakarta, SPBU PASTI PAS Babarsari Yogyakarta, and SPBU PASTI PAS Lempuyangan Yogyakarta.*

*Keyword: service quality, customer satisfaction, customer loyalty*

## ABSTRAK

Wibowo, Ngesti Nugraha (2011)" Pengaruh Kualitas Layanan terhadap Kepuasan Pelanggan dalam rangka menciptakan Loyalitas Pelanggan di SPBU PASTI PAS ": Departemen Manajemen, Program Internasional Fakultas Ekonomi, Universitas Islam Indonesia.

*Tujuan utama melakukan penelitian ini adalah untuk menganalisis pengaruh kualitas layanan terhadap kepuasan pelanggan untuk menciptakan loyalitas dari pelanggan di SPBU PASTI PAS Adisucipto Yogyakarta, SPBU PASTI PAS Lempuyangan Yogyakarta dan SPBU PASTI PAS Babarsari Yogyakarta.*

*Metode yang digunakan dalam penelitian ini merupakan studi empiris dengan studi kasus dan dalam bentuk penelitian kuantitatif dan kualitatif. Penelitian ini dilakukan dengan variabel, terdiri dari kualitas layanan, kepuasan pelanggan dan loyalitas pelanggan. Penelitian ini akan menggunakan Structural Equation Model (SEM) sebagai alat statistik untuk menganalisis data yang dikumpulkan. Hal ini digunakan untuk menentukan korelasi antara kualitas pelayanan dan kepuasan pelanggan yang mempengaruhi loyalitas pelanggan. Data penelitian ini adalah menganalisis dengan menggunakan model persamaan struktural (SEM) yang diproses dengan menggunakan AMOS 5.0 dan 6.0.*

*Sebagai temuan, penelitian ini menemukan bahwa ada pengaruh positif dan signifikan antara kualitas pelayanan dengan loyalitas konsumen, Ada pengaruh positif dan signifikan antara kualitas pelayanan terhadap kepuasan pelanggan, ada dampak positif dan signifikan antara kualitas pelayanan dan kepuasan pelanggan pada loyalitas konsumen dalam SPBU PASTI PAS Adisucipto Yogyakarta, SPBU PASTI PAS Babarsari Yogyakarta, dan SPBU PASTI PAS Lempuyangan Yogyakarta.*

*Kata kunci: kualitas layanan, kepuasan pelanggan, loyalitas pelanggan*

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# CHAPTER I

## INTRODUCTION

### **1.1. Background of the Study**

The big populations of people in Indonesia makes a good potential market for local company and foreign company. The high level of competition between one companies with other companies makes many companies to increase their strategy of customer satisfaction to create a basic of customer loyalty. In Indonesia there are many SPBU built around Indonesia. In this research I prefer use “SPBU” word than “gas station” word because is easier to understand. Now, we can find many SPBUs that have name or label “SPBU PASTI PAS“. Before SPBU PASTI PAS was exist, many people bought the gasoline at the ordinary SPBU PERTAMINA, no matter the condition of the SPBU, those customers had no other choice to buy the gasoline. After the old SPBU become the SPBU PASTI PAS, the facilities and service of SPBU are getting better and make customer interested to come to the SPBU. Success of a service provider depends on the high quality relationship with customers (Panda, 2003) which determines customer satisfaction and loyalty (Jones, 2002 as cited by Lymperopoulos et al., 2006). Research has shown repeatedly that service quality influence organizational outcome such as; performance superiority (Poretla & Thanassoulis, 2005), increased sales profit (Levesque & Mc. Dougal, 1996; Kish, 2000; Duncan & Elliot, 2002) market share, (Fisher, 2001), improved customer relations, enhanced corporate image and promoted customer loyalty (Newman, 2001; Szymigin & Carrigan, 2001; Caruana, 2002; Ehigie, 2006).

In order to achieve a quality service organization, commitment from employees and support from all levels of management are necessary. Therefore, it is important for managers who provide goods or services constantly to keep track of information about the company's well being as far as meeting its customer's needs are concerned (Aigbedo and Parameswaran, 2004). Service companies are trying to find ways to improve and provide superior quality service to satisfy their customers. Satisfying customers is an ultimate goal for every company, as customers are the greatest resources, both short-term and long term survival of the company (Thongsamak, 2001).

High quality of service may be defined as consistently anticipating and satisfying the needs and expectations of customers (Crosby and Stephen, 1987). This is not an easy corporate objective as it is the customer who defines quality rather than the company.

Customer satisfaction is a function of expectations and service quality performance (Fandy Tjiptono, 1997). When customers are satisfied, they will likely return to those who helped them, or in other word, repurchase activity. Meanwhile, dissatisfied customers will likely leave and find other choices available.

Parasuraman, Valerie Zeithamil, and Leonard L. Berry (1988) say that the service is difficult to be measured and used to measure service quality model. The performance of the service quality can be measured through five things that is tangible, reliability, responsiveness, assurance and empathy.

Good service quality will increase customer satisfaction. Ellitan (1999) states that companies that can provide high satisfaction to the customer will be able to

maintain a market for the long term. Bloemer and Ruyter (1997) explain that satisfaction is often viewed as the basis for the emergence of loyalty. Satisfaction is the result of consumers' evaluation of a product by comparing whether the product has been received in accordance with expectations. Satisfaction can also be interpreted as a belief that emerges after comparing reality with expectations. For consumers who lack the ability to compare the actual satisfaction only partial, this can be caused by a lack of experience or information obtained related to the products consumers will buy.

Stasiun Pengisian Bahan Bakar Umum (SPBU) that meets the qualification standards will achieve certification Pasti Pas! Which will be given if the SPBU can fulfill the five standard elements of Pertamina Way program, described as five-star (logo Pertamina Way), including well-trained and motivated staff, quality assurance and quantity, well maintained equipment, physical format that is consistent, as well as product offerings and value-added services. Especially for SPBU 3S service will be applied, namely " Smile ", " Greet ", and " Salute ". (Senyum, Sapa dan Salam)

In some places of Pertamina SPBU PASTI PAS or gas station does not only function to fill up the fuel of car, motorcycle and many more but its function has been transformed into a rest area which has full facilities such as mushola, restaurant or cafes, ATM, area parking and sometimes there are some franchise like Dunkin Dounats and many more brands of food and drinks. In addition, all that facilities are to increase the service quality of the SPBU PASTI PAS and to attract the customer to come to the SPBU and of course to create the customer satisfaction and loyalty of the customer. Pertamina has its own way for the SPBU to keep be the choice of

Indonesian society, with increasing levels of operational service at the pump. Facing these challenges, Pertamina has developed and begun implementing a new service standard called "Pertamina Way". Answering the needs of consumers, the main focus will be on improving consistency of service operators and guarantees the quality and quantity to the consumer. The aim is to boost public confidence in the Pertamina, to retain customers, to attack foreign products, like Shell and Petronas.

Consumers expect the quality and quantity of fuel is assured, friendly service and comfortable facilities of SPBU PASTI PAS service. With capital Certification "PASTI PAS", Pertamina is ready with supplies so there are no vacancies. "PASTI PAS" is a form of service improvement Pertamina, including entering the era of competition.

Certificate of "PASTI PAS" is given to the SPBU who passed the program Pertamina Way. These SPBUs are audited by independent auditors of international, to obtain a certificate. Pertamina Way Program was developed in 5 perspectives, namely: staff, quality and quantity, equipment, physical format, as well as additional products and services. After getting the certificate of "PASTI PAS", filling stations will remain audited regularly. If it does not pass, filling stations may lose the predicate as SPBU "PASTI PAS".

**Figure 1.1 Proses audit sertifikasi**



**Figure 1.2 Sertifikat kelulusan SPBU “Pasti Pas!”**



To ensure consistent application of service standards, an independent international auditors will consistently carry out surveillance audit after certification. If the three-monthly monitoring of SPBU PASTI PAS does not pass the audit, the certificate will not be revoked.

This research intentionally focuses on the relationship between service quality and customer satisfaction toward customer loyalty in SPBU PASTI PAS service. The reason is because now in Indonesia there are many new SPBU PASTI PAS where are

build in anywhere, and some SPBU PASTI PAS have a good service quality and more facilities in the SPBU to more attract customer to come and make satisfy the customer after come to the SPBU and make customer want to come again to that SPBU and have a loyal customers. This attitude will eventually increase advantage and profit to the SPBU PASTI PAS.

### **1.2. Problem Identification**

Based on the study background above, the basic problem that could be stated here is how service quality and customer satisfaction influences customer loyalty at SPBU PASTI PAS Adisucipto Yogyakarta, SPBU PASTI PAS Babarsari Yogyakarta, and SPBU PASTI PAS Lempuyangan Yogyakarta.

### **1.3. Problem Formulation**

The following becomes the research questions that will be investigated in this study.

1. Does service quality have a positive effect on customer satisfaction?
2. Does service quality have positive effect on customer loyalty?
3. Does service quality and customer satisfaction have a positive effect on customer loyalty?



#### **1.4. Problem Limitiation**

This research is focusing on the influence of service quality and customer satisfaction toward customer loyalty of SPBU PASTI PAS. This research is going to be conducted at SPBU PASTI PAS Adisucipto Yogyakarta, SPBU PASTI PAS Babarsari Yogyakarta and SPBU PASTI PAS Lempuyangan Yogyakarta. The populations and sample of the research are customers of SPBU PASTI PAS Adisucipto Yogyakarta, SPBU PASTI PAS Babarsari Yogyakarta and SPBU PASTI PAS Lempuyangan Yogyakarta.

#### **1.5. Research Objectives**

Therefore from the reference explanations, here are the research objectives to be conducted:

1. To analyze the influence of service quality in customer satisfaction
2. To analyze the influence of service quality in customer loyalty
3. To analyze the influence of service quality and customer satisfaction in customer loyalty

#### **1.6. Research Contributions**

This research examines the relationship among service quality, customer satisfaction and customer loyalty in SPBU PASTI PAS Adisucipto Yogyakarta, SPBU PASTI PAS Babarsari Yogyakarta and SPBU PASTI PAS Lempuyangan Yogyakarta. The writer hopes this research will be beneficial for the following parties:

## 1. Company

This research gives supporting data for the three SPBU PASTI PAS to increase quality of their service and make the customers satisfy with that service in order to build customer loyalty.

### 1.7. Definition of Terms

#### 1. Service quality

There has been a large number of empirical studies focusing on the dimensions of service quality (Cronin and Taylor, 1992; Dabholkar, Thorpe and Rentz, 1996; Parasuraman, Berry and Zeithaml, 1991). Gronroos (1984) proposed two dimensions of service quality: technical quality and functional quality. Technical quality is “what a customer receive,” and functional quality is “how a service is provided or delivered.” Service quality can be described as a form of attitude that is related but not equivalent to satisfaction, which results from the comparison of expectations with performance (Bolton and Drew, 1991; Cronin and Taylor, 1992; Parasuraman et al., 1988).

#### 2. Customer satisfaction

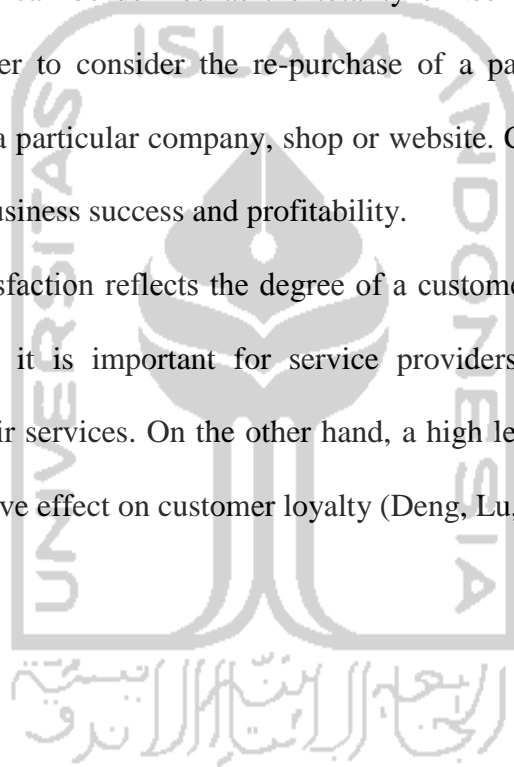
Customer satisfaction results from experiencing a service quality encounter and comparing that encounter with what was expected (Oliver, 1980). Customer satisfaction can be defined as a consumer’s fulfillment response; that is, it is a

judgment that “a product or service feature, or product or service itself, provides a pleasurable level of consumption-related fulfillment” (Oliver, 1997; Zeithaml and Britner, 2000).

### 3. Customer loyalty

Customer loyalty can be defined as the totality of feelings or attitudes that would incline a customer to consider the re-purchase of a particular product, service or brand or re-visit a particular company, shop or website. Customer loyalty has always been critical to business success and profitability.

As customer satisfaction reflects the degree of a customer’s positive feeling about a service provider, it is important for service providers to understand customers’ perception of their services. On the other hand, a high level of customer satisfaction may have a positive effect on customer loyalty (Deng, Lu, Wei and Zhang, 2009).



## **CHAPTER II**

### **REVIEW OF RELATED LITERATURE**

#### **2.1. Theoretical Review and Hypothesis**

##### **SERVICE QUALITY**

Parasuraman (1990) defines service quality as a measure of how good level of services is provided accordingly to customer expectations. Based on this definition, the quality of service can be realized through the fulfillment needs and wants of customers and the accuracy of its delivery to balance the customer expectations.

Definitions of service quality hold that this is the result of the comparison that customers make between their expectations about a service and their perception of the way the service has been performed (Lehtinen & Lehtinen, 1982; Lewis & Booms, 1983, Gronroos, 1984; Parasuraman et al., 1985; 1988; Caruana, 2002). Service quality is defined as the degree of discrepancy between customers' normative expectation for service and their perceptions of service performance (Parasuraman et al., 1985). The definition of service quality was further developed as *“the overall evaluation of a specific service firm that results from comparing that firm's performance with the customer's general expectations of how firms in that industry should perform* (Parasuraman et al., 1988).

