

A Study of Service Marketing in the Indonesian Port Industry

Rati Farini Srihadi¹ Hartoyo² Dadang Sukandar³ Agus Maulana⁴

1. Graduate Program of Management and Business, Bogor Agricultural University, Jl. Raya Darmaga, Bogor, Jawa Barat 16680, Indonesia

2. Department of Family and Consumer Science Activity, Faculty of Human Ecology, Bogor Agricultural University, Jl. Raya Darmaga, Bogor, Jawa Barat 16680, Indonesia

3. Department of Community Nutrition, Faculty of Human Ecology, Bogor Agricultural University, Jl. Raya Darmaga, Bogor, Jawa Barat 16680, Indonesia

4. School of Management and Business, Bogor Agricultural University, Jl. Raya Darmaga, Bogor, Jawa Barat 16680, Indonesia

Abstract

Indonesia, as the largest archipelagic country in the world, requires an integrated logistics system and requires a distribution system that is efficient and reliable, including its maritime transportation. Currently ports have become important nodes in trade flows and distribution of goods in Indonesia and in the world. This study aims to examine the Indonesian port from a service marketing perspective as ports are now required to provide high quality services to ensure customer satisfaction. The results identified ten determinants of port service quality, namely accessibility, reliability, functionality, information availability, tangibles, responsiveness, trust, knowledge, service recovery, and empathy. It was also found that service quality has a positive and significant impact on both perceived value and customer satisfaction.

Keywords: service marketing, service quality, perceived quality, customer satisfaction, port industry

1. Introduction

Indonesia is the largest archipelago in the world in which two-thirds of its area is water. Located between the continents of Asia and Australia and flanked by the Pacific Ocean and the Indian Ocean, has made Indonesia become very strategic position and plays an important role in world trade. Indonesia, which is also the largest archipelagic country in the world, would require an integrated logistics system and requires a distribution system that is efficient and reliable. (Pamudji & Achmadi, 2012).

As a country located on the transit routes of world trade, the role of the port would be vital to support the logistics system in the Indonesian economy. Currently the port has become an important node in trade flows and distribution of goods in Indonesia and in the world. Eighty-five percent (85%) of world trade is by sea while the trade in Indonesia 90% by sea (Patunru, Nurridzki & Rivayani, 2007). Ports are increasingly becoming the most important means for connecting the islands and between countries. Thus, it is important for each port to provide a wide range of facilities to accommodate the needs of the global trade and ensure customer satisfaction port.

Ports can be categorized as a service activity because the operations of the port include some activities and functions of the port that is the ensuring smooth operations, security, traffic flow, maintaining the safety of sailing, and intra or inter-modal displacement (Gurning & Hariyadi, 2007), in which the activities do not produce a physical product. Therefore, to assess the performance of the port should be based on aspects of service quality.

PT Pelindo II's Port of Tanjung Priok which is the object of the research is expected to provide good services to consumers of the port. According to Kotler (2000) the quality of the services should start from the needs of the customer and ends with customer satisfaction and a positive perception of service quality. For those who buy and consume services that consumers should provide an assessment of the quality of services received. Because the port services are services, then the measurement and assessment by consumers needs to be done to identify the appraisal of the consumer / user port services.

The quality of services at the Port of Tanjung Priok will be evaluated from the standpoint of service marketing. According to Kotler (1997) the concept of marketing is the key to achieve organizational goals are to be more effective than the competitors in integrating marketing activities in order to define and satisfy the needs and desires of target market. Quality of services starts from the needs of customers and end on customer satisfaction and a positive perception of service quality. Therefore, in order to improve the quality of Indonesian port services need to be identified perception of the users of port services to the dimensions of port services.

Thus, this research aims to analyze the variable which determine service quality of a port, and also analyze the effect of service quality on the customers' perceived quality and customer satisfaction.

2. Service

According to Lovelock and Wirtz (2011) service is an economic activity that is offered by one party to the other, often include time-based performance, to give the desired results on a receiver or an object that is the

responsibility of the buyers of such services. In lieu of money, time, and effort issuance, consumers hope to obtain the value of access to goods, labor, professional skills, facilities, networks, and systems; but they usually do not take over ownership of the physical elements involved.

In addition, services are not only present as the main product, but also in the form of complementary services in the purchase of physical products. Nowadays consumers no longer consider just the physical product, but also all aspects of the service that is inherent in the product, ranging from pre-purchase to postpurchase (Tjiptono, 2011). Kotler and Keller (2007) mentions that service has four characteristics that became its trademark, which are intangibility, inseparability, variability, and perishability.

2.1 Service Marketing

A service business will take on more comprehensive responsibility than goods business for all the processes through which everyday customers and how they ultimately support business processes. According to the business logic of services, as a supplier of business services to support customers' processes with more offerings, including a variety of services and processes hidden services, which allow customers to create value from core processes (for example, the production process).

According to Gilmore (2003), the marketing of services is based on the basic concept of marketing. Service marketing concept development over the years has grown in accordance with the philosophy of customer orientation, which is a marketing orientation that puts the customer at the core of the organization's goals and activities. In many organizations, the philosophy embodied in terms such as 'customer is king' and 'all of the organization is done by the customer in mind'. However, a more rational approach and includes business-oriented philosophy of market orientation by concentrating to keep customers and maximize their satisfaction in the context of competitive bidding but still profitable for an organization.

