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**SHANGHAI MARITIME UNIVERSITY**

**WORLD MARITIME UNIVERSITY**

Shanghai, China

**CUSTOMER SATISFACTION ANALYSIS IN LOADING &  
UNLOADING AT INDONESIA VEHICLE TERMINAL  
WITH SERVQUAL METHOD**

**By  
AUDY NIRSA KUSUMA**

**INDONESIA**

A research paper submitted to the World Maritime University in partial fulfillment of  
the requirements for the award of the degree of

**MASTER OF SCIENCE**

**In**

**INTERNATIONAL TRANSPORT AND LOGISTICS**

**2014**

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## DECLARATION

I certify that all the material in this research paper that is not my own work has been identified, and that no material is included for which a degree has previously been conferred on me.

The contents of this dissertation reflect my own personal views, and are not necessarily endorsed by the University.

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## **ACKNOWLEDGEMENT**

First of all, I would say thankful to the World Maritime University, Shanghai Maritime University, and Indonesia Port Corporation II as my company for giving me this opportunity to study International Transport and Logistics.

I would like to sincerely thank my supervisor Prof. Gu Weihong for all the guidance, recommendations and suggestions throughout the thesis paper that she has given to me from the beginning until the completion of this thesis.

I would also like to thank to all my professors and the Joint Educational Program Department staff (Ms Faye Jiang and Ms Fangfang Hu) for the guidance and assistant offered to me during the program and all also my classmates ITL 2014 for their hospitality and support during the year I studied.

All the respondents, management and staff of Indonesia Vehicle Terminal – thank you for your time and energy.

Parents, sister and friends in Jakarta and elsewhere, which i had to leave for the purpose of this undertaking also deserves my sincerest gratitude.

Last but not least, I am very grateful to my beloved wife Chitra, for her continue support and prayer during my studied in Shanghai. I am very grateful to my children for give me your cheerfulness despite the distance apart.

## **ABSTRACT**

Title of Dissertation : **Customer Satisfaction Analysis in Loading & Unloading at Indonesia Vehicle Terminal with Servqual Method**

Degree : **Master of Science in International Transport and Logistics**

The nature of the services is that, the customer himself involves in the process of service providing. This means that the customers preception of the quality is not only affected by the output service, but it is affected by the process of service providing as well. All companies engaged in the services would be very concerned about customer satisfaction. Indonesia Port Corporation II in the last for years very concerned about what customer needs, this has implications for corporate programs to constantly improve service quality to customers.

This study aims to assess the customer's satisfaction of the offered services quality in one of subsidiary of Indonesia Port Corporation II, Indonesia Vehicle Terminal on 2014. It is first dedicated terminal to handling vehicle cargo in Indonesia. looking at the development trend of the flow of vehicles cargo is increasing every year, making the Indonesia Vehicle Terminal has a very important positions to ease and to encourage increasing flow of exports and imports, also loading and unloading of vehicles in South Asia. Thus, this research will focus to examine the applicability of SERVQUAL's tool to Vehicle Terminal and also to evaluate the quality of port services provided by Indonesia Vehicle Terminal that is using SERVQUAL Model. Based on the background of that specific goal, the researcher is interested to analyze the level of customer satisfaction in loading and unloading services in Indonesia Vehicle Terminal, based on the SERVQUAL dimensions (Reliability, Assurance, Tangible, Empathy & Responsiveness). Whereas the application of descriptive analisis is to find out to what extent the indicators of each dimension of the quality of service meets customer expectations.

The dimensions of the quality of service is calculated using the formula:  $SERVQUAL = \text{Preception Score} - \text{Expectation Score}$ . In this regards, a sample of 100 customers was selected. To analyze the data, the reseraches used the validity test, reliability, and product moment correlation ( $r_{xy}$ ) at  $\alpha = 5\%$  and  $n = 100$ . If  $r_{xy} > r$  table then the item of question is valid, and if  $r_{xy} < r$  table then item of question is not valid and it should be terminated from the questionnaire. The reliability of the variables based on the value of resulting coefficient alpha. According to Sekaran (2003: 311) reliability coefficient closer to 1.0, the better the instrument. The reliability coefficient less than 0.60 is considered poor, in the range of 0.70 to be considered sufficient, and if greater than 0.80 is considered good.

Results from the cases analysis can be summarized as follows: customer satisfactions with service loading and unloading of Indonesia Vehicle Terminal were considered meet consumer expectations. It can be seen from the GAP Analysis most of which a positive gap of 1.86, thus the total gap is positive too. This means the customer perceived service performance in accordance with customer expectations.

Thus, simultaneously the variable tangible, responsiveness, reliability, assurance, empathy have significant effects on customer satisfaction, summing up to 62.1%, while the rest 37.9% influenced by other variables that are not observed yet in this study, such as marketing strategic in promotion and advertising.

The concluding and recommendation chapter showing In general, service users of Indonesia Vehicle Terminal for stevedoring services activities are quite satisfied with the condition and quality of service at this time. In the future to keep the best position to serve the customers, management should continuing to create innovative strategies in both terms of the implementation concept of services, facilities and infrastructure, and offering new products depending on marketing order bias to be able to continue in competing in these services.

**Keywords:** Customer Satisfaction, Service quality, Servqual method, Indonesia Vehicle Terminal

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## **Chapter 1: INTRODUCTION**

### **1.1 Research Background**

Indonesia is an archipelagic nation where two-thirds of the territories are ocean and it has a strategic location since it is located at the intersection of trade routes of the world. The growth and development of global trade in recent decades, that resulted a significant growth of marine transportation, has brought several economic opportunities for Republic of Indonesia. Nowadays, a port plays an important role in economic cycles of the country and and a huge part of deal in the global economics. A port is the most important gateway of export and import activities in the country; and important cycles in the global supplies chain. It plays a vital role in economic cycles, contributes in providing employment opportunities and brings up the income. It is an important factor in importing modern technologies, and in the economic mutation of many countries (like China and Singapore).

According to Review Maritime Transport 2013, global seaborne trade is expected to continue the positive trend from 2012 and to grow by 4.3 per cent, in 2013 (UNCTAD 2013). And ports today have arranged 90 percent of the world's trade in terms of volume (Song & Yeo 2004). In order to take a bigger part of this growing international trade, Port Corporation gradually has been given attention to port service quality by increasing some competitive advantage.

To become a more competitive port, a high level of customer satisfaction level has pursued by the port operators, because customers' satisfaction is an indispensable element of successful business (Moore et al. 1998). Delivering a high quality service is one visible way, where a company can distinguish itself from the competitors by creating a close relationship with the customers and attaining a competitive advantage (Durvasula, Lysonski & Mehta 1999). If port corporation failed to meet the customer requirements, they would lose the market share (Moore

et al. 1998). The convincing case example of the world's largest ocean carrier, Maersk Sealand has moved out their operation from Port of Singapore to Port of Tanjung Pelepas in Johor, Malaysia in 2001. Thus evaluating port services quality is critical to understand customers' perceptions and expectations of port services quality, in order to increase the satisfaction level.

Moreover, customer satisfaction is also recognized as the most important element to all commercial organizations because it will be influenced by the word –of –mouth recommendation and purchase behaviour (Berkman and Gilson 1986). As port competition has increased, customers satisfaction seem to be as a key factor in investment return, cost reduction and market share (Burch et al. 1995). Customer satisfaction can also reinforce positive opinion toward services and product, resulting in a greater likelihood where the same services and product will be bought (Assael 1987). Thus, it creates challenges for commercial organizations to maintain high level of service and to improve the quality of products and services.

Furthermore, a port plays a new role in new era since traditional transportation services can no longer fulfill the customers' demand (Noteboom & Winkelmanns 2001; Peters; 2001; Haralambadies et al.2002). The port's authorities may have to upgrade infrastructure and technology and need to provide advanced information system and inimitable service standard to the users, in order to cope with the increasing of customer satisfaction level (Tongzhen & Heng 1995). For instance, port corporation is required to put all possible transportation modes together and coordinate with the other modes of transportation to achieve the quick 'door-to-door' service and increase customer service level (Marlow and Paixiao 2003). That way, port corporation would understand port user's perception and expectation, in which is critical in light of the importance of ports to national development.

Indonesia Port Corporation II is the largest of the four State-owned companies and manages a total of 10 ports and associated facilities, including Port of Tanjung

Priok Jakarta, the busiest container and vehicles handling port in Indonesia. It connecting the markets all over Indonesia and also Asia. The company's total assets is US \$ 1 billion and the total profit for 2011 was \$ 156 million<sup>1</sup>. Nowadays the realization in the loading and unloading of finish vehicles services has grown impressively during the last decades. In 2011, the realization reached 155.024 unit vehicles and the number doubled up in 2012, where it amounted to 341.871 unit vehicles. Current loading and unloading of the vehicles is projected to reach 1.000.000 units in 2015. Thus, the procurement of ro-ro terminal facilities especially for services activities in loading and unloading vehicles cargo is needed urgently<sup>2</sup>. To meet those needs, Indonesia Port Corporation II established the subsidiary company Indonesia Vehicle Terminal, which it became the new ro-ro terminal to ease and to encourage increasing flow of exports and imports, also loading and unloading of vehicles in the future.

Figure 1-1: Graphic of Indonesia Market Motorcar Vehicles Year 2005 – 2012 (in Unit)



Source : Gaikindo (2012)

The market demand on stevedoring (loading or unloading) services is considerably

<sup>1</sup> IPC II Annual Report of 2011

<sup>2</sup> Feasibility Study On The Automobile Terminal Development Projects in Tanjung Priok Port by PCI Tokyo-Japan, 2012

high, the above image shows the high amount of vehicle unit that is using stevedoring services at Indonesia Vehicle Terminal. However, the management must be aware of some important points such as: a high competition in the globalization of today's marketplace, behind the high rate of sales growth in the loading and unloading services performed by the Indonesia Vehicle Terminal, the issues regarding levels of customer satisfaction in quality services provided by the company. Therefore, it is essential for the management of Indonesia Vehicle Terminal to evaluate the customer services quality of the roro terminal, in order to have more understanding of the customer's expectation and being a successful port corporation. There are several evaluation models that have widely used for evaluation of services industry.

Miremadi, Ghalamkari, Sadeh (2011:59) is one of researcher that analyzed the level of customer satisfaction by using the concept of the SERVQUAL at the seaport in Iran. The concept of service quality dimensions in such research using five dimensions i.e. (tangible, responsiveness, assurance, empathy, reliability), because according to Miremadi, Ghalamkari, Sadeh (2011:58) the fifth dimension is particularly relevant when applied to the port industries. Pantouvakis (2006:6) analyzed the port quality service dimensions by using the dimension concept of corporate quality, interactive quality, the physical or technical quality and the security. Meanwhile, Shanaki, Ranjbar, Shakhsian (2012:58) found out that service quality has a different impact on Relational Capital and Relational Performance depending on the size of the company, the service quality is measured using three-dimensional quality of service (servitization), which consists of full-system packaged services, business process oriented services and technique application integrated services. Referring to several studies about the quality of service above, it shown that the measurement of service quality dimensions and the measurements are different between one researcher to another, it is associated with the goals and

direction of the research study. However, the related literatures to measure the external container terminal management from customer's point of view to increase customer services level has not been widely contributed in port industry. Thus, this research aim to examine the applicability of SERVQUAL's tool to Vehicle Terminal and also to evaluate the quality of port services provided by Indonesia Vehicle Terminal that is using SERVQUAL Model. Based on the background of that specific goal, the researcher is interested to analyze the level of customer satisfaction in loading and unloading services in Indonesia Vehicle Terminal, based on the SERVQUAL dimensions.

## **1.2 The Research Problem**

Based on the background of the above issue, hence obtained the subject matter research as follows:

1. The level performance of customer satisfaction in loading and unloading (stevedoring) services at Vehicle Terminal of Indonesia, a review of the results gap between perceived customer satisfaction on the levels of expectations and customers' interests?
2. The influence of service quality (reliability, responsiveness, tangible, assurance and empathy) against the customer satisfaction on the services in loading and unloading of Vehicle Terminal Indonesia
3. Effective strategies to be carried out by the Vehicle Terminal of Indonesia in order to improve customer satisfaction.

## **1.3 The Objective Research**

In accordance to the research issues above, the objectives of this research are:

1. To analyze the extent to which the level performance of customer satisfaction in loading and unloading services at Vehicle Terminal of Indonesia, in terms of

the results gap between consumer satisfaction on the level of expectation and customers interests.

2. To analyze the effect of service quality (reliability, responsiveness, tangibles, assurance and empathy) against the customer satisfaction on the services in loading and unloading of Vehicle Terminal of Indonesia.
3. To analyze the implementation of effective strategies in order to improve customer satisfaction in the loading and unloading services Vehicle Terminal Indonesia.

#### **1.4 The Expected Contribution**

This research is expected to give some input, information, and some consideration in decision making, especially in an attempt to improve the company's customer satisfaction in the stevedoring services. Hopefully, this study might assist the Indonesia Vehicle Terminal to develop strategic market and to build strong relationship with their customers, and also hopefully this study may help to add literatures that related to vehicles terminal study since not many literatures doing research on port marketing strategy.



## **Chapter 2: LITERATURE REVIEW**

This chapter will present some academic literatures related to the research of Terminal RoRo operation focusing in loading and unloading services, along with definition of marketing, services, characteristics and dimension of servqual, level of service on customers' satisfaction and also startegic service analysis will be discussed, as reference.

### **2.1 RoRo Terminal Operation**

RoRo terminal has transformed into a terminal that plays a major role in automobile transportation services. Fusco (2010) defined a RoRo terminal as 'pure terminal' when the ships only carry trucks, semi-trailer or platform, and other rolled cargo but excludes those terminals specializing in ferries (where rolled cargo is combined with passengers) or automobiles (when the good to be transported moves by its own means). Meanwhile, Henesey et al. (2003) explained that the operation of the terminal can be divided into four major sub-systems, which are largely depending on different physical areas in the terminal: loading/unloading from/to ship to/from shore; transfer (from berth to storage area); storage; and delivery and receiving. All depending on the kind of traffic or terminal being dealt with. However, since this paper only concerns in loading and unloading of RoRo terminals, so this study will only focus on delivery and receiving area. Furthermore, Henesey et al. (2003) said that RoRo terminals are characterized by, among other aspects, the shorter stay of the platforms in the terminal's premises, as well as the unique feature that the cargo can move by its own means.