Quality is a multi-dimensional phenomenon. Thus, reaching the service quality without distinguishing the important aspects of quality is impossible. In his discussion of service quality, Gronroos (2000) refers to three dimensions of output

technical quality, service performance quality, and organization's mental picture. Also, Lehtinen and Lehtinen (cited in Harrison, 2000) have referred to dimensions of physical quality, interactive quality, and organizational quality as three dimensions of service quality. Although these attempts have had a major role in division of service quality into process quality and output quality, they lack enough details. On this basis, Zeithaml et al. (1996) have referred to ten dimensions of service quality in their primary researches. But, in their further researches, they found a strong correlation among those dimensions. Thus, they combined these dimensions and applied the fivefold dimension of Reliability, Responsiveness, Assurance, Empathy and Tangibles as a basis for making a tool for testing the service quality, known as SERVQUAL. In their researches, they emphasize that SERVQUAL is a lasting and reliable scale of service quality (Parasuraman et al., 1994). They also said that this tool is applicable in an extensive spectrum of service domains such as financial institutions, libraries, hotels, medical centers and more, although some of its components should be rephrased, or more components should be added to it.

According to Parasuraman (1988) service quality performance can be measured through five things that are tangible, reliability, responsiveness, assurance and empathy, described as follows:

- a) Tangible, including facilities, equipment and supplies support services, and the amount of labor.
- b) Reliability, includes the ability of front-line workers in fulfilling the promise consistently, and reliable

- c) Responsiveness, includes service workers who are fast and responsive, and high willingness to help.
- d) Assurance, includes knowledge and their friendly workers and their ability to create trust and confidence.
- e) Empathy, includes front-line workers to give individual attention to the customer, good communication and understand customers' needs.

Some empirical studies have shown that service quality is related to customer satisfaction (Cronin and Taylor, 1992; Levesque and McDougall, 1996; Taylor and Baker, 1994; Zeithaml et al., 1996; McDougall and Levesque, 2000), and previous studies examining the mobile phone service markets suggested that service quality positively affects customer satisfaction (Kim et al., 2004; Kuo et al., 2009; Tung, 2004; Turel and Serenko, 2006). From these findings, the first hypothesis is formulated :

**H1: Service quality has a positive effect on customer satisfaction.**

## **CUSTOMER SATISFACTION**

There are several definitions given by Researchers, Engel et. Al (1995) stated that customer satisfaction is a full evaluation of purchase where the selected alternatives at least equal or exceed expectations customers, while dissatisfaction arises if the results (outcomes) do not meet expectations.

Perceived service quality is a global judgment or attitude relating to the superiority of the service, whereas satisfaction is related to a specific transaction (Parasuraman et al., 1988). On the other hand, customer satisfaction has frequently been suggested to be the leading determinant of loyalty (Lam & Burton, 2006). Ehigie (2006) suggests that there is a significant positive relationship between customer satisfaction and customer loyalty/retention. As such, customer satisfaction in this research is acting as a mediator between service quality and customer loyalty.

Customer satisfaction is a key factor in formation of customer's desires for future purchase (Mittal & Kamakura, 2001). Furthermore, the satisfied customers will probably talk to others about their good experiences. This fact, especially in the Middle Eastern cultures, where the social life has been shaped in a way that social communication with other people enhances the society, is more important (Jamal & Naser, 2002). Although satisfaction has been defined as the difference between expectation and performance, but there are differences between quality and satisfaction. For example, Parasuraman et al. (1991) say that satisfaction is a decision made after experience while quality is not the same. On the other hand, in satisfaction

literature, expectation for goods is “would”, while in service quality literature, expectation for goods is “should”.

Cadotte & Turgeon (1988) have introduced another group of factors known as neutral factors. Besides, Liljander & Strandvik (1993) say that experience is not needed for evaluating service quality, and service can be evaluated on the basis of the knowledge about service provider, while satisfaction is an inner view, resulted from customer’s own experience from the service. Finally, several researches have been done on the relation between service quality and satisfaction: findings of some of these researches show that satisfaction results in service quality (Parasuraman et al., 1988).

Customer satisfaction results from experiencing a service quality encounter and comparing that encounter with what was expected (Oliver, 1980). Satisfaction judgments have a broader range of dimensions that include quality aspects, whereas the dimensions underlying quality are fairly specific (Oliver, 1993). From an operational definition point of view, satisfaction can be conceived as an attitude because it can be assessed as the combined level of satisfaction with various attributes of a product or a service (Churchill and Surprenant, 1982). There is also sufficient evidence that customer satisfaction can be viewed as an attitude (Yi, 1990). According to LaTour and Peat (1979), satisfaction is a post-decision experience construct, whereas an attitude is a pre-decision construct (Caruana, Money and Berthon, 2000).

Customer satisfaction can be defined as a consumer’s fulfillment response; that is, it is a judgment that “a product or service feature, or product or service itself,



provides a pleasurable level of consumption-related fulfillment” (Oliver, 1997; Zeithaml and Bitner, 2000). As customer satisfaction reflects the degree of a customer’s positive feeling about a service provider, it is important for service providers to understand customers’ perception of their services. On the other hand, a high level of customer satisfaction may have a positive effect on customer loyalty (Deng, Lu, Wei and Zhang, 2009).

Some researchers did test the influence of service quality, customer satisfaction and repurchase interest. Woodside, et al., (1989) proposed an assessment model that specializes relationship between perceptions of service quality, customer satisfaction and interest to buy. Result directing that customer satisfaction is an intervening variable between service quality and interest back. Affect service quality satisfaction, and satisfaction affect the interest purchased. Research Cronin & Taylor (1992); Rust et al. (1995); Zeithaml, et al., (1996); and Gabarino & Johnson (1999); Fullerton & Taylor, 2000) found that the trend in terms of behavior shows the influence of service quality on customer loyalty. And in this literature review of customer satisfaction the variable of customer satisfaction is an intervening variable, means that there are any relationship between service quality, customer satisfaction and customer loyalty. Service quality can directly have positive affect on customer loyalty. For customer satisfaction, if customers reach their satisfaction they will have a purpose to purchase again the product or having the customer loyalty of the brand.

Customer satisfaction is really important because customer satisfaction is basic for building customer loyalty. In addition service quality is important too that can create customer loyalty, if the company has a good service and the company can understand the need and want of customer, then they can make a positive effect to create customer loyalty because customer loyalty is the way to generate to make a profit. Service quality and customer satisfaction must have good relationship to make a good effect on customer loyalty.

In the previous study about the relationship among customer satisfaction, service quality and service loyalty in Malta's banks, Caruana (2002) concluded that customer satisfaction plays a mediator role in the effect of service quality on service loyalty. In fact, service quality affects service loyalty through customer satisfaction. Bloemer, et al. (1998) have presented a model to show how the mental picture, service quality, and customer satisfaction influence customer loyalty. Findings of this research show that the mental picture through service quality, indirectly influences loyalty. On the other hand, service quality influences loyalty both directly and indirectly (through satisfaction).

Customer loyalty is the consequence of customer satisfaction. Meanwhile, service quality plays a significant role in determining and influencing customer satisfaction (Aigbedo and Parameswaran, 2004). It has also been found to be a key determinant of firm's long-term viability (Deng et al., 2009). Satisfied customers may use mobile phone service more than those who are not satisfied, and they may be more likely to continue their use and recommend the service to their friends and relatives (Zeithaml et al., 1996). Fornell (1992) stated that higher customer loyalty

depends mainly on higher customer satisfaction. As such, the second hypothesis is formulated:

**H2: Service quality and customer satisfaction will affect customer loyalty.**



## CUSTOMER LOYALTY

The importance of customer loyalty in marketing was no doubtful. Marketers are looking forward to maintaining their customer's in long term, even if it maybe forever. A customer who is loyal will be a very valuable asset to the organization. Customer loyalty has benefits to reduce the search for new customers and give positive feedback to the organization. In addition, there is a strong belief that loyalty has a relationship with profitability (Hallowel, 1996; Rowley dan Dawes, 1999). Reichheld & Chen (2001) finds that "...when a company retains just five percent more of its customers, profit increases by 25 percent to 125 percent". Increased profit comes from the decrease in marketing costs and operational cost, and increased sales. Loyal customers who have lower tendency to do the switching, are less sensitive to price, become strong word of mouth, and creating business referrals (Bowen and Chen, 2001; Rowly and Dawes, 2000; Hallowel, 1996).

Customer loyalty reflects the intention behavior related to a product or service. Intention to behavior here includes the possibility of future purchase or service contract renewal or conversely, how likely customers will switch to the service provider or any other brand (Selnes, 1993). Loyalty is a behavior or response purchases that are expressed continuously by decision making with respect to one or more alternative brands from a number of similar brands and is a function of psychological processes. However it should be emphasized that it is different from re-purchasing behavior, loyalty customers include the aspect of feeling in it (Dharmmesta, 1999 in Dharmayanti, 2006).

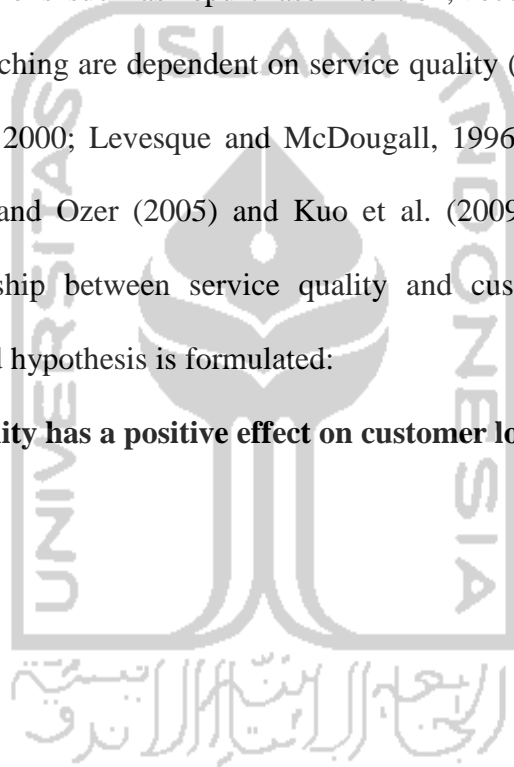
Customer loyalty is a behavioral incentive to perform repeatedly purchases and creating customer loyalty of a product or services produced and takes a long time through a process of repeated purchases. (Olson,1993).

Loyalty is developed over a period of time from a consistent record of meeting, and sometimes even exceeding customer expectations (Teich, 1997). Kotler et al. (1999) states the cost of attracting a new customer may be five times the cost of keeping a current customer happy. Gremler & Brown (1996) offers one definition of customer loyalty that is related to our purpose in this study: the degree to which a customer exhibits repeat purchasing behavior from a service provider, possesses a positive attitudinal disposition toward the provider, and considers using only this provider when a need for this service exists.

According to Bloemer & Kasper (1995), loyalty is interpreted as true loyalty rather than repeated purchasing behavior, which is the actual re-buying of a brand, regardless of commitment. Zeithaml et al. (1996) states loyalty is a multi-dimensional construct and includes both positive and negative responses. However, a loyal customer may not necessarily be a satisfied customer. Colgate et al. (1996) also noted that it is not always the case that customer defection is the inverse to loyalty, while Levesque and Mc Dougall (1993) suggested that, “even a problem is not solved, approximately half of the customers would remain with the firm”. This may be due to switching costs, lack of perceived differentiation of alternatives, location constraints on choice, time or money constraints, habit or inertia which are not related to loyalty (Bitner, 1990; Ennew & Binks, 1996).

Service quality is considered to be a key factor in firm's financial performance, that is, profitability. Service quality not only entices new customers away from competitive firms but also induces customer's repurchase intentions (Venetis and Ghauri, 2000). Bloemer, Ruyter, and Wetzels (1998) and Aydin and Ozer (2005) indicated that service quality is positively related to customer loyalty. Behavioral intentions such as repurchase intention, recommending a provider, and resistance to switching are dependent on service quality (Cronin et al., 1997, Cronin, Brady and Hult, 2000; Levesque and McDougall, 1996; Zeithaml et al., 1996). In addition, Aydin and Ozer (2005) and Kuo et al. (2009) suggested that there is a positive relationship between service quality and customer loyalty. From these findings, the third hypothesis is formulated:

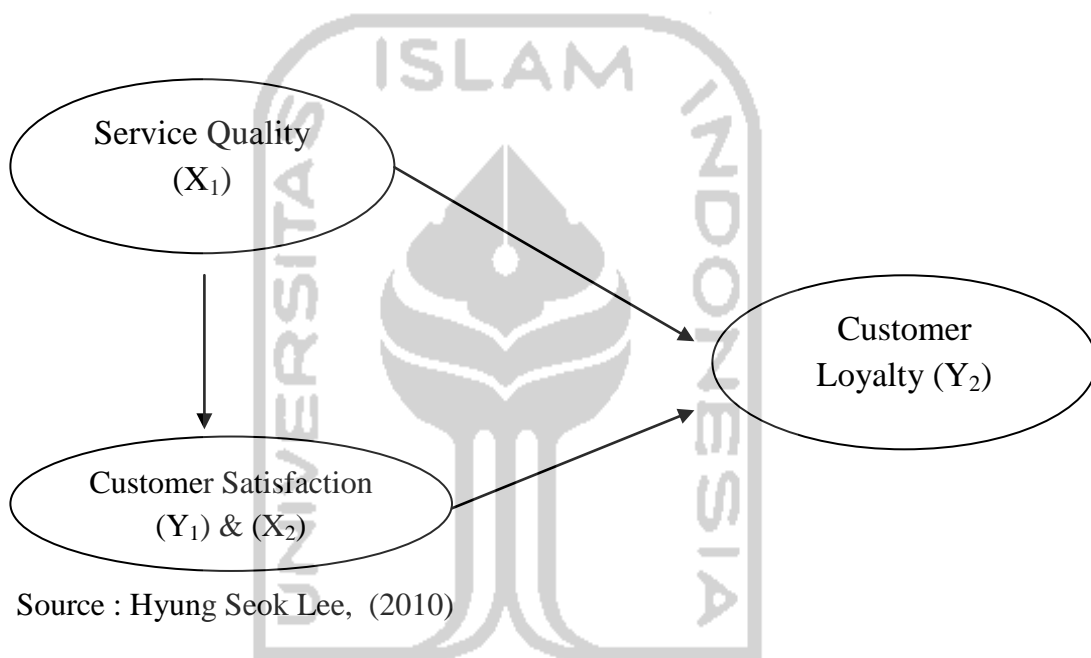
**H3: Service quality has a positive effect on customer loyalty.**



## 2.2. Theoretical Framework

### Research Model

From the discussion of some related theories and the findings from the previous research, here is the conceptual model used to figure the association between research variables is shown below:



Source : Hyung Seok Lee, (2010)

**Figure 2.1**

Explanation:

Service quality influences the creation of customer satisfaction. In creating customer loyalty of SPBU PASTI PAS, it is assumed that before entering customer loyalty phase service quality must go through customer satisfaction first. But there is possibility of service quality directly influences customer loyalty without going through customer satisfaction.

## CHAPTER III

### RESEARCH METHODOLOGY

#### 3.1. Introduction

This study applies an empirical research with a study case and is in the form of quantitative and qualitative research. The method used in this research is a survey by distributing questionnaires to subjects of the research.

#### 3.2. Research Subject

- Population

Zikmund (2000; see Abdurrohman, 2006) defined population as any complete group of entities sharing some common set of characteristics. Meanwhile, according to Sudjana, population is a total of possible value, sum or measurement compare to certain characteristic about exact and complete group of objects and wanted to observe its forms (Sudjana, 1985; see Wijaya, 2009). According to Sekaran (2000), the definition of population is the entire group of people, events or things of interest that the researcher wishes to investigate. In this research, the population will be customers of SPBU PASTI PAS Jalan Solo Yogyakarta, SPBU PASTI PAS Babarsari and SPBU PASTI PAS Gondolayu.

- Sample and sampling

Calder, Phillips, and Tybout (1981) suggest that any respondent group could provide a test of the theory's predictions when the research goal is application of the theory. Thus, convenience sampling was appropriate for this research setting as this research was conducted as an effort to achieve the research goal of theory application.



Sampling is the process of selecting items from the population so that the sample characteristics can be generalized to the population.

Sekaran (2000) defined sample as a subset of the population. Sample is a subset measurements selected from the population of interest (Kotler, 1991; 109). This research took a random sample to be computed. Random sample was believed to give the most convenient way of collecting the sample that was needed to optimize the research result. Convenience sampling was used as method for gathering data.

With unknown population, the amount of sample used in this research was calculated using formula cited from Walpole (1992; see Cahyo, 2010), the formula was:

$$n = \frac{[Z\alpha/2]^2 p (1 - p) e}{e^2}$$

Where:

$n$  = the amount of respondents

$\alpha$  = degree

$p$  = customer proportional population

$e$  = sampling error

$Z$  = normal value

If  $\alpha = 5\%$  and  $e = 10\%$ , with assumption  $p = \frac{1}{2}$  and unlimited population, so  $n$  (amount of sample) that needs in this research are:

$$Z \alpha/2 = Z 0,025 = 1,96 \text{ (based on t table)}$$

$$n = \frac{1,96^2 \times 0,025}{0,1^2}$$

$$n = \frac{0,9064}{0,1^2}$$

$$n = 96,04$$

Based on the formulation result above, 96.04 or 100 respondents were the number of sample respondents with unknown population amount.

The samples of this research will be the customers of SPBU PASTI PAS Adisucipto Yogyakarta, SPBU PASTI PAS Babarsari Yogyakarta and SPBU PASTI PAS Lempuyangan Yogyakarta that are:

- a) University Students in all semesters (both state and private University)
- b) Customers who ride a car and motorcycle
- c) Customers who ever become the customer of ordinary SPBU,

Those three types of samples are the customers that come to the branch of SPBU PASTI PAS during the research. For the purpose of this research, 100 samples are going to be taken as the sample response.

### 3.3. Research Setting

- Place

The research will be conducted at SPBU PASTI PAS Adisucipto Yogyakarta, SPBU PASTI PAS Babarsari Yogyakarta and SPBU PASTI PAS Lempuyangan Yogyakarta.

### 3.4. Research Instrument

The survey was taken in order to analyze the relationship between service quality, customer satisfaction and customer loyalty.

- Measurement scale

This research uses likert scale. Respondent will be asked to fill the statement in five categories. According to Jogiyanto (2004), measurement can be based on the rating of the statements given by respondents by giving score 1 for “strongly disagree”, 5 for “strongly agree” and 3 for neutral.

**Table 3.1 Variable Measurement Scale**

No	Variable	Dimension of Measurement	Scales
Independent Variable			
1	Service Quality	A measure of how good level of service is provided accordingly to customer expectation (Parasuraman, 1990)	Likert scales, 'strongly disagree' at one and 'strongly agree' at five
Dependent Variable			
2	Customer Satisfaction	Full evaluation of purchase where the selected alternatives at least equal or exceed expectations customers, while dissatisfaction arises if the result (outcomes) does not meet expectations (Engel et. Al, 1995)	Likert scales, 'strongly disagree' at one and 'strongly agree' at five
3	Customer Loyalty	Behavioral incentive to perform repeatedly purchases and creating customer loyalty of a product and services produced and takes a long time through a process of repeated purchases (Olson, 1993).	Likert scales, 'strongly disagree' at one and 'strongly agree' at five

- Questionnaire

Questionnaire was composed by making list of questions that would be answered by the respondent to get the data that would furthermore be analyzed in the research. A self-report type questionnaire is constructed to measure relationships between the variables, and critical path analysis is used to indicate the strength of the relationships (Yoh, 2006).

This questionnaire was measured with Likert scale. It is a measuring scale requiring the respondent to indicate the degree of agreement or disagreement with the given statements.

The way to get 100 respondents, questionnaire will be distributed to each person randomly. The purpose is to get information based on the respondent's point of view.



### 3.5. Data reliability and Validity

#### Reliability

Reliability is the internal consistency of measurement from indicators of unobserved variables showing the degree to which each indicator that indicates a once general unobserved variable. There are two kinds of methods used, namely composite (construct) reliability and variance extracted. cut-off value of 0.70 construct reliability is minimal while the cut-off value for the variance extracted is at least 0.50.

composite reliability can be define with a formula:

$$\text{Construct - Reliability} = \frac{(\sum \text{Std. Loading})^2}{(\sum \text{Std. Loading})^2 + \sum \epsilon_j}$$

#### Validity

According to Sekaran (2000), validity is related to the measurement tool used to measure the concept that will be measured that is not to measure other aspects. If the validity coefficient of one item is greater than the critical validity coefficient, then that item can be considered to be valid, but if the validity coefficient of one item is less than the critical validity coefficient, then that item is invalid or failed. Validity test in this research use loading factor that conduct in program of AMOS 6.0 version

### **3.6. Research Variables**

The variables of the research are service quality, customer satisfaction and customer loyalty. Furthermore, a pre-test was conducted prior the distribution of the questionnaire. The pre-test is aimed to identify the respondent's difficulty to understand the statements and the question listed in the questionnaire.

#### **Dependent Variable ( $Y_i$ )**

A dependent variable is variable that measures the effect of the independent variables or treatment being studied (Malhotra, 1999). The dependent variable in this study is customer satisfaction ( $Y_1$ ) and customer loyalty ( $Y_2$ ).

#### **Independent variable ( $X_i$ )**

An independent variable is one that influences the dependent in either a positive or negative direction (Sekaran, 2000:93). The independent variable in this study is service quality.

#### **Service quality ( $X_1$ )**

Service quality includes the five following characteristics: (1) reliability, (2) assurance, (3) tangible, (4) empathy and (5) responsiveness. Those dimensions are measured by some indicators.

##### **1. Reliability**

Includes the ability to front-line workers in fulfilling the promise of consistent and reliable. Reliability (reliability) at Pertamina Way includes the operator's ability to fulfill promises provided by "Pasti Pas" brand! Consistently, and can be relied upon by customers of the gas station (SPBU). Reliability variable will be measured by using the customer perception indicators, they are:

- a. The ability of the operator of the gas station (SPBU) in operating the pump well.
- b. The ability of the gas station (SPBU) to provide fuel with the quality of Pertamina standard.
- c. The ability of the gas station (SPBU) to sell fuel in right quantities.
- d. The ability of the gas station (SPBU) to maintain the cleanness of gas station (SPBU) and other facilities.

## 2. Assurance

This variable will be measured through customer's perception to their knowledge, capability, culture, and reliability owned by staffs:

- a. The ability of the gas station (SPBU) operator in communicating ethics with different customers (male, female, young people, and old people etc..) to make the customers trust with the gas station (SPBU).
- b. The disciplines of the gas station (SPBU) operator to show the zero value first to the customers before the customers filling the fuel of their vehicle.
- c. The disciplines of the gas station (SPBU) operator in giving the print out or fuel purchase orders and giving the cash back (uang kembalian) correctly

## 3. Tangible

The customer's perception indicators measure the physical condition variable about:

- a. Good equipment and good facilities of the SPBU
- b. Good capacity of the pump and the nozzle (selang pengisian) to make the service faster for the customer's
- c. Have a clean toilet that can make customer's comfortable to use it

## 4. Empathy



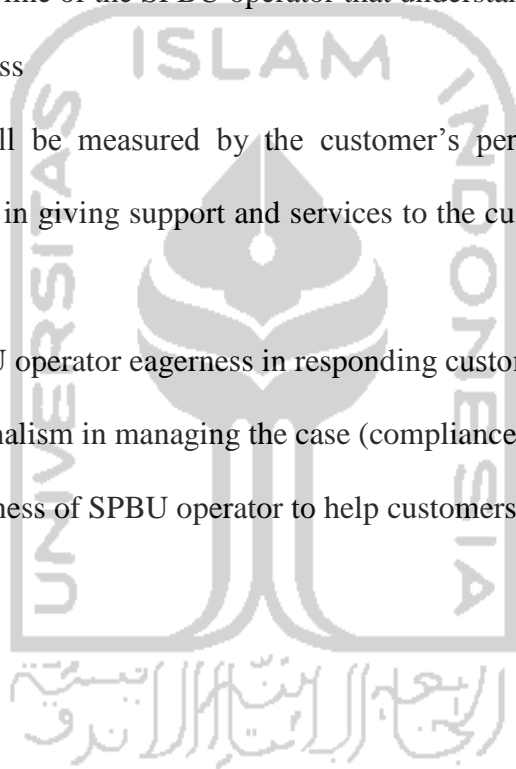
Empathy variable will be measured by using indicators such as:

- a. The discipline of the SPBU operator that always serves the customer's with "smile", "greet" and "salute".
- b. The discipline of the SPBU operator that always asking what the kind of the fuel (Premium, Solar or Pertamina) that customer's want to buy and how much
- c. The discipline of the SPBU operator that understands to what customers need

#### 5. Responsiveness

This variable will be measured by the customer's perception on how far is the readiness of staff in giving support and services to the customers. Its indicators, such as:

- a. The SPBU operator eagerness in responding customer's need
- b. Professionalism in managing the case (compliance) of customers
- c. The readiness of SPBU operator to help customers



### 3.7. Research Procedures

The research *procedures* were:

1. Sending the link of online survey poll that contains the questionnaire of this research to the respondents through social networking (facebook, yahoo messenger, etc) and also through the SPBU itself by spreading the questionnaire sheet on the customers.

Before filling out the questionnaire, the respondents were given a clear explanation about how to fill it in.

2. Validity and reliability test.

A validity and reliability test was done on the data using program AMOS 6 version.

3. Data analysis

This analysis using SEM with software of AMOS 5.0 and 6.0 version

4. Data interpretation.

The data was transformed into sentences to be more understandable.

### 3.8. Techniques of Data Analysis

#### Qualitative analysis

The information collected from the respondent questionnaires comprises the main characteristics of analysis. It is useful to know the proposition, composition, and ratio of respondents based on age, gender, education, job or occupation, and initiative and recommendation.

#### Quantitative analysis

This research will use Structural Equation Modeling (SEM) as the statistical tool to analyze collected data. It is used to determine the correlation between service quality and customer satisfaction that influences customer loyalty.

In this study data were analyzed using structural equation model (SEM) is processed by using Amos 5.0 and 6.0 sem excess model is able to examine it together (Ghozali, 2005):

1. Structural Model, the relationship between independent and dependent konstruk.
2. Measurement model, the relationship (loading value) between the indicator with the constructs (latent variables)

Techniques of data analysis using Structural Equation Modeling (SEM), performed to explain the overall relationship between variables that exist in the study. SEM is used instead to design a theory, but rather indicated to examine and justify a model. By because it is, the main requirement using SEM is to build a hypothetical model consisting of Structural models and measurement models in the form of a path diagram based on the theory of justification. SEM is a set of statistical techniques that allow testing of a series of

simultaneous relationships. The relationship is built between one or several independent variables. For testing hypotheses, comparing the probability with significance level of 5% (Ferdinand, 2006).

**Table 3.2 Indicators Goodness Of Fit Tests.**

<b>Goodness Of Fit Index</b>	<b>Cut Of Value</b>
Chi-Squares	Small expected
Probability	> 0.05
GFI	Between 0.9-1.0
AGFI	> 0.90
TLI	> 0.90
RMSEA	> 0.05

Source: (Ghozali, 2004)

Description of Each Goodness of Fit Index be explained as follows (Ghozali, 2004):

### 1. *Chi Square Statistic*

Overall size of the fundamentals of the Fit is a Likelihood-ratio chi-square ( $\chi^2$ )

Chi-square values are high relative to the degree of freedom shows that the covariance or correlation matrix of the observed with predicted significantly different and this results in the probability (p) is smaller than the level of significance ( $\chi$ ) Instead the value of chi-square that would produce a small

probability value (  $p$  ) and shows bahwa input is greater than the significance level (  $\chi$  ) covariance matrix between the predictions with actual observations do not differ significantly because they expect that the proposed model fit or fit with the data observation.

## 2. GFI (*Goodness-Of-Fit-Index*)

GFI (Goodness-Of-Fit-Index) was developed by Joreskog and Sorbom (1984) is the size of the Non-Statisticians whose value ranges from 0 (poor fit) to 1.0 (Perfect Fit). Fit high GFI value indicates a better and how much value can be accepted as GFI GFI value with the command

## 3. AGFI (*adjusted Goodness of fit GFI*)

Adjusted goodness of fit is to compare the model proposed by the baseline model is often called the null model. Null model is a realistic model in which the other models that should be on it.