The principle of operation system in RoRo terminal and container terminal basicly is quite similar. The activity of ship-shore operation is loading or discharging operation. One of the ship-shore operation objectives is to increase the productivity

in order to reduce the turnaround time of ships at the port (Sauri et.al, 2012) describing the stevedoring process in the RoPax terminal as follow:

- Unloading Process (from sea to land), when the ship is berthed and customs gives its approval, the unloading process starts. The typical unloading process begins with the vehicles driven by their own drivers: passenger automobiles, trucks, buses, and so on. The trucks and vehicles unloaded at this stage go directly to the exit gates of the terminal or parking in the storage yard. After that, the unloading process starts for all the vehicles/freight driven by the stevedoring team (i.e. hands): platforms/semi-trailers and whole vehicles (i.e. cars, vans, etc.).

- Loading Process (from land to sea)

The cargo to be loaded on vessel arrives at the terminal, either by road or railroad. Once the cargo arrives at the terminal, then it is parked at the yard, waiting to be loaded on board. The passengers on board may access through fingers or by means of the stern access gate.

Meanwhile, Guan (2009) notes the yard operation serves as a buffer to support both the quay side operation and receiving-delivery operation. It also provides the critical interface function between water transport and land transport. The yard operation involves as follow : Space allocation for import-export. Sorting, stacking and unstacking of the cargo. The objectives of the yard operation are two-folded: minimizing truck turnaround time and providing adequate support for vessel operation (high productivity). RoRo Terminal offers Pre Delivery Inspection (PDI) to the cargo owner to ensure the quality of each cargo before get exported, as added value benefit to the customers. The other difference in cargo handling between container terminal and RoRo Terminal is on the operating system, most cargos with a driver or self drive cargo does not need to use special equipment to transfer the cargo, only particular cargo does need it, such as spare parts vehicle or break bulk cargo would need to use RoRo ship for the transportation. The service

quality of the cargo in the RoRo terminal is very important, all RoRo terminal stakeholders should be involved to avoid the cargo getting damaged during the handling activities at the terminal, by following the rules and guidance from Terminal Authority. According to D.C. Mattfeld and H. Kopfer (2002). Terminal operation in vehicle transshipment significantly differs from container transshipment, that is typically supported by rule-based control systems. First, container flows are strongly fragmented, whereas vehicle flows have much in common with bulk cargos. Secondly, containers may be relocated several times during their stay at the hub. Due to the danger of damage resulting to the vehicles, the practice of relocation is avoided at vehicle hubs. Third, containers can be stacked on top of another, resulting in making more storage space, whereas vehicles can't be done, That is why RoRo terminal requires a larger storage area than container terminal.

## **2.2 Definition of Services**

Nowadays, service plays a dominant role in any economic activities. Industrial development has experiencing the transition by moving into combining between the manufacturing sector and service sector, where global economic grows followed by the success in the industry that is supported by strong service sectors.

Zeithaml et al (2006:4) defining service, as all economic activities which output is not in physical product or construction, but generally consumed at the time, it produces and provides added value in some forms (such as convenience, amusement, timeliness, comfort, or health) that are essentially intangible concern of the purchaser.

While in a broader sense, service covers the whole economic activities, in which the output produced is not physically shape, but in general it is consumed along with the production, and provides a set of values (good, fun, punctuality, comfort, health) that are essentially intangible which refers to the first purchaser.

### **2.3 Service Characteristic**

The main characteristic that distinguish the services to the product is the nature of services are not discernible (not real) besides the active involvement of consumers in the services conveyance's process. The role of human force, in this case, the contact personnel, is very important because they determine whether the conveyance services work out or not (Zeithaml et al, 2006:21).

There are four main characteristics of services (Zeithaml et al, 2006:22), i.e.:

1. Intangibility, services are intangible. Not just as a physical product, service cannot be seen, felt, heard, palpable, or smelled before services were purchased.
2. Heterogeneity, services varying greatly, it is depending on to whom it provided for, as well as, when and where services were rendered.
3. Inseparability, services are generally produced and consumed simultaneously. Different from physical goods that are manufactured, stored in the inventory, distributed through a variety of sellers, and then consumed. If someone provides services, then the service provider is part of that service.
4. Perishability, services cannot be kept. The nature of that service that is easy to vanish and it is not a problem if the demand remains. If demand fluctuating, then the providers would face some complicated problem.

### **2.4. Port Terminal Service Quality**

Quality has been defined as 'superiority or excellence' (Zeithaml 1988, p.3).

Service quantity has been defined as a 'multiple-item scale for measuring consumer perceptions of service quality or exceeded customers' expectation' (Parasuraman et al. 1988, p.1). The complexity of the concept and understanding the quality service are the reasons for the needs to define various dimensions and attributes of service quality and efforts (Parasuraman et al. 1985).

According to previous services marketing literatures, services quality is one of the

critical factors in developing a port to meet liner's satisfaction. Some ports have shifted to pay attention to port service quality as the competition for trans-shipment cargo has increased (Lobo & Jain 2002). It is because now the customers have more ports selections. Evaluating port services quality can give better understanding to know the customers expectation and perception of port services and to avoid losing the existing customers. For instance, the Authority of Port Singapore had loss their main customer- Evergreen Marine Corp, where it shifted more than 90 percent of Evergreen's annual businesses to the port in Malaysia, since 2002 (Singapore window 2002). The reason it happened was because APS did not really understand the customer perceived services and failed to provide the expected services. In general terms, perceived service quality has been defined as the customers' judgment of service superiority.

Hence, evaluating port services quality is one way to know the quality of the perceived services.

## **2.5 Determinant of Port Terminal Quality and Service Quality Model**

Defining determinants of service quality is critical, in order to understand the effect of buyer's perception on the service obtained (Buttle 1996). The determinants of port services quality have been widely discussed in the previous studies, which shown that it has theoretical relation with SERVQUAL model.

### **2.5.1 Tangibles**

The explanation of 'Tangibles' is to measure the appearance level of the facilities, equipment, personnel and communication material at the port (Parasuraman, Zeithaml & Berry 1988). Some determinants of choosing the ports matched with this dimension. It includes 'port operation efficiency levels', 'depth of the navigation channel', 'technology base' that will affect the port services quality. Other factors of port choice presented in the research of Murphy, Daley and Dalenberg (1987) including namely load and unload facilities, accommodation for

large volume shipments equipment availability and information on the availability. The 'availability information' is also shown in the research of Kolanovic, Skenderovic and Zenzerovic (2008). These determinants matched with the statements of 'Tangibles'. Therefore, the dimension of 'Tangibles' can be applied in measuring quality of port services,

### **2.5.2 Reliability**

The dimension of 'Reliability' is used to evaluate the level of port services that is dependable and accurate (Parasuraman, Zeithaml & Berry 1988). This statement implies similarly matching determinant of port choice including 'reliability of port operation' and 'landside accessibility' (Tongzon & Wu 2005). As the safe access to port facilities from inland transport system required by port users, 'landside accessibility' is an important factor to evaluate port services quality (Tongzon & Wu 2005). Other determinants of port choices include 'reliability of port security' and 'port reputation' in which also matched with the statement of 'Reliability' (Murphy et al. 1987). As a result, the dimension of 'Reliability' can be applied in measuring quality of port services,

### **2.5.3 Responsiveness**

Evaluating the level of willingness to help customs and provide prompt services is the statement of 'Responsiveness' (Parasuraman, Zeithaml & Berry 1988). Some determinants in choosing the ports matched with this statement. Firstly, 'frequent convenient pickup' and 'delivery time, 'flexibility in meeting special handling requirements' were found in the research of Murphy, Daley and Dalenberg (1987). This attribute can be put under 'Responsiveness' since the meaning can be concluded as 'providing prompt services' matched with the statement in 'Responsiveness'. Other determinant includes 'adaptability to the changing market environment' (Tongzhen & Wu 2005). The port should show flexibility in fulfilling the customer requirements by trying to adapt according to changing market

environment which matched with ‘responsiveness’ dimension. Also, providing ‘frequent services’ that can increase the speed of respond to customers also matched with description of ‘responsiveness’ (Murphy & Daley & Dalenberg 1987). The dimension of ‘Responsiveness’ can be applied in measuring quality of port services

#### **2.5.4 Assurance**

The dimension is used to evaluate the level of courtesy and knowledge of personnel at the port (Parasuraman, Zeithaml & Berry 1988). Thus, determining the quality of port services is by looking for the professional personnel, which matched to one of the determinants of port choice- ‘skilled people’ presented in the research of Tongzon and Wu (2005). Thus, the dimension of ‘Assurance’ can be applied in measuring quality of port services.

#### **2.5.5 Empathy**

This dimension is used to measure the level of individual attention that is given to customers (Parasuraman, Zeithaml & Berry 1988). In research of Murphy, Daley and Dalenberg (1987), they found out that the determinant in choosing a port including assistance in demanding handling and better customer communication services. The port services quality can be evaluated by these two elements since it could influence customer’s satisfaction towards quality of port services. These two elements are matched with statement of ‘Empathy’.

### **2.6 Application of SERVQUAL to Port Terminal Service Quality**

SERVQUAL is rarely applied in maritime area because only few previous studies presented it. One of the examples can be found at container terminal Malaysia (Kaleappan, 2004). The result showed that port container terminal services quality level is lower than customer’s expectation at the container terminal. The authors have also proved that the dimensions –‘responsiveness’ and ‘tangibles’ on the

ratings are stronger than 'empathy' (Kaleappan, 2006). Besides, 'reliability', 'assurance' and 'responsiveness' are determinants to overall perceptions of port service quality (Kaleappan, 2006). These results gave some advises and suggestions for port managers, that can be used in improving container terminal services quality. They are suggested to pay more attention in providing more prompt services and increasing staff's willingness to help customer to solve the problem (Kaleappan, 2006). Furthermore, low response rate impedes external validity and single industry-port survey may increase doubts about the generalizability of the results (Kaleappan, 2006).

Other successful example is at passenger port where 500 passengers of Piraeus Passenger Port in Greece were surveyed. The result showed that the 'physical' (tangible - infrastructure) is more important than 'interactive' (empathy - personal service) components (Pantouvakis, Chlomoudis & Dimas 2008).

However, some authors have concluded that other dimensions, excluded SERVQUAL, are also important in measuring port services quality, which have not been identified in the previous research (Kaleappan, 2006). One of the examples is in Durvasula, Lysonski and Mehta's research (1999). They found out that discriminant validity tests have not support the five-factor model of SERVQUAL and presented two-factor model (tangibles and intangibles, which are combined into one factor) and three-factor model (responsiveness, assurance and empathy are combined into a single dimension). It implies that the SERVQUAL can't be applied yet to measure the port service quality. But, Parasuraman et al. (1994) responded that SERVQUAL can be refined through empirical testing to provide the general test of overall service quality



## **2.7 Satisfaction**

Satisfaction is a relative post consumption evaluation of perceived quality to expected quality (Rust & Oliver, 1974). As stated by Brown and Swartz (1989), satisfaction occurs when outcome meets or exceeds the client's anticipated outcome and actual outcome. Satisfaction and dissatisfactions often viewed as opposite ends of a continuum, with disposition being determined as a result of comparison between expectations and outcomes (Oliver, 1980).

Customers often give satisfaction or dissatisfactions judgments by assessing the exchange relationship with the service providers. If the process of settling conflicts or problems is not appropriate, the customers are likely dissatisfy (Garrett & Mevers, 1996). Satisfaction is an experience-dependency construct and service quality alone does not require customer to go through experience. If the scale seeks respondent's assessment of their perceived service experiences, it is essentially measuring satisfaction rather than service quality (Danaher & Haddrell, 1996). Although satisfaction applies to both tangible and intangible goods, this study emphasizing on the service setting, where the concept has been the subject of investigation in many studies. Many authors gave a highlight that service quality and satisfaction are distinct constructs. The expectancy/disconfirmation paradigm in process theory provides the grounding for the vast majorities of satisfaction studies and encompasses four constructs:

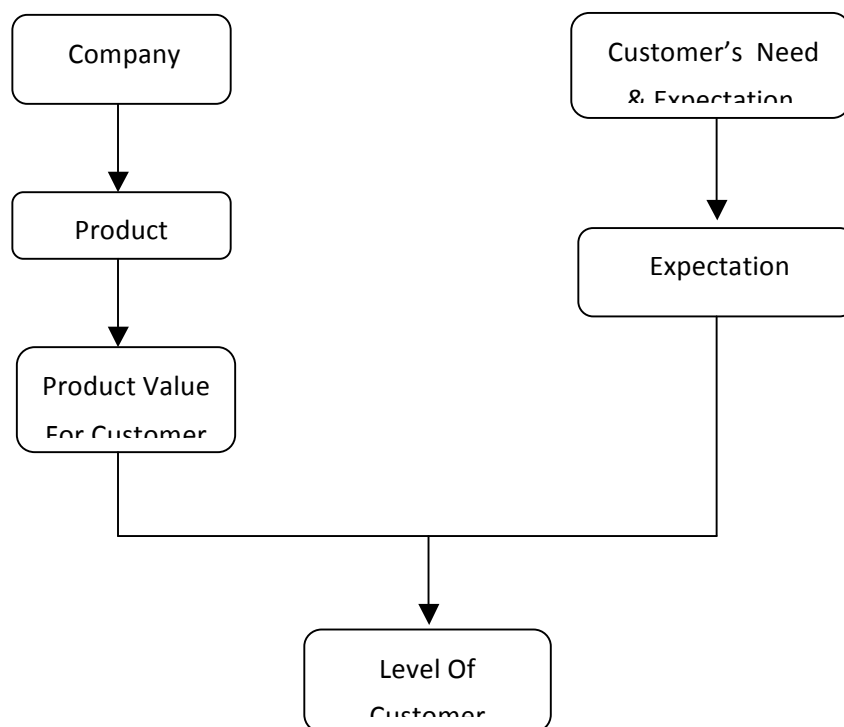
1. Expectations
2. Performance
3. Disconfirmation
4. Satisfaction

Disconfirmation arises from discrepancies between prior expectations and actual performances. There are three possibilities: zero disconfirmation can be achieved when the product performs as expected; positive disconfirmation can occur when

the product performs better than expected; and negative disconfirmation is resulted when the product performs below expectations and then dissatisfaction sets in (Yi 1990). In operational, satisfaction is similar to an attitude, as it can be assessed as the sum of the satisfaction with various attributes of the products or services (Churchill & Surprenant, 1982). However, attitude is a pre-decision construct, satisfaction is a post-decision experience construct (La Tour & Peat, 1979). Satisfaction could be considered in two levels: the transaction or encounter level and overall satisfaction (Bitner & Hubbert, 1994).