## 4. TLI (*Trucker Lewis index*)

Tucker-Lewis Index or known by non normed fit index (NNFI). Following after the first time as a tool to evaluate the factor analysis, but now developed for the SEM. This size into the index that mixed the Parsimo compassion size between the Proposed Model and Null models and TLI values range from 0 to 1.0 TLI recommended value is equal or > 0.90. Amos program will give the value of TLI with Commands

## 5. RMSEA (*The Root Mean Square Error Of Appoximation*)

Root mean Square Error Of Approximation a measure which is trying to fix the tendency of the Chi-square Statistic reject the model with a large number of samples.

RMSEA values between 0.05 to 0:08 is an acceptable size. The results of empirical trials to test the model fit RMSEA confirmatory or competing model strategy with a large number of samples. Amos program will provide RMSEA value with the command / RMSEA



**TABLE 3.3 PROCEDURE FOR GIVING ADDITIONAL MARGIN**

Grade	Criteria	Additional Margin (Rp / Liter)		
		SPBU	Employee	Total
<b>Diamond</b>	<ul style="list-style-type: none"> <li>- Pass an audit Quarterly Gold 4 X (four times) in a row without fail and pass the last audit with the audit checklist DIAMOND</li> <li>- Total of audit value the minimum 80</li> <li>- Element value of Well Trained &amp; Motivated Staff (WTMS) the minimum is 85</li> <li>- Element value of Consistent Phycal Format (CPF) the minimum is 65</li> <li>- Have supporting facilities (bill printer &amp; water and air compression)</li> <li>- providing at least 2 kinds of BBK (Pertamax/Pertamax Plus/Pertamina Dex) with a good minimum redemption volume that set by Pertamina</li> <li>- Have at least 2 types of businesses Non Fuel Retail (NFR) with Pertamina brand</li> </ul>			
<b>Gold</b>	<ul style="list-style-type: none"> <li>- Pass an audit Quarterly SILVER 4 X (four times) in a row without fail and pass the last audit with the audit checklist GOLD</li> <li>- Total of audit value the minimum 80</li> <li>- Element value of Well Trained &amp; Motivated Staff (WTMS) the minimum is 85</li> <li>- Element value of Consistent Phycal Format (CPF) the minimum is 65</li> <li>- Have supporting facilities (bill printer &amp; water and air compression)</li> <li>- providing at least 1 kinds of BBK (Pertamax/Pertamax Plus/Pertamina Dex) with a good minimum redemption volume that set by Pertamina</li> <li>- Have at least 1 types of businesses Non Fuel Retail (NFR) with Pertamina brand</li> </ul>			
<b>Silver</b>	<ul style="list-style-type: none"> <li>- Pass the Audit of Certification/ Surveilance / Quarterly</li> </ul>			

## CHAPTER IV

### DATA ANALYSIS AND DISCUSSION

This study aims to determine the effect of service quality on satisfaction and loyalty as well as to determine the effect of service quality on loyalty through customer satisfaction in service of SPBU PASTI PAS Adisucipto Yogyakarta, SPBU PASTI PAS Babarsari Yogyakarta, and SPBU PASTI PAS Lempuyangan Yogyakarta. In Accordance with the problem and the model formulation a model that have been presented, together with the importance of testing hypotheses, the analytical techniques used in this study is a descriptive statistical analysis and quantitative analysis. The contents of this chapter include the validity and reliability, descriptive analysis, statistical analysis and discussion of research results.

#### 4.1. Instrumen Test

##### 1. Validity Test

The validity test in this study is using Amos software version 6.0. Validity test is used to find out that unobserved variables can be measured by using construct of each observed variable, using Confirmatory Factor Analysis (CFA) or commonly called factor analysis. If the value of factor loading of each construct is more than 0.5 ( $\lambda > 0.5$ ) with a significance level of less than 5% ( $P < 0.05$ ), it can be stated as invalid, or in other words that the unobserved variables can be measured by using each construct was observed variables. Validity of the test results can be shown in the following table:



**Tabel 4.1**  
**Result of Validity Test**

Indicator	Variable	Standardized Loading	Critical Value	Notes
<b>Var: Service Quality</b>				
Emph3	<--- SQ	0,535	0.5	Valid
Emph2	<--- SQ	0,687	0.5	Valid
Emph1	<--- SQ	0,611	0.5	Valid
Ass4	<--- SQ	0,672	0.5	Valid
Ass3	<--- SQ	0,517	0.5	Valid
Ass2	<--- SQ	0,722	0.5	Valid
Ass1	<--- SQ	0,721	0.5	Valid
Resp4	<--- SQ	0,770	0.5	Valid
Resp3	<--- SQ	0,772	0.5	Valid
Resp2	<--- SQ	0,759	0.5	Valid
Resp1	<--- SQ	0,672	0.5	Valid
Rel3	<--- SQ	0,735	0.5	Valid
Rel2	<--- SQ	0,724	0.5	Valid
Rel1	<--- SQ	0,708	0.5	Valid
Tang8	<--- SQ	0,568	0.5	Valid
Tang7	<--- SQ	0,639	0.5	Valid
Tang6	<--- SQ	0,645	0.5	Valid
Tang5	<--- SQ	0,684	0.5	Valid

Tang4	<--- SQ	0,614	0.5	Valid
Tang3	<--- SQ	0,627	0.5	Valid
Tang2	<--- SQ	0,696	0.5	Valid
Tang1	<--- SQ	0,597	0.5	Valid
<b>Var: Customer Satisfaction</b>				
cs1	<--- Cs	0,678	0.5	Valid
CS2	<--- Cs	0,665	0.5	Valid
CS3	<--- Cs	0,664	0.5	Valid
CS4	<--- Cs	0,520	0.5	Valid
CS5	<--- Cs	0,581	0.5	Valid
<b>Var: Customer Loyalty</b>				
CL1	<--- CL	0,673	0.5	Valid
CL2	<--- CL	0,923	0.5	Valid
CL3	<--- CL	0,576	0.5	Valid

Source ; primary data, 2011

From Table 4.1 above, it can be defined that all indicators in variables of Service Quality, Customer Satisfaction and Customer Loyalty can be stated valid, because they have a loading factor value ( estimate ) more than 0,5 ( $\lambda=0,5$ ).

## 2. Result of Reliability Test

Reliability is a measure of internal consistency of the indicators a construct that indicates the degree to which each indicator indicates a construct / common latent factor. In other words, how specific things that help each other in explaining the general phenomenon (Ferdinand, 2002: 61-62). To test the reliability analysis is used

Construct Reliability. Limit value ( nilai batas ) is used to assess an acceptable level of reliability is 0.7. Reliability test results can be shown in the following table:

**Tabel 4.2**  
**Summary Result of Reliability Test**

Variable	<i>Koefisien Construct Reliability</i>	Critical Value	Notes
Service Quality	0,965	0.7	Reliabel
Customer Satisfaction	0,825	0.7	Reliabel
Customer Loyalty	0,860	0.7	Reliabel

Source : primary data, 2011

Based on the summary of the reliability test results as summarized in Table 4.2 above, it can be seen that the value of the *Construct Reliability* for each variable has a value that is higher than 0,7 then it can be defined that all variable items in the question is a reliable. So the items of the questions in the study variables can be used for further research.

#### **4.2. Descriptive Analysis**

Descriptive Analysis is an analysis by detailing and explaining the data which is relevant to resource in the form of the sentence. This section presented the results of analytical description of the characteristics of respondents and the assessment of research variables that include variables of service quality, customer satisfaction and customer loyalty.

#### 4.2.1 Respondent Characteristic

##### a. Gender

By gender, then the respondents in this study are classified as follows:

**Tabel 4.3**  
**Classification of Respondents by Sex**

Gender	Number	Percentage
Men	66	66%
Women	34	34%
Total	100	100%

Source : primary data, 2011.

Based on Table 4.3 above it can be concluded that the respondents in this study are mostly men for 66 respondents or 66%, and women for 34 respondents or 34%. This suggests that the respondents who purchase fuel at the SPBU PASTI PAS Adisucipto Ypgyakarta, SPBU PASTI PAS Babarsari Yogyakarta, and SPBU PASTI PAS Lempuyangan Yogyakarta are more male respondents.

##### b. Age

Based on the age, the respondents in this study are classified as follows:

**Tabel 4.4**

**Classification of Respondents by Age**

Age	Number	Percentage
17 - 24 years old	21	21%
25 - 30 years old	20	20%
31 - 35 years old	8	8%
> 35 years old	51	51%
Total	100	100%

Source : primary data, 2011.

Based on Table 4.4 above it can be concluded that the respondents in this study are mostly aged over 35 years old by 51 respondents or 51%. This indicates that respondents who had made a purchase at the SPBU PASTI PAS Adisucipto Yogyakarta ,SPBU PASTI PAS Babarsari Yogyakarta, and SPBU PASTI PAS Lempuyangan Yogyakarta the average is mature ( cukup dewasa ) enough.

**c. Job**

Based on Job, the respondents in this study are classified as follows:

**Tabel 4.5**

**Classification of Respondent by Job**

Job	Number	Percentage
Student	14	14%
Civil Servant	6	6%
Private Employee	59	59%
Entrepreneur	9	9%
Pensionary	7	7%
Others	5	5%
Total	100	100%

Source : primary data, 2011.

Based on Table 4.5 above it can be concluded that the respondents in this study are mostly private company's employees ( pegawai swasta ) by 59 respondents or 59 % . This indicated that the respondent who had made a purchase at SPBU PASTI PAS Adisucipto Yogyakarta, SPBU PASTI PAS Babarsari Yogyakarta and SPBU PASTI PAS Lempuyangan Yogyakarta are private company's employees ( pegawai swasta ).

**d. Income/Pocket Money**

Based on the Income, the respondents on this study are classified as follows :

**Tabel 4.6**

**Classification of Respondent by Income**

Income	Number	Persentase
< Rp.500.000	14	14%
Rp.5.00.000 - Rp.1.500.000	6	6%
Rp.1.500.000 - Rp.2.500.000	59	59%
>Rp.2.500.000	9	9%
Total	100	100%

Source : primary data, 2011.

Based on Table 4.6 above it can be concluded that the respondents in this study are mostly have income average between Rp.1.500.000 to Rp.2.500.000 by 59 respondent or 59 % . This indicated that the respondents who had made a purchase at SPBU PASTI PAS Adisucipto Yogyakarta, SPBU PASTI PAS Babarsari Yogyakarta and SPBU PASTI PAS Lempuyangan Yogyakarta are private company employee ( pegawai swasta ) that have a fix income.

#### e. Purchase Frequency

Based on the Fuel Purchase Frequency, the respondents in this study are classified as follow:

**Tabel 4.7**

#### **Classification of Respondent by Purchase Frequency**

Job	Number	Persentase
Often	82	82%
Sometimes	15	15%
Infrequent	3	3%
Never	0	0%
Total	100	100%

Source : primary data, 2011

Based on Table 4.7 above it can be concluded that the respondents in this study that the purchase frequency at the SPBU PASTI PAS Adisucipto Yogyakarta, SPBU PASTI PAS Babarsari Yogyakarta and SPBU PASTI PAS Lempuyangan Yogyakarta are “ Often “ by 82 respondents or 82 %. This indicated that the respondents “often “purchase the fuel at SPBU PASTI PAS Adisucipto Yogyakarta, SPBU PASTI PAS Babarsari Yogyakarta and SPBU PASTI PAS Lempuyangan Yogyakarta.

**4.2.2. Customer Perception toward Service Quality variable, Customer Satisfaction variable and Customer Loyalty variable**

The assessment is based on the average score variables. To interpret the variable service quality, satisfaction and consumer loyalty can be determined by the average value based on the boundaries as follows:

Lowest perception scores were: 1

The highest perception scores were: 5

$$\text{Interval} = \frac{5 - 1}{5} = 0,8$$

To obtain limits of perception as in Table 4.8 below:

**Tabel 4.8**  
**Customer Perception Characteristic**

Interval	Service Quality	Customer Satisfaction	Customer Loyalty
1,00 – 1,79	Very not good	Very dissatisfied	Very not loyal
1,80 – 2,59	Not good	Dissatisfied	Not loyal
2,60 – 3,39	Quite good	Quite satisfied	Quite Loyal
3,40 – 4,19	Good	Satisfied	Loyal
4,20 – 5,00	Very good	Very satisfied	Very Loyal



The results of descriptive analysis of the service quality can be indicated by Table 4.9

below:

**Tabel 4.9**  
**Descriptive Variable of Service Quality**

Dimension	Service Quality Indicator	Mean	Category
Tangible	Using new machine	3.97	Good
	Employees look clean, good and tidy	3.96	Good
	Good and modern facilities	3.94	Good
	Clean and comfortable toilet	3.62	Good
	Comfortable environment	3.94	Good
	Good layout of building	3.94	Good
	Have a fire extinguishers	3.93	Good
	Have an air compression	4.10	Good
	Reliability	Providing fuel accurately	3.99
cleanliness of the SPBU well preserved		3.95	Good
Employee being friendly		3.86	Good
Responsiveness	Employee responds the customer complaints	3.86	Good
	Employee responds the customer needs	3.57	Good
	Employee is always ready to help customer	3.85	Good
	Professionalism of the employee	3.79	Good
Assurance	Employees are able to communicate well	3.82	Good
	Employees always show the “zero” number first before filling the fuel	3.83	Good
	Employees always offer the purchase print out	3.60	Good
	Comfortable environment	3.83	Good
Empathy	Employees serve the customer always with smile	3.90	Good
	Employees always ask the kind of fuel that customer want to buy or fill	3.99	Good
	Employee always give the service without looking social differences	4.13	Good
	<b>Mean Total of Service Quality</b>	<b>3.88</b>	<b>Good</b>

Source : primary data, 2011

Based on the results of descriptive analysis as shown in Table 4.9 show that on average respondents' assessment of the service quality is equal to 3.88. While the highest ratings on the employees provide services regardless of social status with an average of 4.13 (good), and the lowest ratings occurred in employees respond to customer needs with an average of 3.57 (good). This means the consumer has provided a good assessment of the service quality at the service of SPBU PASTI PAS Adisucipto Yogyakarta, SPBU PASTI PAS Babarsari Yogyakarta and SPBU PASTI PAS Lempuyangan Yogyakarta is in the interval 3.40 to 4.19. These results indicate that the services provided by SPBU PASTI PAS Adisucipto Yogyakarta, SPBU PASTI PAS Babarsari Yogyakarta, and SPBU PASTI PAS Lempuyangan Yogyakarta is good. These results were received with a variable per-item assessment questions showed that almost all dimensions of service quality rated good.

Descriptive results of customer satisfaction variables can be shown in Table 4.10 below:

**Tabel 4.10**  
**Descriptive Variable of Customer Satisfaction**

Indicator of customer satisfaction	Mean	Category
Consumers are satisfied to fill vehicle fuel at the SPBU PASTI PAS	3.87	Satisfied
Consumers are satisfied with the service quality of SPBU PASTI PAS	3.70	Satisfied
Consumers are satisfied with the good and modern facilities in SPBU PASTI PAS	3.73	Satisfied
Customers feel satisfy with the standard of filling the fuel because always start from 0 liter	3.83	Satisfied
Customers feel satisfy with the cleanliness in SPBU PASTI PAS	4.02	Satisfied
<b>Mean Total</b>	<b>3.83</b>	<b>Satisfied</b>

Source : primary data, 2011

Based on the results of descriptive analysis in Table 4.10, it shows that the average assessment of respondents' satisfaction is of 3.83. This means that consumers have been satisfied making a purchase at PASTI PAS Adisucipto Yogyakarta SPBU PASTI PAS Babarsari Yogyakarta, and SPBU PASTI PAS Lempuyangan Yogyakarta is in the interval 3,40 – 4,19. It shows the highest satisfaction on the items consumers are satisfied with the cleanliness at SPBU PASTI PAS with an average of 4.02 (satisfied), and the lowest satisfaction on consumer items satisfied the service quality at SPBU PASTI PAS with an average of 3.70 each (satisfied). These

results show that consumers are satisfied when using the services of SPBU PASTI PAS Adisucipto Yogyakarta SPBU PASTI PAS Babarsari Yogyakarta, and SPBU PASTI PAS Lempuyangan Yogyakarta, so that consumers do not have any complaints about services provided, and satisfied with the employees service, cleanliness, facilities and environment in SPBU PASTI PAS Adisucipto Yogyakarta SPBU PASTI PAS Babarsari Yogyakarta, and SPBU PASTI PAS Lempuyangan Yogyakarta. However, the willingness of employees to help customers need to be considered by management, as it is a potential customer of dissatisfaction. It happens because the customer of SPBU PASTI PAS Adisucipto Yogyakarta SPBU PASTI PAS Babarsari Yogyakarta, and SPBU PASTI PAS Lempuyangan Yogyakarta is a diverse group ( kelompok yang majemuk ). Difficulties faced by customers will certainly different, especially those related in fueling process including the use of facilities at SPBU PASTI PAS like air compression. For that we need a strong commitment for every employee to be able to provide the best possible service, by giving serious attention to each visitor by providing both information and solutions.

Descriptive results of customer loyalty variables can be shown in Table 4.11 below:

**Tabel 4.11**

**Descriptive Variable of Customer Loyalty**

Indicator of Customer Loyalty	Mean	Category
If you want to refuel definitely in SPBU PASTI PAS	3.91	Loyal
Recommend to others	3.92	Loyal
Still buying the fuel at SPBU PASTI PAS	3.75	Loyal

Mean Total	3.86	Loyal
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Source : primary data, 2011

Based on Table 4.11. about the descriptive to the customer loyalty which has an average of 3.86. It means that consumers become loyal to the SPBU PASTI PAS Adisucipto Yogyakarta SPBU PASTI PAS Babarsari Yogyakarta, and SPBU PASTI PAS Lempuyangan Yogyakarta as it is in the interval of 3,40 – 4,19. The highest loyalty is to recommend the SPBU PASTI PAS to other people with an average of 3.92 (loyal), and loyalty to the lowest occurred in will stay to purchase at SPBU PASTI PAS with an average of 3.75 (loyal). This result should be a concern for the management SPBU PASTI PAS Adisucipto Yogyakarta SPBU PASTI PAS Babarsari Yogyakarta, and SPBU PASTI PAS Lempuyangan Yogyakarta in order to increasing the service and satisfaction by the customer. This is important given the current competition in the fuel or gas station business is very tight, so any gas stations are competing to provide complete facilities and convenience in filling the fuel. If SPBU PASTI PAS Adisucipto Yogyakarta SPBU PASTI PAS Babarsari Yogyakarta, and SPBU PASTI PAS Lempuyangan Yogyakarta not good at innovation, including innovation facility services, it is not impossible to lose customers. Retaining customers is a more difficult job than to find new customers.

#### **4.3. Analysis Structural Equation Model Analysis**

Quantitative analysis used in this study were path analysis or SEM and test assumptions. Path analysis model was used SEM analysis (Structural Equation Model) is a set of statistical techniques that allow testing of a relatively complex series of relationships simultaneously. This analysis was chosen to determine the

effect of gradually or step by step ( bertahap ) is the influence of service quality on customer satisfaction, influence customer satisfaction with customer loyalty and influence of service quality on customer loyalty. This analysis as well as to prove the hypothesis that this study has been presented in previous chapters.

To perform data analysis with SEM methods necessary stages of testing are:

#### 4.3.1. Goodness of Fit

To know a Goodness of Fit is used : *Absolut Fit Measured* (pengukuran indeks mutlak), *Incremental Fit Measured* (Pengukuran tambahan indeks) dan *Parsimonious Fit Measured* (Pengukuran kesederhanaan indeks). Goodness of fit test using Amos software version 6.0. Here is goodness of fit index generated after testing:

**Tabel 4.12**  
*Goodness of Fit Index*

<i>Goodness of Fit Index</i>	<i>Result</i>	<i>Cut Off Value</i>	<i>Criteria</i>
Likelihood Chi Square	65,049	Small expected	Good
Probability	0,370	$\geq 0,05$	Good
CMIN/DF	1,049	$\leq 3,00$	Good
RMSEA	0,022	$\leq 0,08$	Good
GFI	0,917	$\geq 0,9$	Good
AGFI	0,878	$\geq 0,9$	Marginal
TLI	0,993	$\geq 0,90$	Good
CFI	0,994	$\geq 0,90$	Good

Source: primary data, 2011

Value of  $X^2$  – Chi Square with a significant level of 0.370 that the value is  $p > 0,05$ . This indicates that the  $H_0$  that states there is no difference between the sample covariance matrix with an estimated population covariance matrix can be accepted. This means that the sample covariance matrix with the estimated population covariance matrix is the same, so the model can be conclude fit. *The minimum Sampel Discrepancy Function* – CMIN/DF is is a parsimonious fit (kesesuaian) index that measures the relationship goodness of fit model and amount of the estimated coefficients are expected to reach the level of fitness (kesesuaian). Results Cmin / DF of 1.049 the value is smaller than the recommended value of Cmin / DF  $< 3$ , this indicating a good fit model.

The analysis of the goodness of fit - GFI reflects the overall level of the fitness model. The recommended level of acceptance  $GFI > 0.90$ . The results show the value of 0.917  $GFI > 0.9$ , so the model has a good fit.

Adjusted Goodness of fit Index - AGFI as a development index of GFI, an index that has been adapted to the ratio of degree of freedom model proposed by the degree of freedom from the null model. The results showed AGFI value of 0.878 the value is smaller than the recommended value of  $AGFI > 0.9$ , indicating that this model has a less good fit.

Tucker Lewis Index - TLI is an alternative incremental fit index that compares the tested model with the baseline. Values are recommended as a good fitness level is  $> 0.90$ . The results showed that the TLI value of 0.993 so that it can be stated that the level of compliance is on a good criterion.

Comparative Fit Index - CFI, an incremental fit index that compares the model tested with null models. The recommended value of  $CFI > 0.9$ . The test results of 0.994, indicating that the model is good

The Root Mean Square Error of Approximation - RMSEA, the index is used to compensate for the Chi Square statistics in a large sample. RMSEA value indicates goodness of fit that can be expected when the model estimated in the population. Recommended acceptance values  $< 0.08$ , while the test results of 0.022 which indicates that the model is a good.

From the results of measurements of Goodness of Fit Index above, it can be summed up that most of the parameters have to meet the expected requirements, and only one parameter that is only AGFI whose value is still below the expected value. However to Ghozali (2005: 42) states that it is not a problem because it looks another measure of model fit. Judging from the Chi Square value, probability,  $C_{min} / DF$ , RMSEA, GFI, TLI and CFI have met the requirements of goodness of fit.

#### **4.3.2. Result of Hypothesis Test**

As described in Chapter II, the hypothesis formulated in this study consisted of three hypotheses. Hypothesis of the study conducted one-tailed test, because the relationship between the independent variables with the dependent variable hypothesized positive effect. To determine whether the hypothesis is supported by data or not, then the probability value from the Critical Ratio (CR) compared with  $\alpha = 5\%$ . If Standardized coefficients are positive parameters and probability values from



the Critical Ratio (CR) of less than  $\alpha = 5\%$ , it can be concluded that the research hypothesis is supported by the data (shown to significantly).

The test results of the research model can be described as follows:

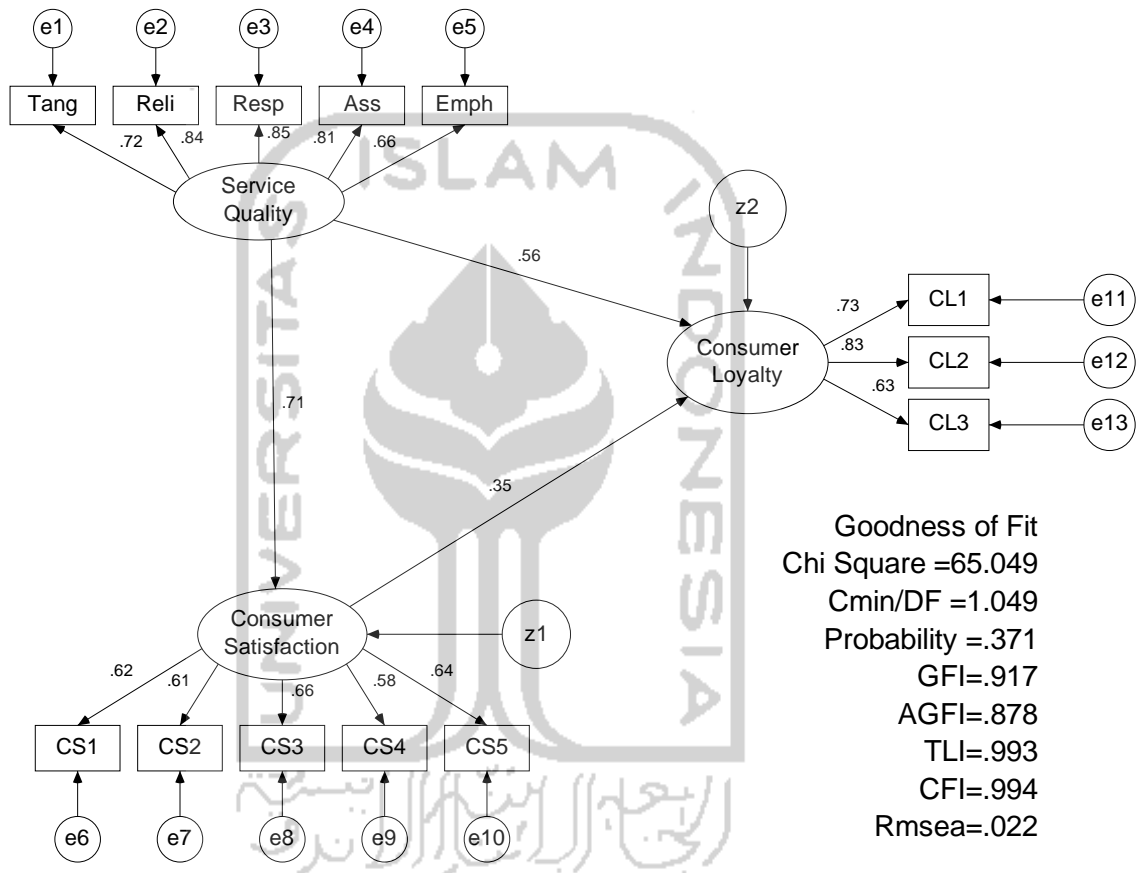


Figure 4.1. Result of Reasearch Model

Based on statistical analysis using the program AMOS version 6.0, the obtained result of hypothesis testing is a test of causality of each research variable as presented in the table below.

**Tabel 4.13**

*Estimation Result with AMOS MODEL*

<b>Effect of Between Variable</b>	<b>Koefisien Stdanardized</b>	<b>Critical Ratio</b>	<b>Probability Value</b>	<b>Label</b>
Customer_Satisfaction <--- Service_Quality	0.847	4.765	0.000	H1 supported
Customer_Loyalty <--- Service Quality	0.648	3.519	0.000	H3 supported
Customer_Loyalty <--- Customer_Satisfaction	0.337	2.196	0.028	H2supported

Source: primary data, 2011

Based on Table 4.13 can be written equation:

$$CL = 0,337 CS + 0,648 SQ$$

$$CS = 0,847 SQ$$

### **4.3.3. Influence of Service Quality to Customer Satisfaction**

In the previous chapters, the researcher has presented the first alternative hypothesis that "There is a positive influence between service quality to customer satisfaction". Test results with the analysis point (SEM) can determine Standardized Regression Weights service quality to customer satisfaction is at 0.847 with a value p-value ( $0.000 < 0.05$ ). This means that service quality has positive and significant impact on customer satisfaction. Thus the first hypothesis in this study proved. When viewed from the direct influence of the weights (standardized) a positive value indicates that the better the perceived quality of customer service to SPBU PASTI PAS Adisucipto Yogyakarta, SPBU PASTI PAS Babarsari Yogyakarta and SPBU PASTI PAS Lempuyangan Yogyakarta, the more satisfied customers in the use of such services.