## 2.8 Consumer Satisfaction Level

Basically the customer satisfaction and dissatisfaction on the product will result with the subsequent behavior patterns. The customers show this pattern after they received their service process (Kotler, 1997 in Lupiyoadi & Hamdani, 2008: 1994).

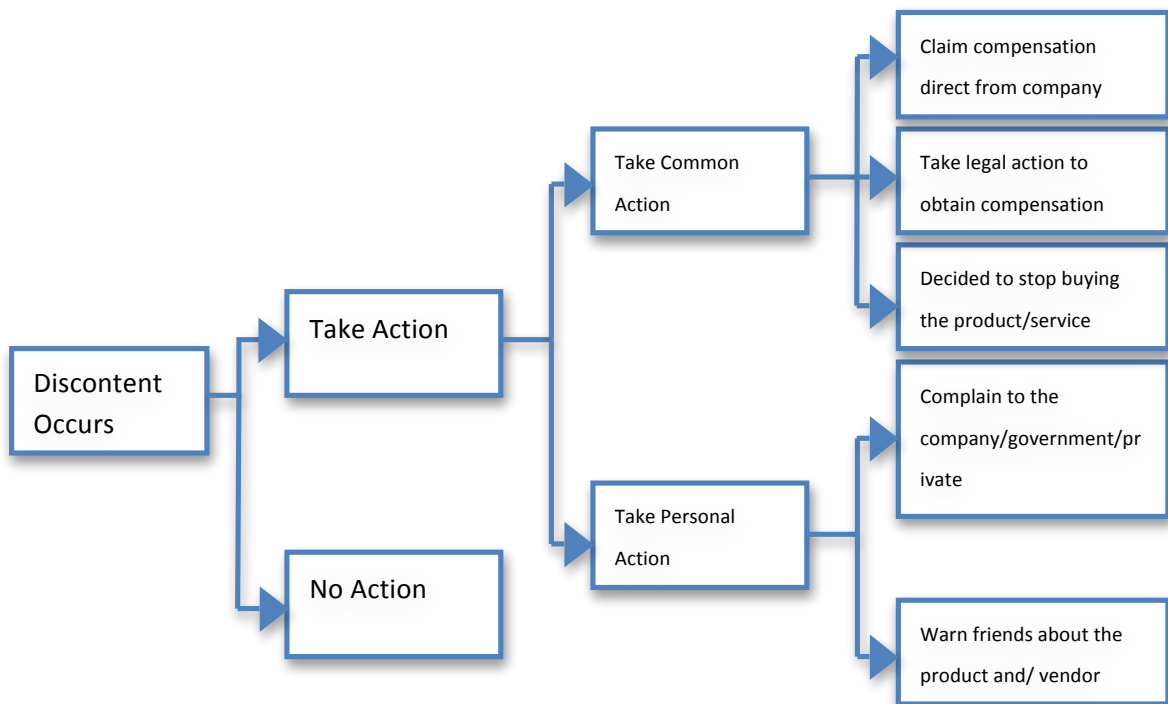


When customers satisfied, they will show immensity likely to come back to buy the

same products. Customers who discontinued are also more likely to give good reference about the products to others. While customers who are not satisfied, they might return the product, or in extreme way, they might file a lawsuit against the company through an Attorney (See Figure 1-2). This must be anticipated by the company, because we all know that disgruntled customers could damage the company's image. The company should have a way to minimize the number of disgruntled customers after the purchase process occurred.

Figure 2-2:

A Variety of Alternative Actions Consumers Due To Discontent



Source: Philip Kotler, Marketing Management, Prentice Hall, 8<sup>th</sup> edition, p.200.

According to Philip Kotler (2012:64), there are four methods performed by the company to determine the level of customer satisfaction:

1. Complaint and suggestion system

Some companies that dealing with customers, provide a box to collect suggestions and complaints from the customers. Other companies give an envelope for customers to write down their complaints, suggestions and critics, and then send the envelope back to a returned address of the company. These suggestions could also be submitted via comment cards, customer hot lines or drop in suggestions box. These information would give the company some ideas and inputs, so the companies could anticipate and quickly respond to critics and suggestions.

2. Customer satisfaction survey

Customer satisfaction survey can be conducted by post/mail, telephone, or personal interviews. With this method, the company would create a two-way communication and shows their concern to the consumers.

3. Ghost Shopping

In this method a company would ask certain people to go in as a buyer to another company or even to that company itself. These mystery shoppers would go around the company to take note and then give a report regarding the strengths and the weaknesses of services that they experienced. Ghost shoppers should report everything that could be useful, so the management could get some inputs for consideration in making decisions. This method is also used to determine the strengths and weaknesses of other competitors and to compare them to the ones that related to the company.

5. Lost Customer Analysis,

In this method, the company is trying to contact their lost customers. They would ask some questions, to find out the reason they stopped coming and

buying or consuming the product, or if they buy the product from another company. By contacting them, the company would obtain some information that can be used to improve their performance. That would minimize the chance to lose a customer to another competitor's companies, or even better if could get their business back. The level of lost customers indicated the company's failure to satisfy the consumers. Company should analyze and understand why these customers to stop using or consuming their products.

The loading and unloading services and discharging services at Indonesia Vehicle Terminal in this study using five dimensions of service quality which are: *Reliability, Assurance, Tangible, Empathy, and Responsiveness*. These are the five variable qualities of services that will be used in measuring the level of customer satisfaction.

The dimension of the quality of service is calculated by using a formula:

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

Or :

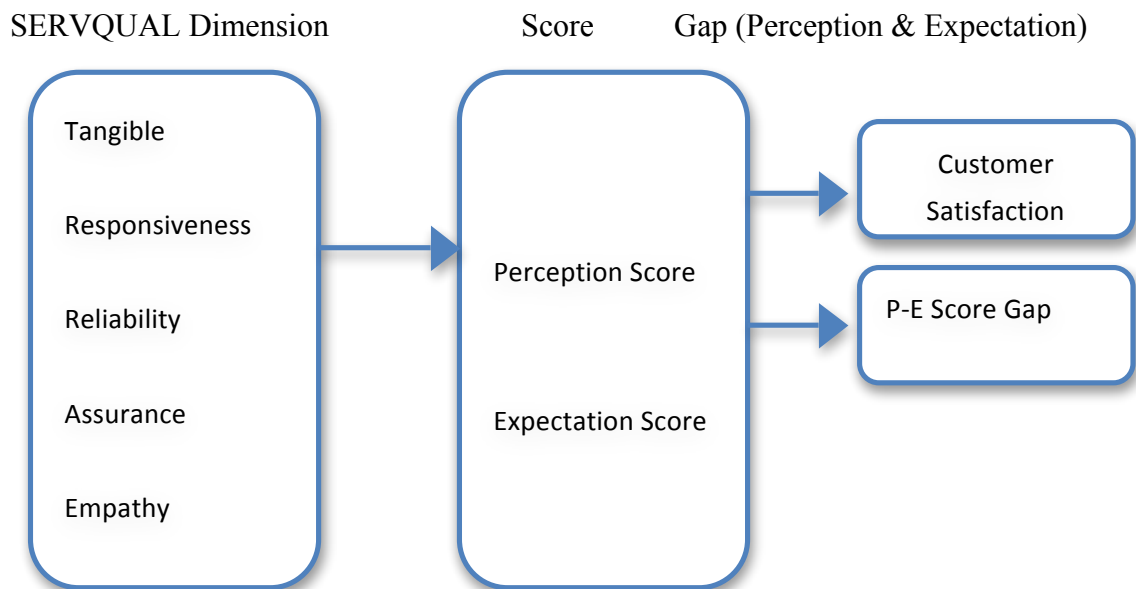
$$Q = P - E$$

Where the perceived quality (Q) as the degree and direction of discrepancy between consumer's perceptions and expectation'. Perception (P) is defined as customer's confidence with regard to services received or experienced. While the Expectation (E) is defined as consumer desires, i.e. what they feel (and not going) offered by service providers. Tjiptono & Chandra, (2005: 148).

## **2.9 Theoretical Model**

After literature review, SERVQUAL scale proved that it can be properly applied in measuring service quality and the level of customer satisfaction, since determinants of port terminal service quality matched with five dimensions of SERVQUAL model in Figure 1-3:

The Theoretical Models of SERVQUAL DIMENSION, Customer Satisfaction Score, and Gap Between Perceptions and Expectations



Source: Compiled by author

Conceptual Definition:

1. Tangibles: This dimension includes the physical facilities, equipment, cleanliness and comfort, and infrastructure support.
2. Reliability: This dimension describes the ability of company to perform services according to what they promised, in accurately, immediately and satisfying.
3. Responsiveness: This dimension describes the company's ability to help customers and availability to serve customers well.
4. Assurance: This dimension describes knowledgeable officers with great courtesy, and reliable, so the employees are free from risk.
5. Empathy: This dimension describes the sense of caring to give individual attention to customers; understanding customer's needs, as well as easy to be reached out.
6. Perception score: explains how consumers feeling over for the services

received.

7. Expectation score: explains the level of expectation or the interests of customers on how the services should be accepted.
8. Gap: The gap between perceived value and the expected value or the difference between the perception scores and expectation scores.

The hypothesis can also be established as below:

Ho: service quality tools (e.g. reliability, responsiveness, tangibles, assurance and empathy) no effect on the level of customer satisfaction.

Ha: service quality tools (e.g. reliability, responsiveness, tangibles, assurance and empathy) affected the level of customer satisfaction.

## **Chapter 3: Research Methodology**

The present study investigates the satisfaction level of the Indonesia Vehicle Terminal's users. Thus, this chapter will elaborate the methodological details of the study. It consists of research design, measurement of the variables, instruments, data gathering, data analysis and expected outcomes of the study.

### **3.1 Research Design**

The purpose of this study is to find out regarding the satisfaction level among the users of Indonesia Vehicle Terminal based on the service dimensions of service quality. It will also explore the influence of the service qualities to the level of satisfaction of Indonesia Vehicle Terminal's users in loading and unloading services. Whereas the application of descriptive statistics is to find out to what extent the indicators of each dimension of the service quality meets the customer expectations. Thus, it is expected to help the company's management in effort to fix the dimension of quality service that considered still far from the customers' expectations, as well as to maintain the existing service dimension to finally meet the expectations of customers.

### **3.2 Population and Sample**

The populations in this study are mainly Indonesia Vehicle Terminal users such as shipping agents, forwarding agents, and others. For example: the participants who use the service that provided in loading and unloading handling. The questioners are distributed personally at the Indonesia Vehicle Terminal.

### **3.3 Operationalization Concepts**

To perform the measurement variables, then it needs to be defined conceptually in



operational as follows:

Table 3-1: Measurement of Operational Variables

VARIABLES	DIMENSIONS	INDICATORS	SCALE
Service Quality To consumer expectation	Tangible	This dimension is described by physical facilities, cleanliness and comfort, facilities and infrastructure to support	Likert
	Responsiveness	This dimension is described by the company's ability to help customers and availability to serve customers well	Likert
	Reliability	This dimension is described by the company's ability to perform the promised service in accordance with accurate, immediatly and satisfactory	Likert
	Assurance	This dimension is described by the knowledgeable officer with courtesy, and reliable so that the customer free from risk	Likert
	Empathy	This dimension is described by a sense of caring to give the attention individually to	Likert

		customers, understanding customer needs, and easy to be reached	
Consumers Satisfaction	An assessment provided by the consumer after the use of loading and unloading services	Feeling Satisfied Service Quality Loyal Recommendation	Likert

Source: compiled by author

### 3.4 Data Analysis Method

#### 3.4.1 Data Validity Test

High validity instrument is running according to the purpose of measuring function in performing such measurements. Cooper (1996)<sup>3</sup> explained that the validity of the instrument indicates the quality of the overall process data collecting in a study. Validity of the calculation is done with the product moment correlation. Product Moment correlation methods which correlate to the value of each item with the total value of the item. The test is done by comparing the product moment correlation ( $r_{xy}$ ) with the  $r$  table value at  $\alpha = 5\%$  and  $n = 100$ . If  $r_{xy} > r$  table then the item of question is valid, and if  $r_{xy} < r$  table then item of question is not valid and it should be terminated from the questionnaire.

#### 3.4.2 Data Reliability Test

Reliability is an index that indicates the extent measure of how trustworthy or reliable. Measurement considered reliable, if it shows no signs of bias or error and ensure consistency of measures over the time. According to Malhotra (2004: 167)<sup>4</sup>, reliability is a condition in which a scale produces consistent results if repeated measurements performed. In this research the reliability test measured using alpha

<sup>3</sup> Cooper, Donald R., (1996), *Business Research Method*, 5<sup>th</sup> Edition. Jakarta: Erlangga.

<sup>4</sup> Malhotra, Naresh K., (2004). *Marketing Research: An Applied Orientation*. 4<sup>th</sup> Edition, New Jersey: Pearson Education Inc

coefficient or *Cronbach's alpha*. The reliability of the variables based on the value of resulting coefficient alpha. According to Sekaran (2003: 311) reliability coefficient closer to 1.0, the better the instrument. The reliability coefficient less than 0.60 is considered poor, in the range of 0.70 to be considered sufficient, and if greater than 0.80 is considered good<sup>5</sup>.

#### **3.4.4 Data Analysis Techniques**

Techniques of data analysis deals with the calculation techniques will be used in the analysis of the collected data. Data analyzed with descriptive statistics and inferential by using a statistical software program SPSS version 15. Data is processed by using the likert scale measurement techniques. Likert scale is a scale that would indicate the form of agreed and disagreed answers from the respondents over some statements and questions . This kind of scale gives a number or value of an object, so that the characteristics of the object can be resized. Method of measurement using the likert scale consists of five ranges of answers. Categorization of the answers is described as follows:

1 = strongly disagree

2 = disagree

3 = average

4 = agree

5 = strongly agree

Furthermore, the collected data will be describing the calculation process by first determining the class interval, with the following formulation:

$$\text{Interval} = (\text{highest value} - \text{lowest value}) / \text{number of classes} = (5-1) / 5 = 0.833$$

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<sup>5</sup> Sekaran, Uma., (2003), *Research Methods for Business: A Skill Building Approach* 2<sup>nd</sup> Edition, John Wiley and Son, New York.

From the results of the interval calculation, then determined the span of the scale, so it can be put into a value categorization of who describes tiers of or ranking over the result of questionnaire responses over a list of questions on the services in loading and unloading that provided as follows:

Table 3-2: Interpretation Mean Value

<b>Mean Value (x)</b>	<b>Interpretation</b>
$1 \leq x < 1.8$	Very Low
$1.8 \leq x < 2.6$	Low
$2.6 \leq x < 3.4$	Average
$3.4 \leq x < 4.2$	High
$4.2 \leq x < 5$	Very High

Source: calculated by author

Stages of quantitative statistical analysis in this study conducted in four phases, namely:

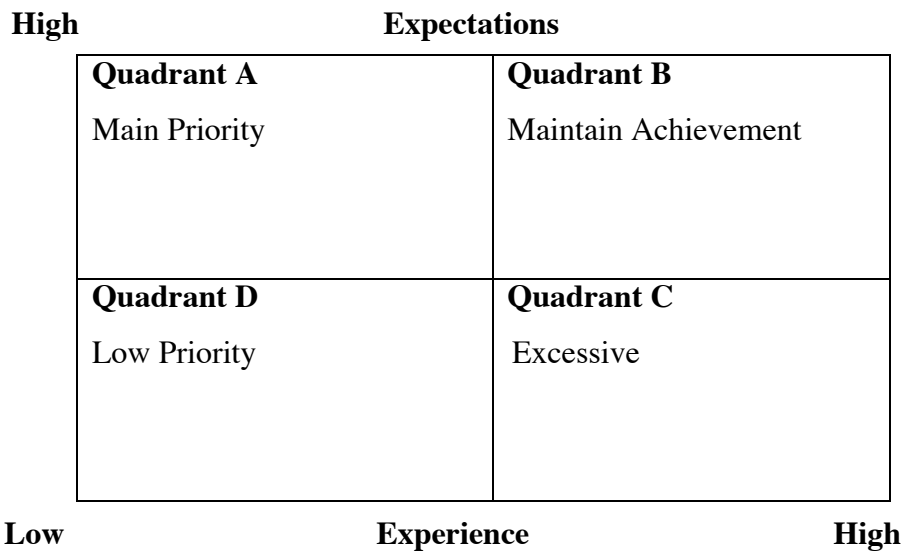
1. Calculate the total score of each respondent's answers or the question of indicators for each dimension in the loading and unloading services at Vehicle Terminal of Indonesia, so that customers know to which extent the level of satisfaction would be felt.
2. Calculate the average value of perceptions and expectations for any questions you have in the dimensions of service quality (SERVQUAL), so can find out the extent of compliance or a gap between perceptions and expectations of customers and the gap between perceptions and expectations of customers in loading and unloading services at Vehicle terminals of Indonesia.
3. Make a diagram analysis of *Important Performance Analysis* (IPA), to know the priority and necessary factors of service quality to be followed up in order to improve the quality of loading and unloading services at Vehicle Terminals

of Indonesia.

4. Perform linear regression analysis to see how the service quality influences the customer satisfaction's level in the loading and unloading services at Vehicle Terminal of Indonesia.

Furthermore, to investigate the factors that need to be prioritized and yet overlooked by management. Then do an analysis using the Important Performance Analysis (IPA) as shown in the figure below:

Figure 3.1: Importance and Performance Diagram



Source: Majid (2009)

Explanation Figure 3-1:

Quadrant A: this quadrant indicates the factors or attributes that considered affecting the customer's satisfaction, including those elements that considered essential services but the management or the company has not yet implement it appropriately according to the customer's wishes, which makes the customers disappointed or unsatisfied.

Quadrant B: this quadrant shows the basic service elements that have successfully implemented by the company. This factor must be maintained because the elements

or attributes are considered very important and satisfying the customers.

Quadrant C: shows the factors that affect the customer is less important, but implementation is excessive, this considered less important but very satisfying to the customers.

Quadrant D: shows several factors that have less important influences to the customers and this implemented by mediocre companies, because it is considered less important and less satisfying to the customers. Majid (2009:170).

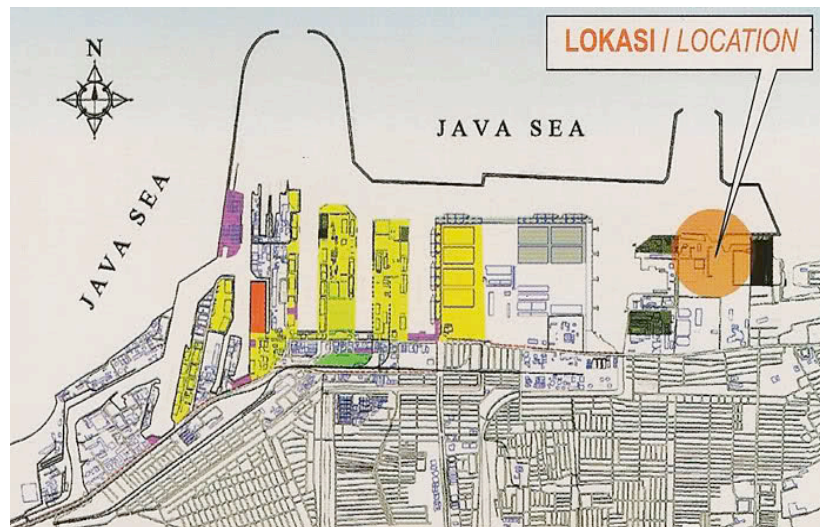
## **Chapter 4: Overview of Indonesia Vehicle Terminal**

This chapter gives an overview and evaluation of the Indonesia Vehicle Terminal's profile based on the existing condition of vehicle terminal, because the study was conducted at this unit.

### **4.1 Indonesia Vehicle Terminal Background**

The growth's flows in loading and unloading of vehicles interislands and international at port of Tanjung Priok showing a significant improvement every year. Projected flows in 2014 will be increased 40 percent (based on feasibility study the Association of Indonesia Automotive Industries). Thus the provision of terminal facilities in loading and unloading activity service vehicle is needed urgently.

Car Terminal Indonesia was inaugurated by the Vice-President of The Republic Indonesia on Nov. 28th, 2007. Car Terminal is operated by Indonesia Port Corporation II and formalized the establishment the first dedicated car terminal. In 2013, it officially became a subsidiary of the Indonesia Port Corporation II, then the name of car terminal Indonesia changed into vehicle terminal, which based on the increasing number of ro-ro ships that carry vehicles and heavy equipment or trucks unload at the port, especially Vehicle Terminal. The dock is structured and now running with berth-window system. The entire operation is supported by the utilization of modern information technology in electronics, including the identification vehicle with barcodes. In 2011, Indonesia Vehicle Terminal got an achievement as the best stevedoring company in Southeast Asia and also became 10 biggest shipping line around the world to serve ships also cargos. The Achievement was given, with consideration of the performance, safety and skilled labors.



Source: <http://www.indonesiaport.co.id/read/terminal-mobil-tanjung-priok.html>

Indonesia Vehicle Terminal also has certificate ISO 9001: 2008. It is very important to have a safe operation at RoRo terminal due to high value cargos, Indonesia Vehicle Terminal also have an agreement with shipping lines in supervision the safety for both, inside the vessel and also in the yard area.

#### **4.2 Development Plan**

Indonesia Vehicle Terminal is planning to expand the storage capacity, by increasing parking capacities in the building from three storey to five storey, and expected to add another 800 slots CEU (Car Equivalent Unit) by adding 2 level storey. The management is also planning to expand 22 hectares land side towards the west side terminal, which still in the progress. The management is collaborating with shipping lines to use the new storage yard as the hub transshipment. Management of CTI also have mission to become the biggest logistic center for automobile in Southeast Asia because it is a very promising opportunity. The loading passenger car cargo onto vessel with performance indicator at around 220 units car per hour, while unloading is faster with 280 units car per hour. From the performance point of view, Indonesia Vehicle Terminal has a similar performance

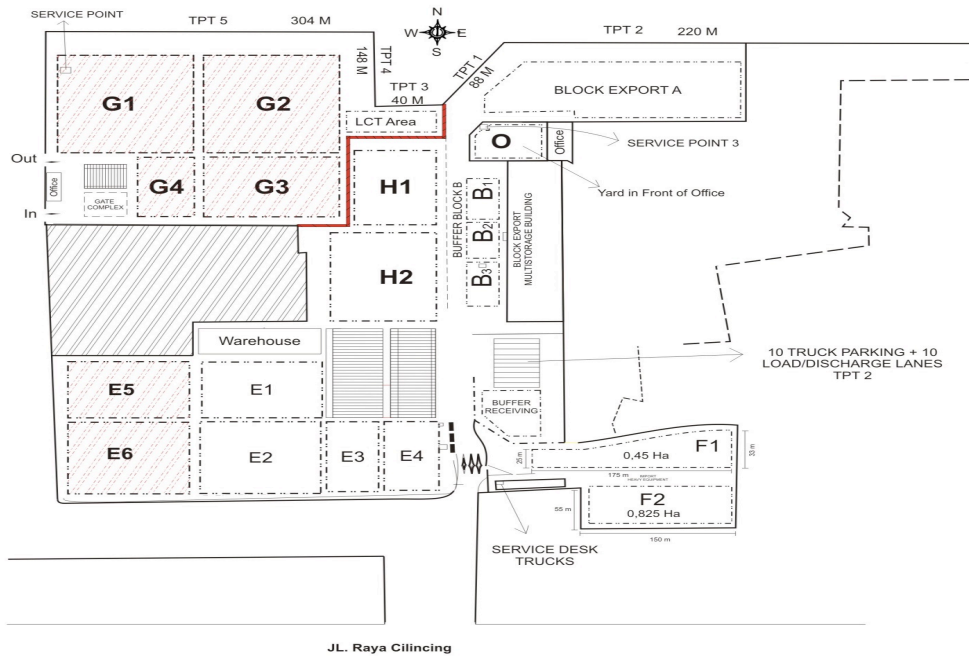


with car terminal in Singapore and Thailand.

Table 4.1 Equipment & Facilities existing

DESCRIPTION	DETAIL	CAPACITY
<b>A. BERTH FACILITIES</b>	1. CHANNEL : 2. BERTH I, 3. BERTH II,	- 14 M LWS LENGTH : 88 M', DEPTH : -6 M LWS LENGTH : 220 M', DEPTH : -12 M LWS
<b>B. STORAGE FACILITIES</b>	1. LAND AREA : 2. OPEN STORAGE PARKING SLOT > YARD A (Temporary Landing) : > YARD B : > YARD C : > YARD E : > YARD F : > TEMPORARY YARD : > PARKING BUILDING 5 FLOOR :	+ 14,5 Ha  1,8 HA, Capacity = 1.000 units 0,5 HA, Capacity = 180 units 1,7 HA, Capacity = 740 units 5,0 HA, Capacity = 2.500 units 2,5 HA, Capacity = 1.100 units 1 HA, Capacity = 516 units 5,0 HA, Capacity = 2.583 units Total Capacity = 8.619 units
<b>C. OTHER FACILITIES</b>	ACCESS ROAD : WAREHOUSE : CAR WASH : OFFICE AND WORKSHOP : GATE IN/OUT : SERVICE POINT : YARD SWEEPER : TUG MASTER : TAXI CAR :	500 m 3.000 m2 3 Lines 1 Units 6 ways 2 Units 2 Units 1 Units 6 Units

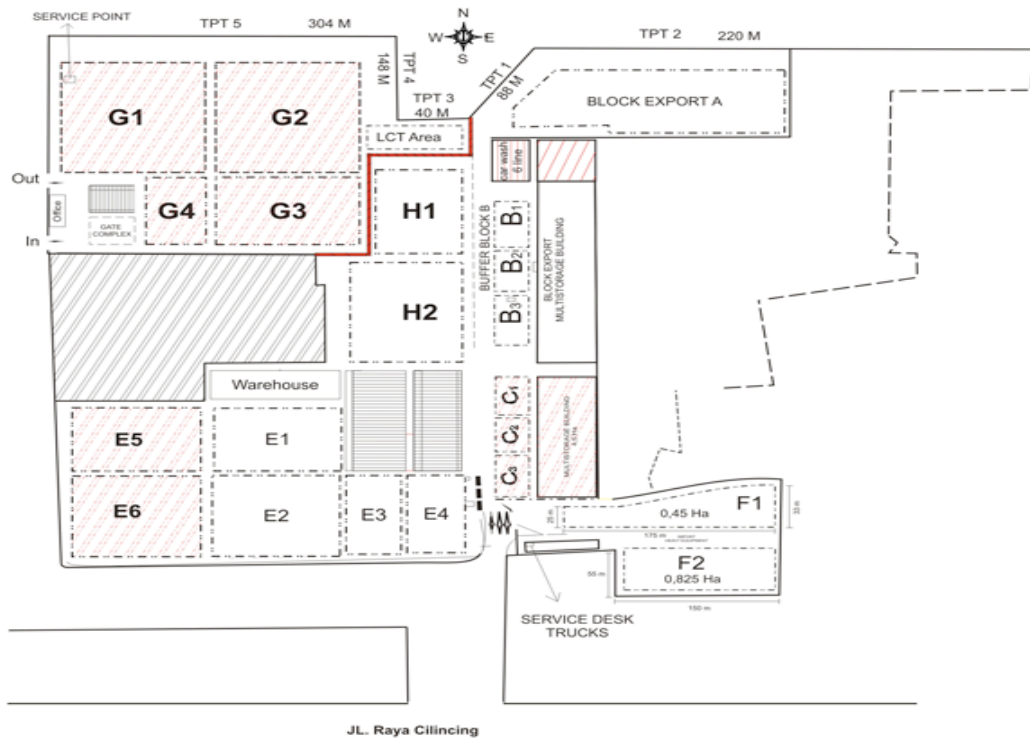
source: Indonesia Vehicle Terminal



YEAR	YARD AREA (Ha)	SLOT CAPACITY		YEAR CAPACITY		THROUGHPUT CBU	
		INTERNATIONAL	DOMESTIC	INTERNATIONAL	DOMESTIC	INTERNATIONAL	DOMESTIC
2014	23	8.937	3.520	428.976	422.400	408.076	312.494