This means better quality of service, the higher the satisfaction of consumers at SPBU PASTI PAS Adisucipto Yogyakarta, SPBU PASTI PAS Babarsari Yogyakarta and SPBU PASTI PAS Lempuyangan Yogyakarta. The results are consistent with the opinion expressed by Kotler (2003), that the quality of services / service is the shape and characteristics of a product total of goods and services that show its ability to satisfy or meet the needs of consumers.

Implementation of service quality performed by a company is to provide the best service for consumers with the goal of creating customer satisfaction. Quality of service provided by the companies will create the perception of consumers. A better perception of service quality it receives, the greater the consumers' expectations are met so that the greater satisfaction of consumers. The strategy that should be taken is to improve the indicators of the lowest rated by consumers on items of employees responding to customer needs. The employee of SPBU PASTI PAS Adisucipto Yogyakarta, of SPBU PASTI PAS Babarsari Yogyakarta and of SPBU PASTI PAS Lempuyangan Yogyakarta should be able to respond quickly to customer needs and in line with consumer expectations, such as the gas station to give a print out or invoice to consumers who request it as a proof of purchase fuel without disturbing another customer queue. Besides, they help the customer who wants to refuel air compression- as in some places of SPBU there are customers that refuel the air compression by themselves without any helps from the employees of the SPBU. Preferably SPBU PASTI PAS Adisucipto, Babarsari and Lempuyangan Yogyakarta can help customers that want to refuel air compression especially female customers.

#### **4.3.4. Influence of Service Quality to Customer Loyalty**

The previous chapter has presented a second alternative hypothesis that "There is a positive effect between service quality to customer loyalty". Test results with the analysis point (SEM) can determine Standardized Regression Weights of service quality on customer loyalty which is equal to 0.648 with a value p-value (0.000 <0.05). This means that service quality has positive and significant impact on

consumer loyalty. Thus the second hypothesis in this study is **proved**. When viewed from the direct influence of the weights (standardized) a positive value indicates that the better the perceived quality of customer service to SPBU PASTI PAS Adisucipto Yogyakarta, SPBU PASTI PAS Babarsari Yogyakarta, and SPBU PASTI PAS Lempuyangan Yogyakarta, the more loyal customers in using these services.

The results are consistent with the opinion expressed by Aydin and Ozer (2005) and Kuo et al. (2009) that suggested that there is a positive relationship between service quality and customer loyalty. Customer loyalty which has an effect on the reuse of a product is an idea that arises from marketing services. In further, that the customer loyalty is based on the preference of their hearts to reuse the product is the foundation of the business. Service quality affects customer loyalty and this is because the quality of service can be used as a tool to achieve competitive advantage. With the improvement of service quality which is good then it may causes a customer loyalty, and has a high probability to attract new customers. Consumers who have been loyal to product services can also refer to consumers that are satisfied that increase the need to purchase more than once.

#### **4.3.5. Influence of Service Quality and Customer Satisfaction to Customer Loyalty**

The previous chapter has presented the third alternative hypothesis that "There is a positive influence between service quality and consumer satisfaction to consumer loyalty". Test results with the analysis point (SEM) can be determine Standardized Regression Weights of service quality on customer loyalty is equal to 0.648 with a

value p-value ( $0.000 < 0.05$ ), while the influence of customer satisfaction on loyalty is equal to 0.337 and p value 0.028. This means that service quality and customer satisfaction has positive and significant impact on consumer loyalty. Thus, the third hypothesis in this study is **proved**. When viewed from the direct influence of the weights (standardized) a positive value indicates that the better service and increasing customer satisfaction, the higher customer loyalty.

#### **4.3.6. Direct Effect, Indirect Effect and Total Effect**

Based on result of AMOS analysis, it is shown that the direct effect of service quality to customer loyalty is equal to 0,559. While the indirect effect of service quality on customer loyalty through customer satisfaction is equal to  $0.708 \times 0.349 = 0.247$ . To determine the total effect used the following formula:

Total effect = Direct effect + Indirect effect

Total effect =  $0,559 + 0,247 = 0,806$

These results may mean that the quality of service and customer satisfaction can explain the loyalty of customers by 80.6% and the rest 19.4% customer loyalty can be explained by other variables, such as price, product quality, location and more.

#### **4.4. Discussion and Implication**

AMOS analysis results indicate a positive and significant influence of the variable service quality to customer satisfaction at SPBU PASTI PAS Adisucipto Babarsari Yogyakarta, SPBU PASTI PAS Babarsari Yogyakarta and SPBU PASTI PAS Lempuyangan Yogyakarta. Significance can be seen from the value p value smaller than the 5% significance. This means that the quality of service has been able to

contribute significantly in improving customer satisfaction at the SPBU PASTI PAS Adisucipto Yogyakarta, SPBU PASTI PAS Babarsari Yogyakarta, and SPBU PASTI PAS Lempuyangan Yogyakarta.

The results are consistent with the results of research conducted by Cronin and Taylor, 1992; Levesque and McDougall, 1996; Taylor and Baker, 1994; Zeithaml et al., 1996; McDaugall and Levesque, 2000) who found a positive influence on satisfaction of service quality consumers. In theory proposed by Kotler (2003), the service quality is the shape and characteristics of a product total of goods and services that demonstrate its ability to satisfy or meet the needs of consumers. Implementation of the quality of service performed by a company engaged in the service is to provide quality of service is best for consumers with the goal of creating customer satisfaction and loyalty. Quality provided by the companies will create the perception of consumers. A better perception of the quality of service it receives, the greater the consumers' expectations are met so that the greater satisfaction of consumers.

The second hypothesis test results found that service quality has positive and significant impact on consumer loyalty. The results are consistent with Aydin and Ozer (2005) and Kuo et al., (2009) who found that service quality has a positive effect on consumer loyalty. Customer loyalty which has an effect on the reuse of a product is an idea that arises from marketing services. In further customer loyalty based on the joy of their hearts that reuse the product is the foundation of the business. Service quality affects customer Loyalty this is because the service quality can be used as a tool to achieve competitive advantage. With the improvement of

service quality is good then it may cause a customer loyalty, and likely to attract new customers. Consumers who have been loyal to a product services can also refer consumers to feel satisfied that the need to purchase more than once and will be continuously in use it again for the future.

The results of the analysis also found that consumer satisfaction had a positive effect on consumer loyalty. The results are consistent with the results of Zeithaml et al., (1996) and Fornel (1992) who found that high loyalty was influenced by high consumer satisfaction. This means that if customer satisfaction is increasing, the loyalty of consumers has also increased. This is because satisfaction is established on the fulfillment of the performance as what people expect. If performance exceeds or is higher than the expectation, the customers will be satisfied or pleased. Many companies focus on the higher satisfaction because customer that has lower criteria of satisfaction can easily change the mind if they get a better offer. The most satisfied the customer are, the more difficult they change their choice. A higher satisfaction or higher pleasure can create a good emotion over certain products and services, not only just liking or rationally preference, but it can make result of high customer loyalty.



## CHAPTER V

### CONCLUSION AND SUGGESTION

#### 5.1. Conclusion

Based on the analysis and discussion of the influence of service quality on customer satisfaction and customer loyalty of SPBU PASTI PAS, it can be concluded as follows:

1. There are positive and significant influences between service quality and consumer loyalty in SPBU PASTI PAS Adisucipto Yogyakarta, SPBU PASTI PAS Babarsari Yogyakarta, and SPBU PASTI PAS Lempuyangan Yogyakarta. This means the higher quality of service, the greater the loyalty of consumers.
2. There are positive and significant influence between service quality and customer satisfaction in SPBU PASTI PAS Adisucipto Yogyakarta, SPBU PASTI PAS Babarsari Yogyakarta, and SPBU PASTI PAS Lempuyangan Yogyakarta. This means the higher quality of service, the greater the customer satisfaction of consumers.
3. There are positive and significant effects between service quality and customer satisfaction on consumer loyalty in SPBU PASTI PAS Adisucipto Yogyakarta, SPBU PASTI PAS Babarsari Yogyakarta, and SPBU PASTI PAS Lempuyangan Yogyakarta. This means the better quality of service and increasing customer satisfaction, the greater the loyalty of consumers.

## 5.2. Suggestion

Based on the conclusion above, it can be proposed that the following advice of this research hopefully can be useful for the employees and the managers of SPBU PASTI PAS Adisucipto, Babarsari and Lempuyangan Yogyakarta in terms of the factors which influence the service quality toward customer satisfaction to create customers loyalty.

1. For SPBU PASTI PAS Adisucipto Yogyakarta, SPBU PASTI PAS Babarsari Yogyakarta and SPBU PASTI PAS Lempuyangan Yogyakarta: they must improve services, especially the ones which are still undervalued by consumers such as the attributes of employees responding to customer needs. The employees of SPBU PASTI PAS Adisucipto Yogyakarta, SPBU PASTI PAS Babarsari Yogyakarta and SPBU PASTI PAS Lempuyangan Yogyakarta should able to respond to customer needs on time and in accordance with the expectations of consumers. Management must provide a good human resource or a trusted system so that consumers feel very confident of services or products they choose, can provide timely and in accordance with the promises previously (Cope 1997; Behn 2003 in Kelly, 2005: 80).
2. SPBU PASTI PAS Adisucipto Yogyakarta, SPBU PASTI PAS Babarsari Yogyakarta and SPBU PASTI PAS Lempuyangan Yogyakarta, should improve customer satisfaction, prove capable of influencing customer loyalty. Thus, if you want to increase loyalty and increase the number of customers then give satisfaction to customers, because by providing service satisfaction or higher than satisfaction is the "fun" because pleasure has a stronger

memory trace to the customers, actually we do this is to give the best to the company itself (Berman, 2005: 129).

3. SPBU PASTI PAS Adisucipto and SPBU PASTI PAS Lempuyangan Yogyakarta must maintain their quality of their SPBU like the facilities, the comfort of the SPBU, maintain the employees because if SPBU PASTI PAS Adisucipto and Lempuyangan Yogyakarta intend to reach the upper level “ DIAMOND “, SPBU PASTI PAS Adisucipto and Lempuyangan Yogyakarta must pass the quarterly audit GOLD four times and must provide at least 2 kinds of BBK; Pertamina, Pertamina Plus or Pertamina Dex. Besides, SPBU PASTI PAS Adisucipto and Lempuyangan Yogyakarta must have at least 2 types of Non Fuel Retail businesses ( NFR ) with Pertamina brand. Therefore SPBU PASTI PAS Adisucipto and Lempuyangan Yogyakarta can reach the upper level that is “ DIAMOND “ level.
4. SPBU PASTI PAS Babarsari Yogyakarta must increase their quality of the SPBU like the facilities, the comfort of their SPBU, the layout of their SPBU and increase their personality of their employee. As they want to get more customers and if they want to get higher customer loyalty SPBU PASTI PAS Babarsari Yogyakarta must always increase and maintain their service quality. Having intention to get a better level : GOLD, SPBU PASTI PAS Babarsari Yogyakarta must pass the quarterly audit SILVER four times and must provide at least 2 kinds of BBK; Pertamina, Pertamina Plus or Pertamina Dex. It must also have at least 1 type of Non Fuel Retail business ( NFR ) with

Pertamina brand. Then it can enhance to the upper level that is “ GOLD “  
level.



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# APPENDIXES

## Appendix 1

### QUESTIONNAIRE

#### A. CHARATERISTIC OF RESPONDENT

1. Name :
2. Gender :
  - a. Man
  - b. Woman
3. Age :
  - a. 17-24 years
  - b. 25-30 years
  - c. 31-35 years
  - d. > 35 years
4. Job :
  - a. Student
  - b. Civil Servant
  - c. Private Employee
  - d. Entrepreneur(wiraswasta )
  - e. Pensionary
  - f. Others
5. Income/Pocket Money :
  - a. < Rp 500.000,00
  - b. Rp 500.000,00 – Rp 1.500.000,00
  - c. RP 1.500.000,00 – Rp 2.500.000,00
  - d. > Rp 2.500.000,00
6. Purchase Frequency refuel in SPBU PASTI PAS ?
  - a. Often
  - b. Sometimes
  - c. Infrequent
  - d. Never

## B. SERVICE QUALITY OF SPBU PASTI PAS

This section is an assessment of service quality in SPBU PASTI PAS according to what you feel.

Answer the question below with the sign (V) on a column of respondents in accordance with your opinion. The answer is:

Strongly Agree ( SA ) : 5 Disagree ( D ) : 2  
 Agree ( A ) : 4 Strongly Disagree ( SD ) : 1  
 Netral ( N ) : 3

NO	ATRIBUT	LEVEL OF SATISFACTION				
		SA	A	N	D	SD
<i>Tangibles</i>						
1	Using new machine					
2	Employees look clean, good and tidy					
3	Good and modern facilities					
4	Clean and comfortable toilet					
5	Comfortable environment					
6	Good layout of building					
7	Have a fire extinguishers					

8	Have an air compression					
<b>Reliability</b>						
1	Providing fuel accurately					
2	cleanliness of the SPBU well preserved					
3	Employee being friendly					
<b>Responsivness ( Tanggapan )</b>						
1	Employee responding the customer complaints					
2	Employee responding the customer needs					
3	Employee always ready to help customer					
4	Professionalism of the employee					
<b>Assurance</b>						
1	Employee are able to communicate well					
2	Employee always show the "zero" number first before filling the fuel					
3	Employee always offer the purchase print out					
4	Comfortable environment					
<b>Emphaty</b>						
1	Employee serve the customer always with smile					
2	Employee always ask the kind of fuel that customer want to buy or fill					
3	Employee always give the service without looking social differences					

### C. CUSTOMER SATISFACTION

This section is an assessment of customer satisfaction in SPBU PASTI PAS according to what you feel.