Source: Indonesia Vehicle Terminal

The description in the above figure : in 2014 the operation of 2 ha ex airin, and ex DKB dock along the 305 M + 148 M + 40 M and a land area of 4.4 ha DKB for domestic and 1.7 ha of land for international



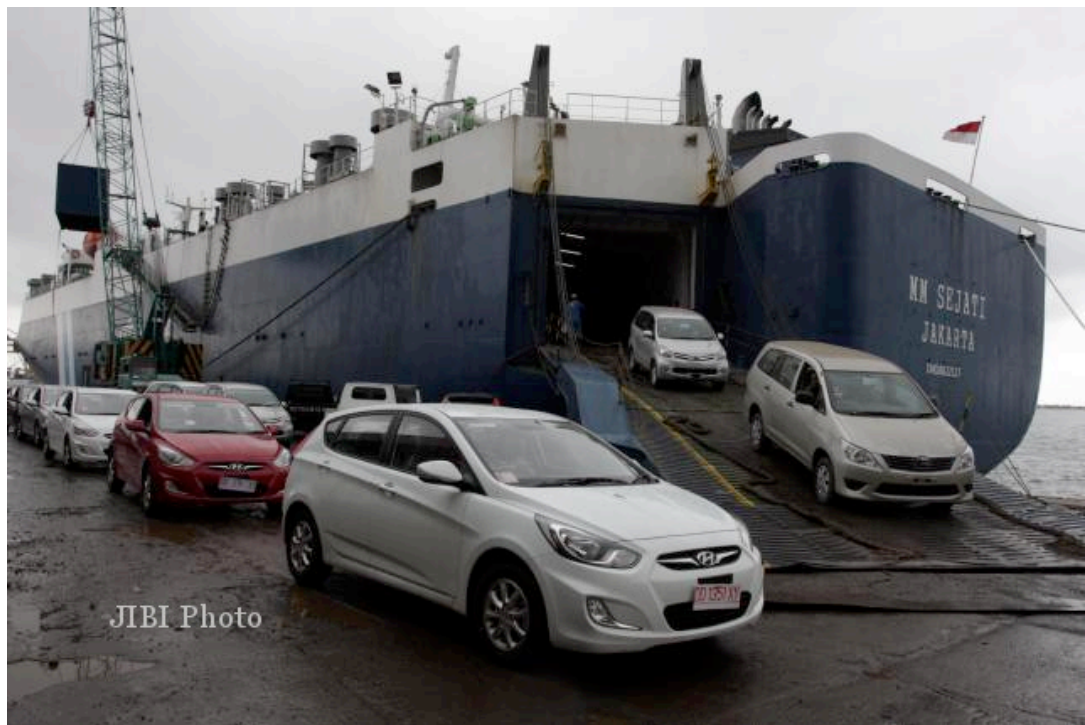
YEAR	YARD AREA (Ha)	SLOT CAPACITY		YEAR CAPACITY		THROUGHPUT CBU	
		INTERNATIONAL	DOMESTIC	INTERNATIONAL	DOMESTIC	INTERNATIONAL	DOMESTIC
2014	23	8.937	3.520	428.976	422.400	408.076	312.494
2015	28,5	11.787	3.520	565.776	422.400	383.479	341.455

Source: Indonesia Vehicle Terminal

From the above figures and tables, we can see that the development planning in 2015 the operation of 1 ha extension of the existing parking deck and 5 ha of parking land in C building

The main activities and added value in Indonesia Vehicle Terminals as follow:

1. STEVEDORING: Loading and unloading cargo activities from the ship to the dock or usually being called as temporary landing.



2. CARGODORING: moving cargo activities from the docks to the accumulated storage and vice versa.



3. STORAGE: various activities in the accumulated field buildup cargo or warehouse.







4. RECEIVING / DELIVERY: cargo receiving or delivering activities from the carrier company to/or from accumulated storage via gate.



5. PRE DELIVERY INSPECTION (PDI): activities to ensure the physical quality of the exported cargo before loading to the vessel.



6. CAR WASHING: cargo washing activities before being delivered to the customers, which is an optional service by terminal.



7. MINOR REPAIR: activities to fix the cargo before being delivered or exported.



#### 4.3. Operation Terminal Activity

Operational data comprises cargo traffic flow and ship call and other supporting datas.

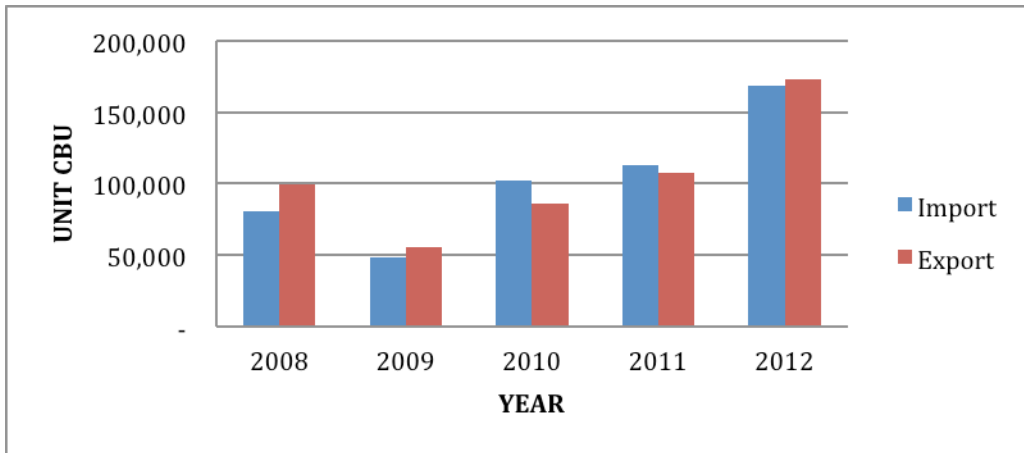
Table 4.2 Cargo Throughput

Year	Cargo		
	import	export	total
2008	80,787	99,317	180,104
2009	36,054	44,542	80,596
2010	101,926	86,212	188,138
2011	112,425	107,376	219,801
2012	168,694	172,715	341,409

Source : INDONESIA VEHICLE TERMINAL



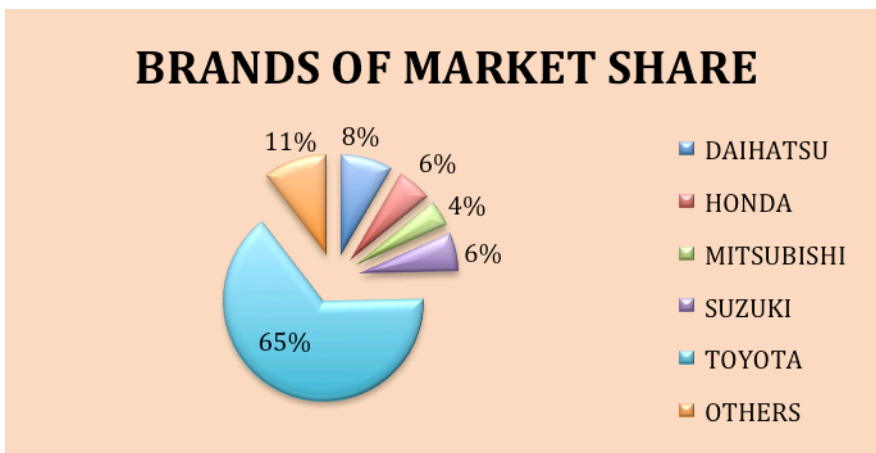
Figure 4.1 Cargo Traffic in INDONESIA VEHICLE TERMINAL from 2008 to 2013



Source: INDONESIA VEHICLE TERMINAL

The above table illustrates the export and import car flow into INDONESIA VEHICLE TERMINAL. Both import and export increased from 2008 to 2012, except in 2009. This happened due to the world economic crisis in 2008 which impacted the demand and the declined production in 2009. In the comparison, import has a larger average number of export, except in 2012 where export was higher than import.

Figure 4.2 Brands of Market Share In Year 2012



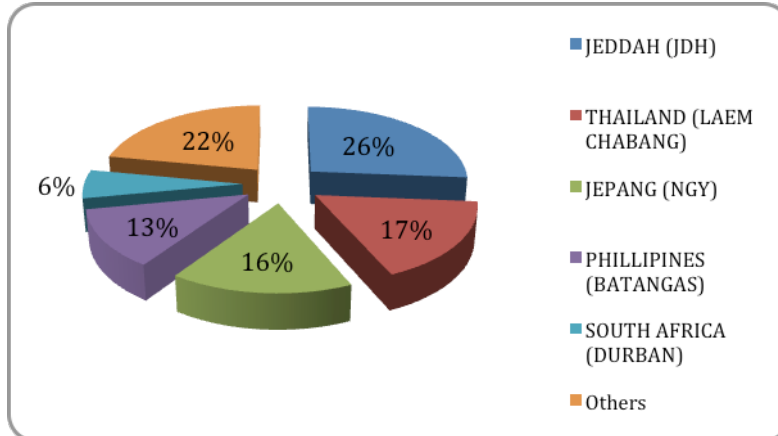
Source: INDONESIA VEHICLE TERMINAL



In figure 4.3 above, it shows clearly that Toyota is a dominated brand cargo at INDONESIA VEHICLE TERMINAL with 65 percent from the total throughout 2012, followed by Daihatsu with 8 percent. The growth of Toyota market will be influenced by INDONESIA VEHICLE TERMINAL prospect market in the future, that is why INDONESIA VEHICLE TERMINAL management keep supporting Toyota to increase their export and import cargos by giving some storage areas for Toyota in the multi storey parking.

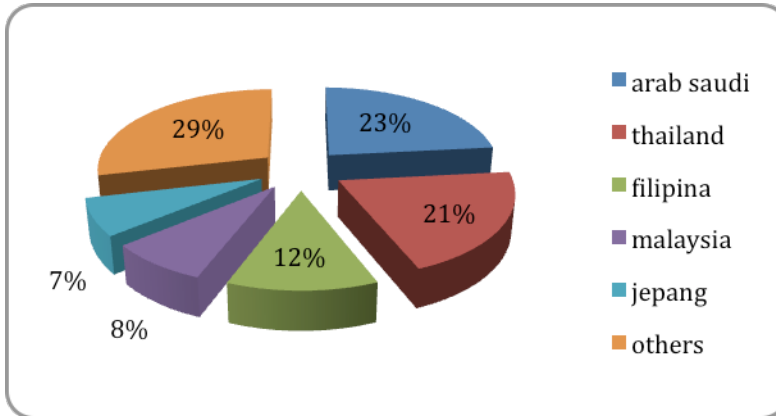
INDONESIA VEHICLE TERMINAL also got trusted by principal manufacturing such as Toyota, Daihatsu, Honda, Nissan and Suzuki to export completed build up cargos to many destination around the world, which shown on the pictures below.

Figure 4.3 *export destination 2011*



Source: INDONESIA VEHICLE TERMINAL

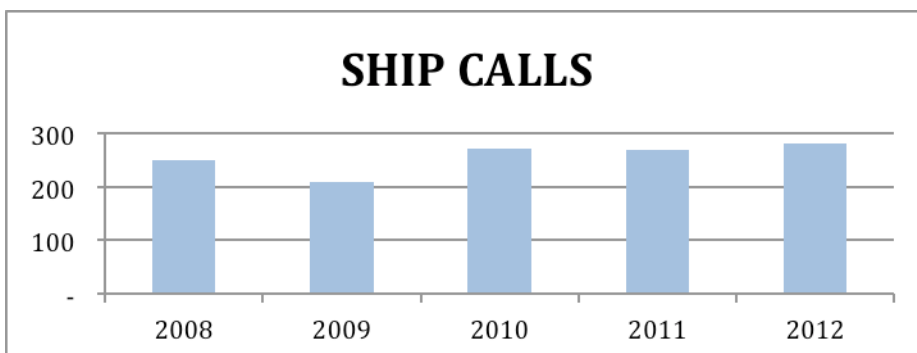
Figure 4.4 export destination 2012



Source: INDONESIA VEHICLE TERMINAL

In the above figure shown that the main destination export for cars are Saudi Arabia, Thailand, Philippine, and Japan. In 2011, the exported cars to Saudi Arabian has reached 26 percent of the total export, and in 2012 down to 23 percent of total export. The cars get exported to Thailand have increased from 17 percent in 2011 to 23 percent in 2012. In 2011, Indonesia was on the fourth rank after Japan in exported cars to Philippine, and then it took a step up to third rank in 2012.

Figure 4.5 Ship Calls in INDONESIA VEHICLE TERMINAL from 2008 to 2012



Source: INDONESIA VEHICLE TERMINAL

In the above figure, there was not much fluctuation in the ship calls. Year 2012 was recorded as the year with the biggest number of ship calls at Indonesia Vehicle Terminal. The growth was quite smaller than cargo traffic growth. This indicates that from year to year, the shipping lines using a larger vessel to bring in the cargo to achieve economic scale and nowadays the trend at Indonesia Vehicle Terminal is the shipping line using the large vessel for direct calling to the dominated destination such as to Persian gulf rather than using small vessels and transshipments in Singapore. In the same above figure, we can see that the number of ship calls went down significantly from 250 ship calls in 2008 to 208 ship calls in 2009, but then it went up to 271 ship calls in 2010 and dropped slightly to 268 ship calls in 2011 and increased significantly again in 2012 with 282 ship calls.

Table 4.3 Daily Cargo Flow on September 2013

Date	THROUGHTPUT					
	BEGINNING	ENTER		EXIT		THE END
	UNIT	IMPORT	RECEIVING	EKSPOR	DELIVERY	UNIT
1	10,723	0	339	0	138	10,924
2	10,924	2,116	0	1,107	0	11,933
3	11,933	159	832	0	531	12,393
4	12,393	1,518	381	958	860	12,474
5	12,474	1,522	774	1,409	1,306	12,055
6	12,055	459	474	2	566	12,420
7	12,420	234	401	577	540	11,938
8	11,938	0	788	0	264	12,462
9	12,462	687	246	1,499	80	11,816
10	11,816	0	583	0	866	11,533
11	11,533	505	409	962	606	10,879
12	10,879	2,752	645	543	1,236	12,497
13	12,497	292	430	408	332	12,479
14	12,479	0	792	0	822	12,449
15	12,449	1,340	908	1,275	275	13,147
16	13,147	0	654	0	0	13,801
17	13,801	1,197	665	1,070	1,244	13,349
18	13,349	904	401	1,613	807	12,234
19	12,234	0	413	0	807	11,840
20	11,840	958	0	717	0	12,081
21	12,081	0	659	0	1,293	11,447
22	11,447	653	826	229	184	12,513
23	12,513	773	0	1,125	0	12,161
24	12,161	277	729	0	1,097	12,070
25	12,070	1,544	729	907	657	12,779
26	12,779	949	695	1,217	1,129	12,077
27	12,077	721	892	0	305	13,385
28	13,385	0	746	962	420	12,749
29	12,749	0	413	0	0	13,162
30	13,162	0	0	0	0	13,162
	<b>TOTAL</b>	19,560	15,824	16,580	16,365	370,209
	<b>AVERAGE</b>	630.97	510.45	534.84	527.90	11,942.23

Source : INDONESIA VEHICLE TTERMINAL

Based on the example data in Table 4.3 above, it shows that daily handling at Indonesia Vehicle Terminal is quiet busy, both in the loading and unloading

services. The total export handling in September 2013 was 16,580 Unit Cargo and the total import handling was 19,560 Unit Cargo, Meanwhile, total handling of receiving was 15,824 Unit Cargo per month and the total handling of delivery went up to 16,580 Unit Cargo per month.

### **3.4 Benefit for National Economy**

Indonesia Vehicle Terminal is a dedicated automotive terminal that projected to generate operational efficiencies in the loading and unloading of service vehicles in the integrated way. Indonesia Vehicle Terminal is build to anticipate the rapid growth.

In a bigger scale, Automotive Terminal Indonesia is expected to contribute significantly to the growth of national economy including supporting the development of the national automotive industry, to increase the export volume vehicles, and to increase the employment in general.

## Chapter 5: DATA COLLECTION & ANALYSIS

### 5.1 Data requirements

This chapter showing the collection data of qualitative and quantitative. All data collected in the field observation and from Indonesia Vehicle Terminal to know the process of services quality and the customer's satisfaction in loading and unloading process.

In this section, we know that the data processing been collected by using a determined analytical tools. Started by doing advance coding. Followed by a process of tabulating the data. Then doing Data Analysis, and followed by a discussion and intrepertation analysis.

### 5.2 Profile Respondents

No	Gender	No.of Respondents	Percentage (%)
1	Male	82	82%
2	Female	18	18%

Table 5.1: Respondents Gender

In Table 5-1 shows that most of respondents are male with 82 respondents (82%), and the remaining 18 respondents (18%) are female.

No	Age	No.of respondents	Percentage (%)
1	< 25 year	19	18.8%
2	25-30 year	21	20.8%
3	30-35 year	35	35.4%
4	35 > year	25	25%

Table 5.2: Age of Respondents

In Table 5-2 shows that most of respondents are in the age range of 30 to 35 years with a total of 35 respondents (35.4%) and followed by age range of older than 35 years with 25 respondents (25%), then respondents age range of 25 to 30 years with 21 respondents (20.8%), and the remaining 19 respondents (18.8%) aged less than

25 years.

No	Years	No.of Respondents	Percentage (%)
1	< 4	8	8
2	4-8	27	27
3	9-12	40	39.6
4	>12	25	25

Table 5.3: Length of work

In Table 5.3 shows that 40 respondents (39,6%) has been working from 9 to 12 years, 27 respondents (27.1%) has length of work from 4 to 8 years, 25 respondents (25%) have been working for more than 12 years, and the remaining 8 respondents (8.3%) had been working less than 4 years.

No	Level work position	No.of Respondents	Percentage (%)
1	General Manager	8	8.4
2	Manager	40	39.5
3	Supervisor	29	29.2
4	Senior Staff	23	22.9

Table 5.4: Level work position of respondents

We can see in Table 5.4 that 40 respondents (39.6%) have a position as manager, 29 respondents (29.2%) working as supervisors (29.2%), 23 respondents (22.9%) are Senior Staff and the remaining 8 respondents (8.3%) has a position as a general manager.

### 5.3. Validity and Reliability Analysis

To obtain the data as the basic resource for analyzing, questionnaires were distributed to 100 respondents who got selected in the data collection sample. Then the results of questionnaires are coded and analyzed by using software SPSS 15.0

for windows to test the validity and reliability.

### 5.3.1 Validity Test Instruments

Validity test used in this research is the construct validity. According to Jack R. Fraenkel (in Siregar 2010:163) construct validity has the broadest scopes compared to other validities, as it involves many procedures including content validity and criterion validity. The validity test product moment correlation formula as follows:

$$r_{xy} = \frac{n(\sum XY) - (\sum X)(\sum Y)}{\sqrt{[n(\sum X^2) - (\sum X)^2][n(\sum Y^2) - (\sum Y)^2]}}$$

where:  $r_{xy}$  = correlation coefficient per item  
 N = Number of subject  
 X = Item score  
 Y = total Score (Arikunto, 2005: 72)

R then consulted with r table or uses the default value of 0,3 validity. When r is calculated in the above formula is greater than 0.3 than r table, then the item or attribute is valid, and vice versa.

Table 5.5: Validity Test Results

Item	Statement	R cal	Concl	Rtab
1	Cleanliness and neatness of buildings / offices and employees INDONESIA VEHICLE TERMINAL	0.767	Valid	0,3
2	Arrangement of the exterior (parking & other locations) and office interiors INDONESIA VEHICLE TERMINAL	0.824	Valid	0,3
3	Completeness, readiness and cleanliness storey /	0.697	Valid	0,3



	vehicle yard, washing area			
4	ID Vehicle/job order document processing speed for export or import a vehicle from the EI	0.950	Valid	0,3
5	Fast, accurate and friendly service by employess of INDONESIA VEHICLE TERMINAL	0.832	Valid	0,3
6	Fast and precise service inloading and unloading vehicles	0.905	Valid	0,3
7	INDONESIA VEHICLE TERMINAL employees' ability to be responsive in dealing the complaints	0.796	Valid	0,3
8	EI Employees' information that is clear and easy to understand	0.796	Valid	0,3
9	Knowledge & skilled Teller and CSO at INDONESIA VEHICLE TERMINAL	0.886	Valid	0,3
10	Know-how and skillfull workers (support & operations) at INDONESIA VEHICLE TERMINAL	0.886	Valid	0,3
11	Management always give individual attention to customers	0.685	Valid	0,3
12	Responsible for the safety and convenience of the customers	0.685	Valid	0,3

Source: Results of processing data 2014

From the testing results of the validity of the corrected item total correlation on the above, the company discovered that all items questioned for each attribute is valid because the corrected item total correlation value > r-table value of 0.3.

### 5.3.2 Reliability Test

In examining the internal consistency reliability test using the Cronbach alpha formula as follows.

$$r_{11} = \left[ \frac{k}{k-1} \right] \left[ 1 - \frac{\sum \sigma_b^2}{V_t^2} \right], \text{ (Arikunto, 1999: 193)}$$

Where:  $r_{11}$  = reliability instrument  
 $k$  = number of items or questions  
 $\sum \sigma_b^2$  = number of items  
 $V_t^2$  = total variance

Criteria for research instrument considered reliable by using this technique, if the coefficient of reliability (R11) > 0.6.

Table 5.6: Reliability Test

Variabel	R Cal	R Tabel	Keterangan
Tangible	0.859698	0.6	Reliabel
Responsiveness	0.927042	0.6	Reliabel
Reliability	0.884793	0.6	Reliabel
Assurance	0.936652	0.6	Reliabel
Empathy	0.81203	0.6	Reliabel

Source: Data Processing Result 2014

In the above table, the results of reliability test with Cronbach alpha for all the attributes of > 0.7 means that the questionnaires are reliable, because it is in the range 0.60 - 0.80.

#### 5.4 Assumption Classic Test

Prior to the test with multiple linear regression, analysts tested the first classical assumption as a prerequisite before begin to regress, following by the results obtain in the test of classical assumptions.

##### 5.4.1 Normality Test

Prior to the hypothesis test with multiple linear regression, the first test is for normality prior to the data. The Kolmogorov and Smirnov also conducted a test of normality data in this study. The basic concept of the Kolmogorov Smirnov test for

normality is to compare the distribution of data (to be tested normality) with the standard normal distribution. The standard normal distribution is a distribution where the data that has been transformed into the form of Z-Score and then assumed to be normal. So actually the Kolmogorov Smirnov is a different test among the data normality that tested with a standard normal data. As in any different test, a point that is below 0.05 means that there is a significant difference, and if the results is above 0.05, then there is no significant difference. Ghazali (2005) stated that, the normality test can be performed with the One-Sample Test Kolmogorov and Smirnov. Residual of a regression model said to be normally distributed if the value of significance (2-tailed Asymp.Sig) > 0,05.

Table 5.7: normality test results

<b>One-Sample Kolmogorov-Smirnov Test</b>		
		Unstandardized Residual
N		100
Normal Parameters <sup>a,b</sup>	Mean	.0000000
	Std. Deviation	.18074842
Most Extreme Differences	Absolute	.052
	Positive	.036
	Negative	-.052
Kolmogorov-Smirnov Z		.515
Asymp. Sig. (2-tailed)		.953

a. Test distribution is Normal.

b. Calculated from data.

Source: Result Processing data 2014

In table 5.7 shown that asymp.sig kolmogrof\_smirnov test result that is 0.953 greater than 0.05, which means that residual value of the variable satisfaction physical evidence, reliability, responsiveness, assurance and empathy are normally distributed.

#### **5.4.2 Multicollinearity Test**

Multicollinearity test is used to test whether the regression model correlated in the independent variables. Good regression models should not show correlation

between the independent variables.

According Ghozali (2005); if the independent variables are correlated, then this variable is not orthogonal. Orthogonal variables are independent variables correlation values between the members of the independent variables equal to zero.

To detect the presence or absence of multicollinearity in the regression model, look into the value of tolerance and Variance Inflation Factor (VIF).

There is no multicollinearity or no correlation between the independent variables if the VIF value  $< 10$ , but if the VIF value  $> 10$ , that means there is multicollinearity.

Table 5.8 Multicollinearity Test Results

Model		Collinearity Statistics	
		Tolerance	VIF
1	Tangible	.864	1.158
	Reliability	.978	1.023
	Responsiveness	.928	1.077
	Assurance	.789	1.268
	Emphaty	.824	1.214

a. Dependent Variable: Satisfaction

Source: Data Processing Result 2014

Table 5.8 shows that VIF value of each variable is less than 10 ( $VIF < 10$ ). Thus it would be considered that the multiple linear regression equation is free from multicollinearity assumption.

### 5.4.3 Testing Heteroskidastity

Heteroskidastity test is conducted to determine if there is a difference in residual variation observation period to another period of observation, or description of the relationship between the predicted values with the values use an unstandardized residual heteroskedasticity test.

Table 5.9: Test results heterocedastisity

**Correlations**

			Unstandardized Residual
Spearman's rho	Tangible	Correlation Coefficient	-.017
		Sig. (2-tailed)	.868
		N	100
	Reliability	Correlation Coefficient	.051
		Sig. (2-tailed)	.616
		N	100
	Responsiveness	Correlation Coefficient	.044
Sig. (2-tailed)		.665	
N		100	
Assurance	Correlation Coefficient	-.048	
	Sig. (2-tailed)	.636	
	N	100	
Empathy	Correlation Coefficient	.034	
	Sig. (2-tailed)	.739	
	N	100	
Unstandardized Residual	Correlation Coefficient	1.000	
	Sig. (2-tailed)	.	
	N	100	

Source: Data Processing Result 2014

Table 5.9 Residual column shows that if the value of Correlation Coefficient is low or the value of significance (Sig. (2 - tailed) of each independent variable more than 5 percent, it means that each Independent Variable Physical Evidence (Tangible), Reliability, Power response (Responsiveness), Assurance and Empathy has no relationship with the residual. thus it can be concluded that there is no heterokedastisitas in multiple linear regression models were obtained .

### 5.5 Multiple Regression Analysis

By using multiple regression analysis model derived regression equation that predicts the ability of the reliability of the independent variable (Tangible) / X1, Reliability / X2, Responsiveness / X3, Assurance / X4, and Empathy / X5, to explain the changes increase or decrease in the dependent variable Satisfaction (Y1).

Table 5.10: Multiple Regression Coefficient

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

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2.842	.458		-6.208	.000
	Tangible	.214	.046	.406	4.643	.000
	Reliability	.210	.053	.324	3.948	.000
	Responsiveness	.117	.055	.181	2.144	.035
	Assurance	.258	.060	.395	4.321	.000
	Emphaty	.143	.090	.143	1.597	.114

a. Dependent Variable: Satisfaction

Source: Data Processing Result 2014

Table 5.10, shows that it may be possible to study multiple regression equation:

$$Y1 = -2.842 + 0.214 X1 + 0.210 X2 + 0.117 X3 + 0.258 X4 + 0.143 X5$$

In the above multiple regression equation shows that the variable physical evidence, reliability, responsiveness and assurance effecting the customer's satisfaction, which means that the customer's satisfaction can be influenced by physical evidence, reliability, responsiveness and assurance. Except for empathy variable which does not affect customer's satisfaction.