Answer the question below with the sign (V) on a column of respondents in accordance with your opinion. The answer is:

NO	ATRIBUT	SA	A	N	D	SD
1	Consumers are satisfied to fill vehicle fuel at the SPBU PASTI PAS					
2	Consumers are satisfied with the service quality of SPBU PASTI PAS					
3	Consumers are satisfied with the good and modern facilities in SPBU PASTI PAS					
4	Customers feel satisfy with the standard of filling the fuel because always start from 0 liter					
5	Customers feel satisfy with the cleanliness in SPBU PASTI PAS					



#### D.CUSTOMER LOYALTY

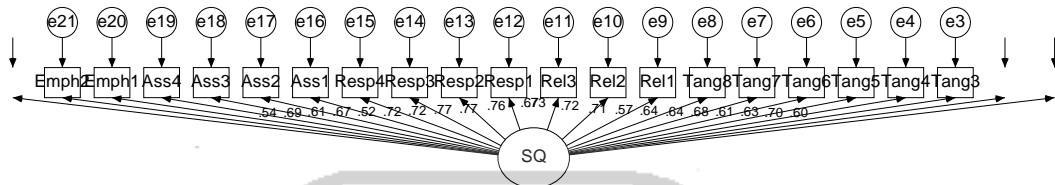
This section is an assessment of customer loyalty to the SPBU PASTI PAS according to the respondent feel. In this part the respondent will be asked to choose between SPBU PASTI PAS Adisucipto, Lempuyangan, Babarsari Yogyakarta if find the sign like this “ ( ..... ) “.

Answer the question below with the sign (V) on a column of respondents in accordance with your opinion. The answer is:

NO	ATRIBUT	SA	A	N	D	SD
1	If I want to refuel on my vehicle, I will go to my favorite and my subscriptions SPBU PASTI PAS (.....)					
2	I would recommended to everyone to refuel the vehicle at the SPBU PASTI PAS ( ..... )					
3	I will still buy fuel at my favorite and my subscription SPBU PASTI PAS even though other SPBU PASTI PAS offer some kind of prize and reward.					

## Appendix 2

### **VALIDITY AND RELIABILITY TEST OF SERVICE QUALITY**



#### **Standardized Regression Weights: (Group number 1 - Default model)**

	Estimate
Emph3 <--- SQ	.535
Emph2 <--- SQ	.687
Emph1 <--- SQ	.611
Ass4 <--- SQ	.672
Ass3 <--- SQ	.517
Ass2 <--- SQ	.722
Ass1 <--- SQ	.721
Resp4 <--- SQ	.770
Resp3 <--- SQ	.772
Resp2 <--- SQ	.759
Resp1 <--- SQ	.672
Rel3 <--- SQ	.735
Rel2 <--- SQ	.724
Rel1 <--- SQ	.708
Tang8 <--- SQ	.568
Tang7 <--- SQ	.639

	Estimate
Tang6 <--- SQ	.645
Tang5 <--- SQ	.684
Tang4 <--- SQ	.614
Tang3 <--- SQ	.627
Tang2 <--- SQ	.696
Tang1 <--- SQ	.597

Variances: (Group number 1 - Default model)

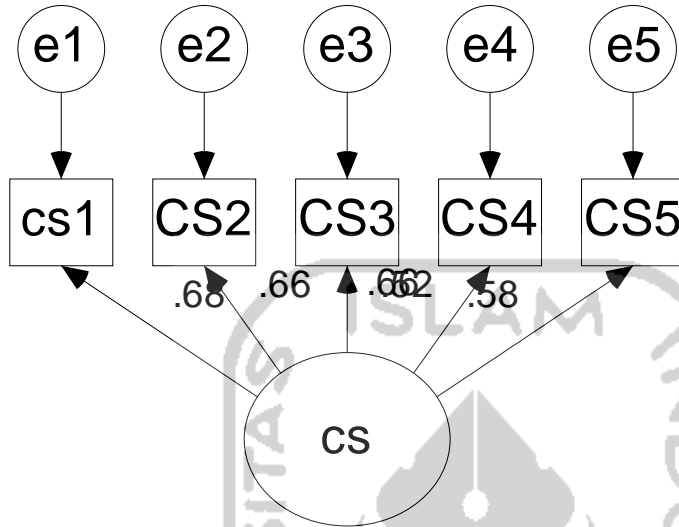
	Estimate	S.E.	C.R.	P	Label
SQ	.158	.056	2.813	.005	
e22	.395	.057	6.888	***	
e21	.263	.039	6.706	***	
e20	.457	.067	6.816	***	
e19	.352	.052	6.733	***	
e18	.557	.081	6.902	***	
e17	.402	.061	6.634	***	
e16	.301	.045	6.637	***	
e15	.271	.042	6.499	***	
e14	.246	.038	6.493	***	
e13	.308	.047	6.536	***	
e12	.285	.042	6.732	***	
e11	.313	.047	6.604	***	
e10	.270	.041	6.630	***	

	Estimate	S.E.	C.R.	P	Label
e9	.334	.050	6.666	***	
e8	.400	.058	6.861	***	
e7	.417	.061	6.781	***	
e6	.278	.041	6.774	***	
e5	.264	.039	6.712	***	
e4	.483	.071	6.813	***	
e3	.399	.059	6.798	***	
e2	.266	.040	6.691	***	
e1	.483	.071	6.833	***	

$$\text{Construct - Reliability} = \frac{(\sum \text{Std. Loading})^2}{(\sum \text{Std. Loading})^2 + \sum \epsilon_j}$$

$$\text{Construct Reliability} = \frac{(14,675)^2}{(14,675)^2 + 7,744} = 0,965$$

**VALIDITY AND RELIABILITY TEST OF CUSTOMER SATISFACTION**



**Regression Weights: (Group number 1 - Default model)**

	Estimate	S.E.	C.R.	P	Label
cs1 <--- cs	1.000				
CS2 <--- cs	1.132	.225	5.038	***	
CS3 <--- cs	.953	.189	5.036	***	
CS4 <--- cs	.711	.170	4.189	***	
CS5 <--- cs	.875	.191	4.586	***	

**Standardized Regression Weights: (Group number 1 - Default model)**

	Estimate
cs1 <--- cs	.678
CS2 <--- cs	.665
CS3 <--- cs	.664

	Estimate
CS4 <--- cs	.520
CS5 <--- cs	.581

**Variances: (Group number 1 - Default model)**

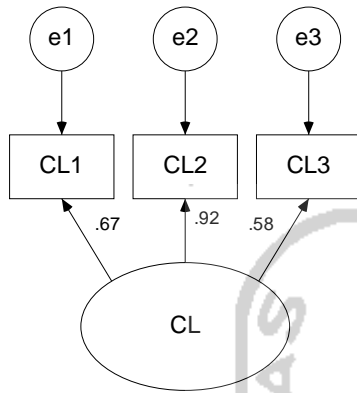
	Estimate	S.E.	C.R.	P	Label
cs	.300	.091	3.302	***	
e1	.353	.068	5.164	***	
e2	.486	.092	5.294	***	
e3	.345	.065	5.297	***	
e4	.410	.066	6.236	***	
e5	.450	.076	5.924	***	

$$\text{Construct - Reliability} = \frac{(\sum \text{Std. Loading})^2}{(\sum \text{Std. Loading})^2 + \sum \epsilon_j^2}$$

$$(3,108)^2$$

$$\text{Constuct Reliability} = \frac{\quad}{(3,108)^2 + 2,044} = 0,825$$

**VALIDITY AND RELIABILITY TEST OF CUSTOMER LOYALTY**



**Regression Weights: (Group number 1 - Default model)**

	Estimate	S.E.	C.R.	P	Label
CL1 <--- CL	1.000				
CL2 <--- CL	1.333	.274	4.875	***	
CL3 <--- CL	.958	.187	5.118	***	

**Standardized Regression Weights: (Group number 1 - Default model)**

	Estimate
CL1 <--- CL	.673
CL2 <--- CL	.923
CL3 <--- CL	.576

**Variances: (Group number 1 - Default model)**

	Estimate	S.E.	C.R.	P	Label
CL	.227	.072	3.173	.002	
e1	.275	.056	4.948	***	
e2	.070	.071	.986	.324	
e3	.419	.070	6.012	***	

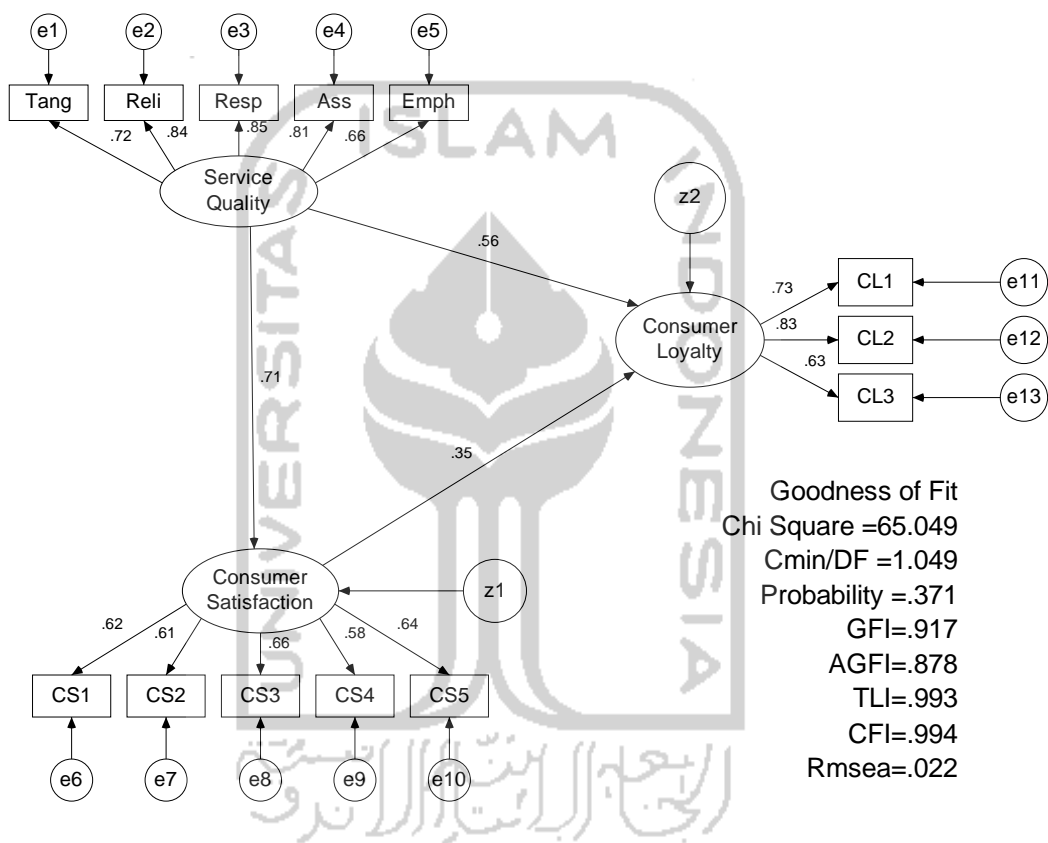
$$\text{Construct - Reliability} = \frac{(\sum \text{Std. Loading})^2}{(\sum \text{Std. Loading})^2 + \sum \epsilon_j}$$

$$(2,172)^2$$

**Constuct Reliability = \_\_\_\_\_ = 0,860**

$$(2,172)^2 + 0,764$$





D:\M Y D O C U M E N T S 2011\Nugraha==AMOS kualitas pelayanan, kepuasan loyalitas\hasil amos.amw

**Analysis Summary**

**Date and Time**

Date: Wednesday, July 06, 2011

Time: 6:07:48 AM

**Title**

hasil amos: Wednesday, July 06, 2011 06:07 AM

## Groups

Group number 1 (Group number 1)

Notes for Group (Group number 1)

The model is recursive.

Sample size = 100

Variable Summary (Group number 1)

Your model contains the following variables (Group number 1)

Observed, endogenous variables

Tang

Reli

Resp

Ass

Emph

CS5

CS4

CS3

CS2

CS1

CL1

CL2

CL3

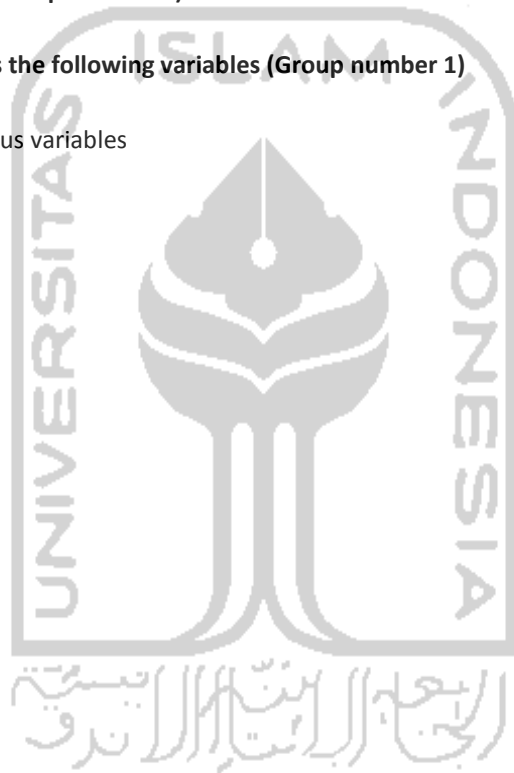
Unobserved, endogenous variables

Consumer\_Satisfaction

Consumer\_Loyalty

Unobserved, exogenous variables

Service\_Quality



e1  
 e2  
 e3  
 e4  
 e5  
 e10  
 e9  
 e8  
 e7  
 e6  
 e11  
 e12  
 e13  
 z1  
 z2



**Variable counts (Group number 1)**

Number of variables in your model: 31  
 Number of observed variables: 13  
 Number of unobserved variables: 18  
 Number of exogenous variables: 16  
 Number of endogenous variables: 15

**Parameter summary (Group number 1)**

	Weights	Covariances	Variances	Means	Intercepts	Total
Fixed	18	0	0	0	0	18
Labeled	0	0	0	0	0	0

	Weights	Covariances	Variances	Means	Intercepts	Total
Unlabeled	13	0	16	0	0	29
Total	31	0	16	0	0	47