#### Evaluation of Regression Results

##### 1. Coefficient of determination ( $R^2$ )

The coefficient of determination ( $R^2$ ) is used to measure how much influence the independent variables of physical evidence, reliability, responsiveness, assurance and empathy effecting the Customer's Satisfaction.

Table 5.11: Coefficient of Determination

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.616 <sup>a</sup>	.379	.346	.18549

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

Source: Data Processing Result 2014

The correlation coefficient ( $r$ ) of 0.616 indicates a close relationship between service quality and image Indonesia Vehicle Terminal. Furthermore, the coefficient of determination ( $R^2$ ) equal to 0,379, the figures showed that 37.9%. The five dimensions of the independent variables that influence customers' satisfaction proving there is a possibility of other factors on top of the five variables of service quality that could affecting customer satisfaction

### 5.5.1 Simultaneous -Test (F test)

Simultaneous testing hypotheses or simultaneously carried out to see whether the variable physical evidence, reliability, responsiveness, assurance and empathy simultaneously affecting the level of Customer Satisfaction.

Table 5.12 Simultaneous Test Results

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

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.976	5	.395	11.486	.000 <sup>a</sup>
	Residual	3.234	94	.034		
	Total	5.210	99			

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

b. Dependent Variable: Satisfaction

Source: Data Processing Result 2014

In the above Table 5.12 shows a significance level ( $\alpha$ ) of 5 percent, can be obtained if the value of F at 11.486 greater than the F table ( $F_{0.05,5,94}$ ) = 2.31. This means that the results of the study rejected  $H_0$  and accepted  $H_1$ . Thus the simultaneously test results stated that the independent variables of physical evidence, reliability, responsiveness, assurance and empathy simultaneously influence in customer satisfaction

### 5.5.2 Partial Test (t test)

Partial test was conducted to test whether each variable tangibles, reliability, responsiveness, assurance and empathy partially effecting Customer Satisfaction of Indonesia Vehicle Terminal.

Table 5.13. Partial Test Results

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2.842	.458		-6.208	.000
	Tangible	.214	.046	.406	4.643	.000
	Reliability	.210	.053	.324	3.948	.000
	Responsiveness	.117	.055	.181	2.144	.035
	Assurance	.258	.060	.395	4.321	.000
	Emphyaty	.143	.090	.143	1.597	.114

a. Dependent Variable: Satisfaction

Source: Data Processing Result 2014

By using a significance level ( $\alpha$ ) of 5 %, based on data in the above Table 5.13 can reach the following results:

- a. T count for tangible variables (4.643) greater than the value t table (1.98). Then the test results reject H<sub>0</sub> and accept H<sub>1</sub>, which means that the independent variables are themselves Tangible (partial) and significant effect on customer satisfaction.
- b. Value of t for variable reliability (3.948) greater than the value t table (1.98). Then the test results reject H<sub>0</sub> and accept H<sub>1</sub>, which means that the independent variables are themselves Reliability (partial) and significant effect on customer satisfaction.
- c. T count for variable responsiveness (2.144) greater than the value t table (1.98). Then the test results reject H<sub>0</sub> and accept H<sub>1</sub>, which means that the



independent variables are themselves Responsiveness (partial) and significant effect on customer satisfaction.

- d. Value of t for variable assurance (4.321) greater than the value t table (1.98). Then the test results reject H<sub>0</sub> and accept H<sub>1</sub>, which means that the independent variables are themselves Assurance (partial) and significant effect on customer satisfaction.
- e. T count empathy for the variable (1.597) is greater than the value t table (1.98). Then the test results accept H<sub>0</sub> and reject H<sub>1</sub>, which means that the independent variables are themselves Empathy (partial) has no effect on customer satisfaction

Based on the partial results of hypothesis testing on physical evidence variable, reliability, responsiveness, assurance and empathy that in partial assurance has the most significant effect on satisfaction when compared to other independent variables.

### **5.6 Service Quality Analysis**

To know the description of partner assessment of service quality Mulberry Indonesia Vehicle Terminal in every dimension of services, use analysis

" SERVQUAL " with the formula:

Servqual Perception Score = Score - Score Expectations

The greater the servqual score ( $\geq 0$  or positif), the greater the satisfaction felt by the partners. And the smaller the servqual score ( $< 0$  or negative), the less satisfaction perceive. This means the dimensions of the services that have the highest scores servqual has the most satisfactory services perceived by customers.

Table 5.14: Gap Analysis

ITEM	No of Questions	Performance	Expectation	GAP
1	P1	3.05	2.98	0.07
2	P2	2.77	3.05	-0.28
3	P3	3.08	2.82	0.26
	<b>Tangible</b>	8.90	8.85	0.05
4	P9	2.60	2.98	-0.38
5	P10	3.17	2.94	0.23
6	P11	3.63	3.03	0.60
	<b>Reliability</b>	9.40	8.95	0.45
7	P15	3.31	2.66	0.65
8	P16	3.01	2.97	0.04
	<b>Resposiveness</b>	6.32	5.63	0.69
9	P20	2.99	2.80	0.19
10	P21	3.55	3.25	0.30
	<b>Assurance</b>	6.54	6.05	0.49
11	P25	3.96	3.58	0.38
12	P26	3.09	3.29	-0.20
	<b>Empathy</b>	7.05	6.87	0.18
	Total	38.21	36.35	1.86

Source: Data Processing Result 2014

The table shows a positive gap of 1.86, thus the total gap is positive too. This means the customer perceived service performance in accordance with customer expectations.

## 5.7 Importance Performance Analysis

Consider to identify the true attributes is a priority, by using grain analysis method of importance-performance. This analysis is based on the perceived level of importance, which focuses in improvement efforts on really important things or attributes. The analysis is conducted by calculating the mean-rate importance or interest rate and the average performance, and then plotting the scores in the two-dimensional graph, better known as Cartesian diagram. The diagram has four quadrants (A, B, C and D). The results of the calculation of the average performance and importance can be seen in the following table:

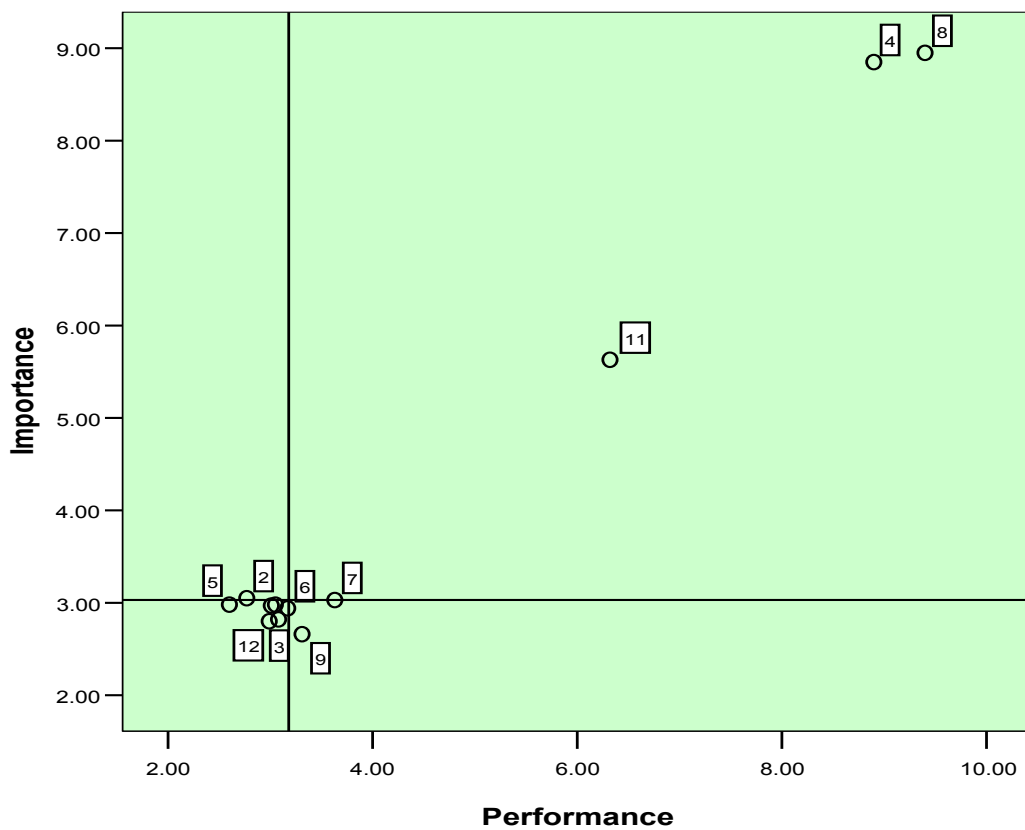
Table 5.15:

ITEM	No of Items	Performance	Expectation
1	Cleanliness and neatness of the INDONESIA VEHICLE TERMINAL building/office and also employees	3.05	2.98
2	Exterior lay out (parking lot & other locations) and office interior at INDONESIA VEHICLE TERMINAL	2.77	3.05
3	Completeness, readiness and cleanliness storey / vehicle yard, washing area	3.08	2.82
4	Speed processing of ID vehicle/job order in vehicle's export or import from the INDONESIA VEHICLE TERMINAL	2.60	2.98
5	Fast, accurate and friendly services by employees of INDONESIA VEHICLE TERMINAL	3.17	2.94
6	Fast and prompt service in loading and unloading vehicle.	3.63	3.03
7	Ability of INDONESIA VEHICLE TERMINAL employees' to respons quickly in dealing with the complaints	3.31	2.66
8	Employees of EI give clear information	3.01	2.97

	and easy to understand		
9	Skillfull and knowledgeable Teller and CSO of INDONESIA VEHICLE TERMINAL	2.99	2.80
10	Skillfull workers (support & operational) at INDONESIA VEHICLE TERMINAL	3.55	3.25
11	INDONESIA VEHICLE TERMINAL always give individual attention to the customers.	3.96	3.58
12	Responsible for the safety and convenience of the customers	3.09	3.29

Source: Data Processing Result 2014

Figure 5.2: Cartesian Diagram



Source: Data Processing Result 2014

Figure 5.2 shows that the attribute layout is divided into four sections or quadrants. The interpretation of the Cartesian diagram are as follows:

**1. Quadrant A (High Priority)**

Shows the elements that are considered essential services but have not been implemented as expected. Items in the quadrant that should get top priority, the items included in quadrant A are:

- Item 2 is the exterior lay out (parking lot & other locations) and office interior at Indonesia Vehicle Terminal.

**2. Quadrant B (Maintain Achievement)**

Shows the elements that are considered essential to maintain the achievements. Items in this quadrant are a grain that should be sustained achievement. Items included in quadrant B are:

- Item 4 is Speed processing of ID vehicle/job order in vehicle's export or import from the Indonesia Vehicle Terminal
- Item 8 is the employees of EI give clear information and easy to understand.
- Item 11 Indonesia Vehicle Terminal always give individual attention to the customers.
- Item 7 is the ability of Indonesia Vehicle Terminal employees' to respons quickly in dealing with the complaints

**3. Quadrant C (Low Priority)**

Shows the elements of services that are considered less important, while the implementation is also mediocre . Point in this quadrant is a grain with a low priority, which are:

- Item 1 is Cleanliness and neatness of the Indonesia Vehicle Terminal building/office and also employees

- Item 3 is completeness, readiness and cleanliness storey / vehicle yard, washing area
- Item 5 is a fast, accurate and friendly services by employees of Indonesia Vehicle Terminal
- Item 6 is a fast and prompt service in loading and unloading vehicle.
- Item 10 is knowledgeable & skillful workers (support & operational) at Indonesia Vehicle Terminal
- Item 12 is Responsible for the safety and convenience of the customers (guaranteed service)

#### 4. Quadrant D (Excessive)

Shows the elements of services that are considered less important by the partners, but once done nicely would result in great performances. This condition is satisfactory, but becomes expensive if allocated improperly. The items in this quadrant with a grain of exaggeration. Items in this quadrant is

- Item 9 is Skillfull and knowledgeable Teller and CSO of Indonesia Vehicle Terminal

## **Chapter 6: DISCUSSION, CONCLUSION & RECOMMENDATION**

### **6.1. Discussion**

The review of the Gap Analysis results in tangible dimension shows that the greatest gap occurred in continuously improving the product and service quality item. In another word, the export vehicle service in loading or import receiving service is still not satisfying for the customers. The most expected factor in this service is the speed of loading and unloading, which means that the customers are looking forward to the service improvement, so the processing service time would be faster. Some factors that affecting the processing service time, among others are the operators' driving skills, abilities in operating the vehicle, yard dimensions to maneuver at temporary parking sites, the availability of parking lots, the customs' documents, and the vehicles' readiness to be exported. Based on the results of this study, the management company must make some improvements in the operator knowledge and skills, better planning and preparation in the field operations, good communication between customs authorities, and the owner of the vehicles. A further study shall be done, to find out the priority needs to be improved by the management company.

The review of Gap Analysis results in responsiveness dimension shows that the largest gap occurs on the point how the customer service personnel responsive to the customer complaints. Responsiveness to customers' issues need a great attention from the whole group of Indonesia Port Corporation II. The Indonesian Vehicle Terminal, which is a part of the IPC II, previously was a state -owned company and more profit-oriented, so the concern of customers' needs became a second priority. The source of the problem is in the strategic service and

organizational culture issues. Indonesia Vehicle Terminal and IPC II, as the parent company, need to make changes by paying more attention in improving the services in order to meet the consumers' needs. This effort would go in line with the vision, mission and commitment of the company. Currently, the company has a long-term program to improve the quality of the human resources by creating a sustainable human resource development program and trying to change the corporate culture by giving focus on the service and customers' satisfaction.