**Assessment of normality (Group number 1)**

Variable	min	max	skew	c.r.	kurtosis	c.r.
CL3	2.000	5.000	-.370	-1.509	-.189	-.385
CL2	2.000	5.000	-.079	-.323	-.443	-.904
CL1	2.000	5.000	-.376	-1.536	.165	.338
CS1	2.000	5.000	-.214	-.875	-.598	-1.220
CS2	1.000	5.000	-.259	-1.056	-.476	-.972
CS3	2.000	5.000	-.104	-.425	-.478	-.976
CS4	2.000	5.000	-.140	-.572	-.421	-.860
CS5	2.000	5.000	-.465	-1.900	-.447	-.912
Emph	2.667	5.000	-.104	-.425	-.604	-1.234
Ass	2.000	5.000	-.276	-1.128	-.210	-.430
Resp	2.000	5.000	-.536	-2.189	.427	.872
Reli	2.000	5.000	-.539	-2.202	.141	.287
Tang	2.000	5.000	-.216	-.882	.047	.096
Multivariate					19.887	5.035

**Observations farthest from the centroid (Mahalanobis distance) (Group number 1)**

Observation number	Mahalanobis d-squared	p1	p2
29	31.407	.003	.255
97	29.608	.005	.101

Observation number	Mahalanobis d-squared	p1	p2
75	28.700	.007	.036
32	27.911	.009	.015
76	27.651	.010	.004
69	27.275	.011	.001
17	27.195	.012	.000
59	26.561	.014	.000
20	25.229	.022	.000
24	22.595	.047	.019
14	22.519	.048	.008
19	20.867	.076	.075
3	20.009	.095	.153
55	19.960	.096	.099
51	18.961	.124	.258
2	18.561	.137	.295
94	18.329	.145	.281
46	18.223	.149	.230
100	18.037	.156	.210
48	17.670	.170	.252
25	17.443	.180	.251
12	16.857	.206	.402
11	16.857	.206	.312
81	16.603	.218	.334
96	15.777	.261	.639
23	15.738	.264	.570

Observation number	Mahalanobis d-squared	p1	p2
42	15.694	.266	.502
47	15.689	.266	.416
77	15.556	.274	.396
72	15.505	.277	.338
56	15.418	.282	.300
98	15.104	.301	.374
26	15.061	.304	.317
93	15.003	.307	.270
43	14.329	.351	.547
99	14.318	.352	.470
36	14.038	.371	.547
57	13.813	.387	.595
92	13.728	.393	.565
86	13.474	.412	.632
65	13.454	.413	.565
74	13.365	.420	.538
10	13.354	.421	.464
38	13.133	.438	.519
91	13.026	.446	.505
79	12.594	.480	.689
64	12.327	.501	.764
58	12.230	.509	.751
85	12.048	.524	.781
33	11.481	.571	.936

Observation number	Mahalanobis d-squared	p1	p2
1	11.465	.572	.911
31	11.194	.595	.947
27	11.055	.606	.951
49	10.992	.611	.941
50	10.985	.612	.915
88	10.859	.623	.917
22	10.608	.644	.948
78	10.525	.651	.942
18	10.468	.655	.929
87	10.363	.664	.927
63	10.242	.674	.928
71	10.157	.681	.920
39	9.543	.731	.990
82	9.456	.738	.988
52	9.447	.738	.981
30	9.327	.748	.981
73	9.315	.749	.971
53	9.258	.753	.962
35	9.228	.755	.947
44	8.957	.776	.971
60	8.900	.780	.962
62	8.738	.792	.968
89	8.653	.799	.963
80	8.525	.808	.964

Observation number	Mahalanobis d-squared	p1	p2
68	8.406	.816	.963
66	8.351	.820	.950
84	8.313	.823	.930
7	8.279	.825	.903
61	8.223	.829	.876
45	7.935	.848	.925
54	7.239	.889	.994
95	7.022	.901	.996
28	6.961	.904	.993
4	6.681	.918	.997
83	6.627	.920	.994
8	6.528	.925	.992
34	6.416	.930	.990
21	6.377	.931	.981
13	6.091	.943	.988
70	6.067	.944	.975
40	6.046	.944	.949
15	5.925	.949	.929
90	5.905	.950	.867
37	5.761	.954	.828
67	5.257	.969	.910
9	5.156	.972	.844
6	4.148	.990	.979
16	3.058	.998	.998



Observation number	Mahalanobis d-squared	p1	p2
5	2.978	.998	.983
41	1.701	1.000	.991

## Models

### Default model (Default model)

### Notes for Model (Default model)

### Computation of degrees of freedom (Default model)

Number of distinct sample moments: 91

Number of distinct parameters to be estimated: 29

Degrees of freedom (91 - 29): 62

### Result (Default model)

Minimum was achieved

Chi-square = 65.049

Degrees of freedom = 62

Probability level = .371

### Group number 1 (Group number 1 - Default model)

### Estimates (Group number 1 - Default model)

### Scalar Estimates (Group number 1 - Default model)

### Maximum Likelihood Estimates

### Regression Weights: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
Consumer_Satisfaction <--- Service_Quality	.847	.178	4.765	***	
Consumer_Loyalty <--- Service_Quality	.648	.184	3.519	***	

			Estimate	S.E.	C.R.	P	Label
Consumer_Loyalty	<---	Consumer_Satisfaction	.337	.154	2.196	.028	
Tang	<---	Service_Quality	1.000				
Reli	<---	Service_Quality	1.313	.166	7.919	***	
Resp	<---	Service_Quality	1.311	.163	8.055	***	
Ass	<---	Service_Quality	1.241	.161	7.700	***	
Emph	<---	Service_Quality	.888	.141	6.302	***	
CS5	<---	Consumer_Satisfaction	1.000				
CS4	<---	Consumer_Satisfaction	.812	.173	4.683	***	
CS3	<---	Consumer_Satisfaction	.974	.187	5.196	***	
CS2	<---	Consumer_Satisfaction	1.077	.219	4.923	***	
CS1	<---	Consumer_Satisfaction	.937	.190	4.940	***	
CL1	<---	Consumer_Loyalty	1.000				
CL2	<---	Consumer_Loyalty	1.106	.153	7.211	***	
CL3	<---	Consumer_Loyalty	.976	.170	5.751	***	

**Standardized Regression Weights: (Group number 1 - Default model)**

			Estimate
Consumer_Satisfaction	<---	Service_Quality	.708
Consumer_Loyalty	<---	Service_Quality	.559
Consumer_Loyalty	<---	Consumer_Satisfaction	.349
Tang	<---	Service_Quality	.717
Reli	<---	Service_Quality	.835
Resp	<---	Service_Quality	.850
Ass	<---	Service_Quality	.811

			Estimate
Emph	<---	Service_Quality	.663
CS5	<---	Consumer_Satisfaction	.644
CS4	<---	Consumer_Satisfaction	.576
CS3	<---	Consumer_Satisfaction	.659
CS2	<---	Consumer_Satisfaction	.613
CS1	<---	Consumer_Satisfaction	.616
CL1	<---	Consumer_Loyalty	.725
CL2	<---	Consumer_Loyalty	.825
CL3	<---	Consumer_Loyalty	.633

**Variances: (Group number 1 - Default model)**

	Estimate	S.E.	C.R.	P	Label
Service_Quality	.197	.049	3.982	***	
z1	.141	.049	2.848	.004	
z2	.076	.028	2.726	.006	
e1	.187	.030	6.286	***	
e2	.147	.027	5.374	***	
e3	.129	.025	5.151	***	
e4	.158	.028	5.654	***	
e5	.198	.031	6.481	***	
e10	.397	.068	5.854	***	
e9	.375	.060	6.214	***	
e8	.349	.061	5.758	***	
e7	.543	.090	6.035	***	

	Estimate	S.E.	C.R.	P	Label
e6	.405	.067	6.020	***	
e11	.238	.042	5.601	***	
e12	.151	.036	4.203	***	
e13	.376	.061	6.190	***	

**Matrices (Group number 1 - Default model)**

**Total Effects (Group number 1 - Default model)**

	Service_Quality	Consumer_Satisfaction	Consumer_Loyalty
Consumer_Satisfaction	.847	.000	.000
Consumer_Loyalty	.933	.337	.000
CL3	.911	.329	.976
CL2	1.032	.373	1.106
CL1	.933	.337	1.000
CS1	.794	.937	.000
CS2	.912	1.077	.000
CS3	.825	.974	.000
CS4	.688	.812	.000
CS5	.847	1.000	.000
Emph	.888	.000	.000
Ass	1.241	.000	.000
Resp	1.311	.000	.000
Reli	1.313	.000	.000
Tang	1.000	.000	.000

**Standardized Total Effects (Group number 1 - Default model)**

	Service_Quality	Consumer_Satisfaction	Consumer_Loyalty
Consumer_Satisfaction	.708	.000	.000
Consumer_Loyalty	.806	.349	.000
CL3	.510	.221	.633
CL2	.665	.288	.825
CL1	.584	.253	.725
CS1	.436	.616	.000
CS2	.434	.613	.000
CS3	.466	.659	.000
CS4	.408	.576	.000
CS5	.456	.644	.000
Emph	.663	.000	.000
Ass	.811	.000	.000
Resp	.850	.000	.000
Reli	.835	.000	.000
Tang	.717	.000	.000

**Direct Effects (Group number 1 - Default model)**

	Service_Quality	Consumer_Satisfaction	Consumer_Loyalty
Consumer_Satisfaction	.847	.000	.000
Consumer_Loyalty	.648	.337	.000
CL3	.000	.000	.976
CL2	.000	.000	1.106
CL1	.000	.000	1.000
CS1	.000	.937	.000

	Service_Quality	Consumer_Satisfaction	Consumer_Loyalty
CS2	.000	1.077	.000
CS3	.000	.974	.000
CS4	.000	.812	.000
CS5	.000	1.000	.000
Emph	.888	.000	.000
Ass	1.241	.000	.000
Resp	1.311	.000	.000
Reli	1.313	.000	.000
Tang	1.000	.000	.000

**Standardized Direct Effects (Group number 1 - Default model)**

	Service_Quality	Consumer_Satisfaction	Consumer_Loyalty
Consumer_Satisfaction	.708	.000	.000
Consumer_Loyalty	.559	.349	.000
CL3	.000	.000	.633
CL2	.000	.000	.825
CL1	.000	.000	.725
CS1	.000	.616	.000
CS2	.000	.613	.000
CS3	.000	.659	.000
CS4	.000	.576	.000
CS5	.000	.644	.000
Emph	.663	.000	.000
Ass	.811	.000	.000

	Service_Quality	Consumer_Satisfaction	Consumer_Loyalty
Resp	.850	.000	.000
Reli	.835	.000	.000
Tang	.717	.000	.000

**Indirect Effects (Group number 1 - Default model)**

	Service_Quality	Consumer_Satisfaction	Consumer_Loyalty
Consumer_Satisfaction	.000	.000	.000
Consumer_Loyalty	.286	.000	.000
CL3	.911	.329	.000
CL2	1.032	.373	.000
CL1	.933	.337	.000
CS1	.794	.000	.000
CS2	.912	.000	.000
CS3	.825	.000	.000
CS4	.688	.000	.000
CS5	.847	.000	.000
Emph	.000	.000	.000
Ass	.000	.000	.000
Resp	.000	.000	.000
Reli	.000	.000	.000
Tang	.000	.000	.000

**Standardized Indirect Effects (Group number 1 - Default model)**

	Service_Quality	Consumer_Satisfaction	Consumer_Loyalty
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	Service_Quality	Consumer_Satisfaction	Consumer_Loyalty
Consumer_Satisfaction	.000	.000	.000
Consumer_Loyalty	.247	.000	.000
CL3	.510	.221	.000
CL2	.665	.288	.000
CL1	.584	.253	.000
CS1	.436	.000	.000
CS2	.434	.000	.000
CS3	.466	.000	.000
CS4	.408	.000	.000
CS5	.456	.000	.000
Emph	.000	.000	.000
Ass	.000	.000	.000
Resp	.000	.000	.000
Reli	.000	.000	.000
Tang	.000	.000	.000

**Modification Indices (Group number 1 - Default model)**

**Covariances: (Group number 1 - Default model)**

	M.I.	Par Change
e5 <--> e9	4.319	-.062
e4 <--> e8	4.615	-.060
e2 <--> e9	4.156	.057
e1 <--> e12	6.369	-.054

**Variances: (Group number 1 - Default model)**



	M.I.	Par Change
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**Regression Weights: (Group number 1 - Default model)**

	M.I.	Par Change
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**Minimization History (Default model)**

Iteration	Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio
0	6		-.704	9999.000	612.921	0	9999.000
1	4		-.085	2.846	268.752	20	.329
2	1		-.061	.923	157.990	5	.766
3	1		-.009	.704	95.962	5	.880
4	0	26.530		.606	71.258	5	.874
5	0	43.198		.405	65.542	1	1.116
6	0	58.648		.157	65.060	1	1.065
7	0	64.552		.027	65.049	1	1.017
8	0	64.489		.001	65.049	1	1.001
9	0	64.489		.000	65.049	1	.998

**Model Fit Summary**

**CMIN**

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	29	65.049	62	.371	1.049
Saturated model	91	.000	0		

Model	NPAR	CMIN	DF	P	CMIN/DF
Independence model	13	615.251	78	.000	7.888

#### RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.029	.917	.878	.625
Saturated model	.000	1.000		
Independence model	.207	.315	.201	.270

#### Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.894	.867	.994	.993	.994
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

#### Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.795	.711	.790
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

#### NCP

Model	NCP	LO 90	HI 90
Default model	3.049	.000	26.523
Saturated model	.000	.000	.000

Model	NCP	LO 90	HI 90
Independence model	537.251	461.976	619.997

#### FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	.657	.031	.000	.268
Saturated model	.000	.000	.000	.000
Independence model	6.215	5.427	4.666	6.263

#### RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.022	.000	.066	.815
Independence model	.264	.245	.283	.000

#### AIC

Model	AIC	BCC	BIC	CAIC
Default model	123.049	132.602	198.599	227.599
Saturated model	182.000	211.976	419.070	510.070
Independence model	641.251	645.534	675.119	688.119

#### ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	1.243	1.212	1.480	1.339
Saturated model	1.838	1.838	1.838	2.141
Independence model	6.477	5.717	7.313	6.521

#### HOELTER

Model	HOELTER .05	HOELTER .01
Default model	124	139
Independence model	17	18

**Execution time summary**

Minimization: .016

Miscellaneous: .046

Bootstrap: .000

Total: .062