The review of the Gap Analysis results in reliability dimension shows that the gap is getting smaller. That explains that Indonesia Vehicle Terminal has managed to make some cultural changes and implementing customer service oriented business strategies. These efforts need to be maintained and enhanced, in terms of technology, facilities and also human resources. In order to develop the business and to increase the knowledge, the company has conducted remedial measures, one is by sending employees to do study visits to the companies that have the same core business with Indonesia Vehicle Terminal.

The review of the Gap Analysis results in assurance dimension shows that the greatest gap occurred on the case of security and consumer convenient. The contributing factors to the gap in this dimension, similar to the causes that exist in the responsiveness dimension, namely issues of corporate strategic in services and more attention to customers' expectation still need to be improved.

The review of the Gap Analysis results in empathy dimension shows that the greatest gap occurred on the case of communication. The lack of attention to the customers' needs is what causes the gap. Need to do something to change the paradigm that the company providing services that also considering the interests of the customers.

Simultaneously the variable tangible, responsiveness, reliability, assurance,



empathy have significant effects on customer satisfaction, summing up to 62.1%, while the rest 37.9% influenced by other variables that are not observed yet in this study, such as marketing strategic in promotion and advertising.

## **6.2 Conclusions**

In general, service users of Indonesia Vehicle Terminal for loading and unloading services activities are quite satisfied with the condition and quality of service at this time:

1. The kind of quality service that could satisfy the customers at Indonesia Vehicle Terminal:
  - a. Potential internal strengths such as employees working experiences, technical skills of service personnel, available wide yard area for vehicle parking lot, the first and the only vehicle terminals in Indonesia, have facilities and adequate security systems, have a good reputation as vehicle handling terminal services in ASEAN 2011, have loyal customers. While the weakness are : integrated information system has not been optimized, the length of the waiting time in loading and unloading process, limited parking space, long queue of ships due to the bureaucracy of the port authority.
  - b. External potential in opportunities include position indicator Indonesia Vehicle Terminal located in capital city of Jakarta, which is a very strategic since it is near to the industrial areas, especially automobile industry area, new potential business industry areas, the growth of logistic finishing vehicle, synergies with other state-owned enterprises and existed threats in the field waiting list prospect, culture in paying electricity, the critical level of society, limited electricity investment. Demand services in loading and unloading especially logistics vehicles continues to grow and the threat that might need attention is a supervision labor of the vehicles' operators' that is

not under control of the management directly and the emergence of aggressive competitors.

2. The conditions of quality service Indonesia Vehicle Industry for stevedoring services at the moment :
  - a. Respondents feel that it is important to give a direct proof of reliable, responsive, assurance and empathy services.
  - b. Respondents are quite satisfied with the direct service performance that is reliable, responsive, assurance and empathy.
  - c. Simultaneously of tangible, responsiveness, reliability, assurance, empathy variables have some significant effects on customer satisfaction.
  - d. Tangible, responsive, reliable, assurance, empathy variables summing up to 79.6%, while the remaining 20.4% influenced by other variables that are not observed in this study, such as promotions and advertising.
  
3. Strategic services to satisfy customers are as follows:
  - a. Performing services more aggressive
  - b. Improving the services quality in terms of the loading and unloading speed, skillful operators, accurate planning and controlling; impaired response time performance due to low guaranteed of accuracy services to customers.
  - c. Maintaining service quality to integrate communication and technology, easy of find and search, parking area facility, security guard service at the gate, successful in implementing knowledgeable and warm hospitality customer services who respect the customers.
  - d. Degrading the quality of service for counter indicator (Payment Point Online Bank) and the responsive customer service that is considered redundant and affecting the company's cost.

### **6.3 Recommendation**

There are several points from the finding in this study that need to be recommended to the management company, as follows:

1. Good results in both analysis conducted in this study should always be maintained and even improved in the implementation by Indonesia Port Corporation II, especially at Indonesia Vehicle Terminal due to increasingly urgent demand by the consumers. Indonesia Vehicle Terminal's Management need to do regular research to maintain the marketing stability in loading and unloading of vehicles' services, with customer satisfaction oriented.
2. Management companies should try to minimize the difference between customer satisfactions expected by customers and felt by customers through providing training to all employees, in order to support better communication between officers with customers because the gap that occurs in terms of communication somewhat large compared to the items on the other variables. Management should monitor and measure the customers' satisfaction continuously.
3. Improve the quality of human resources, especially the workers who interact with consumers, in both terms of skill and knowledge level, by providing regular training, where the materials customized to the work scope that performed daily in loading and unloading services at Indonesia Vehicle Terminal. The human resources department should pursue the proses of new employees' recruitment more selective to meet the criteria and placing the right man at the right place.
4. Management companies should pay attention to guarantee accurate services to

the consumers', responsive officers in the work place to deal immediately to customer complaints, since this matter is considered necessary to improve the consumers' satisfaction in loading and unloading services at Indonesia Vehicle Terminal.

5. Indonesia Vehicle Terminal subsidiary of Indonesia Port Corporation II as the only state-owned companies in the field of port services will continue to keep the best position to serve the customers, by continuing to create innovative strategies in both terms of the implementation concept of services, facilities and infrastructure, and offering new products depending on marketing order bias to be able to continue in competing in these services.

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Container Age



APPENDICS 2:

RAW DATA OF  
RESPONDEN

PERFORMANCE												
No	X1.1	X1.2	X1.3	X2.1	X2.2	X2.3	X3.1	X3.2	X4.1	X4.2	X5.1	X5.2
1	5	4	4	2	2	3	3	3	3	2	2	3
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3	2	3	5	2	3	4	3	3	3	4	4	3
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EXPECTATION												
No	Y1.1	Y1.2	Y1.3	Y2.1	Y2.2	Y2.3	Y3.1	Y3.2	Y4.1	Y4.2	Y5.1	Y5.2
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99	3	3	2	3	2	3	3	3	2	4	4	3
100	3	3	3	2	3	4	2	3	2	3	4	4

SATISFACTION												
No	Y1.1	Y1.2	Y1.3	Y2.1	Y2.2	Y2.3	Y3.1	Y3.2	Y4.1	Y4.2	Y5.1	Y5.2
1	2	1	1	-2	-2	0	-1	0	1	-1	0	0
2	-1	1	0	-2	0	0	1	-2	-2	-1	0	1
3	-1	0	3	-1	1	1	0	1	0	0	1	0
4	2	0	1	1	1	-1	-3	2	0	-2	0	0
5	-1	-1	1	-1	3	1	1	-1	-1	1	0	-1
6	0	0	0	-1	1	1	0	1	0	0	1	0
7	1	-1	1	-1	1	0	0	1	1	0	1	0
8	-1	1	-1	0	-1	2	0	0	0	1	1	0
9	-1	-1	1	-1	2	2	0	3	-1	1	1	0
10	1	0	-1	1	-1	2	0	-2	0	0	0	0
11	1	-1	1	-2	2	0	1	1	-1	1	1	0
12	-1	-1	-1	-2	-1	1	1	1	0	0	0	0
13	0	-1	1	0	0	1	0	0	1	1	1	2
14	0	0	-1	0	-1	1	1	1	0	1	0	0
15	0	-1	1	0	1	0	0	1	0	0	1	0
16	0	-3	1	-1	1	1	0	-1	0	0	0	2
17	0	0	-1	2	-1	1	1	1	0	1	1	0
18	0	0	-2	-1	1	0	0	-1	-1	0	1	0
19	1	1	1	0	-1	2	0	1	0	0	1	0
20	0	0	-2	0	-2	1	1	-2	0	-1	0	0
21	0	-1	1	1	0	-1	0	1	-1	0	1	0
22	-1	-1	0	-1	1	1	0	1	0	1	1	0
23	-1	0	1	2	1	0	2	0	1	-1	0	-2
24	2	0	0	-1	0	0	0	0	1	0	0	0
25	-1	-2	1	-1	0	2	1	0	1	1	1	0
26	-1	0	0	1	1	1	0	0	1	1	0	-2
27	-1	0	1	-3	0	0	2	1	1	1	0	0
28	1	0	0	1	-1	1	1	0	0	1	0	0
29	-1	-2	1	-1	0	1	0	0	1	0	1	-2
30	-1	0	0	1	1	-1	0	1	1	2	0	2
31	1	0	1	-3	0	1	2	0	0	2	0	0
32	1	0	0	1	-2	0	1	0	1	1	0	-1
33	-1	-2	1	-1	1	0	0	0	-1	1	1	0
34	-1	0	0	1	0	1	2	0	1	1	0	0
35	1	0	1	0	0	0	1	0	-1	1	0	-1



36	1	0	0	1	0	-1	1	0	1	1	1	0
37	-1	-2	1	0	0	1	1	1	0	1	0	0
38	-1	-2	0	-1	1	-1	1	0	1	1	0	1
39	2	-1	1	0	1	0	1	0	-1	1	1	0
40	-1	-1	0	0	2	0	0	0	1	1	0	0
41	-1	-1	1	-1	0	0	2	0	-1	1	0	-1
42	1	-1	0	-1	0	0	0	0	1	1	1	0
43	-1	-1	1	-1	1	1	1	0	0	1	0	0
44	1	0	1	0	0	0	0	0	-1	1	0	0
45	0	-1	1	1	0	0	2	0	1	1	1	-1
46	0	1	-1	-2	0	1	0	0	-1	1	0	0
47	1	-1	1	-1	0	1	1	1	1	1	0	0
48	-1	2	0	1	0	-1	0	0	-1	1	1	0
49	1	-2	1	-1	0	1	1	0	1	1	0	-1
50	-2	0	-1	0	0	1	1	0	-1	-1	0	0
51	0	-1	1	-1	2	0	1	0	1	-1	1	0
52	1	2	0	0	0	1	1	0	-1	0	0	-1
53	1	-2	1	0	-2	2	1	-1	1	1	0	0
54	-2	1	1	-2	0	1	1	-1	0	0	1	0
55	1	0	-1	0	1	1	1	-1	1	1	0	-1
56	1	-2	0	1	0	2	1	-1	1	0	1	0
57	-1	1	0	-2	-1	0	1	-1	-1	0	0	0
58	1	-1	0	-1	2	2	1	0	1	0	0	0
59	1	-1	0	-1	0	0	1	0	1	0	0	-1
60	1	1	1	-1	0	2	1	0	0	0	1	0
61	1	-1	0	-1	0	1	1	0	1	0	0	0
62	1	-1	-1	1	0	1	1	-1	1	-1	0	0
63	1	1	0	0	0	1	1	0	-1	-1	1	-1
64	0	-1	1	-1	1	2	1	-1	1	0	0	0
65	1	-1	1	1	0	0	1	1	1	1	0	0
66	0	1	0	-2	2	1	-1	-1	0	0	1	0
67	0	-1	1	0	0	0	2	0	1	-1	0	0
68	0	-1	0	-1	2	1	-1	0	-1	0	0	-1
69	0	1	-2	0	-1	0	1	-1	1	-1	1	0
70	0	-1	0	-1	-1	0	0	0	1	0	0	-1
71	-1	1	2	-1	1	1	1	-1	0	1	0	0
72	-1	-1	0	2	1	0	-1	1	1	0	1	-1
73	-1	1	0	-2	-2	1	1	0	1	0	0	0
74	0	-1	-1	-1	0	1	1	0	-1	0	0	-1
75	1	1	0	-1	2	0	-1	0	1	0	1	0
76	0	-1	0	-1	0	1	1	1	-1	0	0	-1
77	-1	1	1	0	1	1	1	0	1	0	1	0
78	0	-1	0	-1	0	0	1	0	0	0	0	0

79	-1	-1	1	1	2	1	1	0	1	0	0	-1
80	0	1	1	-1	1	-1	2	0	-1	0	1	0
81	-1	-1	0	1	2	1	0	0	1	0	0	0
82	0	1	0	-2	0	0	2	0	-1	1	0	-1
83	-1	-1	-1	-2	-1	1	0	0	1	0	1	0
84	1	1	1	1	0	1	1	0	0	0	0	0
85	0	-1	1	0	0	0	1	0	-1	0	0	0
86	1	1	-1	-2	-1	1	1	0	1	0	1	-1
87	1	-1	0	0	0	1	1	0	-1	0	0	0
88	1	1	1	0	1	0	1	0	1	0	0	0
89	1	1	-1	1	1	1	0	0	-1	1	1	0
90	-1	1	-1	0	-1	1	2	0	1	0	0	-1
91	0	-1	0	0	0	0	0	0	-1	1	0	0
92	1	1	1	0	1	1	1	0	1	-1	1	0
93	1	-1	0	0	0	1	-1	0	-1	0	0	-1
94	-1	1	-1	0	-2	1	1	0	1	1	0	0
95	0	-1	0	-1	0	0	0	0	0	0	1	0
96	0	1	1	1	2	0	2	0	1	-1	0	-1
97	0	-1	1	-1	0	2	0	0	1	0	1	0
98	0	1	-1	1	-2	0	1	0	-1	1	0	0
99	1	-1	1	-1	1	1	1	0	1	0	0	0
100	1	1	0	1	0	-1	1	0	1	1	0	-1

### APPENDICS 3: GAP ANALYSIS

ITEM NO	ITEMS	Performance	Expectation	GAP
1	P1	3.05	2.98	0.07
2	P2	2.77	3.05	-0.28
3	P3	3.08	2.82	0.26
	<b>TANGIBLE</b>	8.90	8.85	0.05
4	P9	2.60	2.98	-0.38
5	P10	3.17	2.94	0.23
6	P11	3.63	3.03	0.60
	<b>RELIABILITY</b>	9.40	8.95	0.45
7	P15	3.31	2.66	0.65
8	P16	3.01	2.97	0.04
	<b>RESPONSIVENESS</b>	6.32	5.63	0.69
9	P20	2.99	2.80	0.19
10	P21	3.55	3.25	0.30

	<b>ASSURANCE</b>	6.54	6.05	0.49
11	P25	3.96	3.58	0.38
12	P26	3.09	3.29	-0.20
	<b>EMPATHY</b>	7.05	6.87	0.18
	<b>SCORE</b>	38.21	36.35	1.86