2.2 Port Service Marketing

Services is one very important element in the effort to increase customer satisfaction. Basically, the position of this ministry is a supporting factor for the entire marketing activity services of PT Pelindo II. If the services provided meet customer demand, the customer will be satisfied, and if services are below the level expected, customers will feel less or not satisfied. Customers who are not satisfied with the quality or the services provided, by itself will tell others as a complaint over dissatisfaction. Measurement of satisfaction of services provided by PT Pelindo II in the community should always be done to identify and plan a better strategy in the future and further improve the quality of its services to meet the desires and needs of consumers as well as to minimize problems. For industries such as ports that can be categorized as a service factories, companies need to pay more attention to the development of technology, capital and facilities invertasi (Pantouvakis & Lyemperopoulos, 2008). Chang, Lee and Tongzon (2008) identified a number of factors that influence the choice of ports, including the port of advancement or convenience of the physical or operational port, the operational conditions of the shipping company, marketability and the tariff set by the port.

3. Service Quality

The difference between the goods and services / service cause differences in the size and quality criteria between the goods and services / service. Parasuraman, Zeithaml, and Berry (1985), which introduced the concept of Service Quality (SERVQUAL) briefly stated that the quality of services is a function of customer expectations at this stage of pre-purchase, the provision of acceptable quality and acceptable output quality. Meanwhile, according to Lewis and Booms (1983) quality of service is a measure of how the services are delivered to consumers in accordance with customers' expectations. In principle, the quality of services centered on meeting the needs and desires of customers as well as the accuracy of delivery to balance customer expectations.

Port service quality can be defined as the characteristics of a service port that can meet the needs and expectations of customers. The nature of the port industry are quite different from other service industries requires a separate measurement of the quality of a service port. Kolanović et al. (2011), has conducted an empirical study to identify a number of attributes that are appropriate to measure the port service quality. Then by using confirmatory factor analysis, these attributes are grouped into several factors, namely port accessibility, port reliability, port functionality, the port information availability, and port flexibility.

Research conducted by Shanaki et al. (2012) actually refers to previous research in the field of marketing services performed by Parasuraman, Zeithaml and Berry (1988). In that study, revealed that there are five main dimensions of service quality, namely reliability, responsiveness, assurance, empathy, and tangibles.

4. Perceived Value

Perceived value stems from the theory of equity. It considers the ratio of the consumer's outcome/input to that of the service provider's outcome/input (Oliver & DeSarbo, 1988). The equity concept refers to customer evaluation of what is fair, right, or deserved for the perceived cost of the offering (Bolton & Lemon, 1999).

Perceived costs include monetary payments and nonmonetary sacrifices such as time consumption, energy consumption, and stress experienced by consumers. In turn, customer perceived value results from an evaluation of the relative rewards and sacrifices associated with the offering.

Zeithaml (1988) defines perceived value as the consumer's overall assessment of the utility of a product or service based on perceptions of what is received and what is given. Several studies have considered perceived value as one of the most important marketing strategies in differentiation, and as a significant factor in maintaining corporate competitiveness (Heskett et al., 1994; Ravald & Grönroos, 1996).

5. Customer Satisfaction

Customer satisfaction is the level of service quality that meets the customers' expectations (Wang, 2000). Customer satisfaction is the emotional reaction as a result of the customers' interaction with the organization or products (either goods or services). Satisfaction results from the understanding of the difference between the customers' expectations and the real performance of the organization in providing the services. It shows to what extent the provided product or service by the organization has managed to meet the customers' need and expectations (Gitman & McDaniel, 2005). Customer satisfaction is the result of experiencing real service in confronting the organization and customer's expectation of the organization. There is a close relationship between the perceived service quality and the customer's satisfaction as both results of customer's experience with the organization (Heskett & Swe, 1997).

Shanaki et al. (2012), found an association between service quality and customer satisfaction with the case study of ShahidRajayi Port in Iran. In their research, Shanaki et al. (2012) studied three groups of customers of a port, i.e. the investor company (which has leased the land for the building and provide the tools needed for investments and their activities), the owner of commodities (those that refer to the port to receive perhaps goods they import), and shipping companies or shipping companies (companies that send goods by export / import through the port).

6. Methodology

The research design used in this research is survey. The survey was conducted by distributing questionnaires to a number of samples to obtain the required primary data. The sampling technique used in this study was stratified random sampling and managed to get 406 respondents who are customers of the port.

The instrument used for data collection in this study was a questionnaire. The questionnaires are structured and designed to get specific information from the respondents, according to the research objectives that have been set. The questionnaire has been tested for its reliability and validity Cronbach's Alpha must meet the minimum requirement of 0.6 that is said to be internally consistent (Malhotra, 2010). The questionnaire has also fulfilled the criteria of face and construct validity. The method of analysis is Structural Equation Modeling using LISREL 8.8 software. Overall, there are 12 hypotheses tested in these research, which consists of:

- H1: Port accessibility has a positive effect on service quality.
- H2: Port reliability has a positive effect on service quality.
- H3: Port functionality has a positive effect on service quality.
- H4: Port information availability has a positive effect on service quality.
- H5: Port tangible has a positive effect on service quality.
- H6: Port responsiveness has a positive effect on service quality.
- H7: Port trust has a positive effect on service quality.
- H8: Port knowledge has a positive effect on service quality.
- H9: Port service recovery has a positive effect on service quality.
- H10: Port empathy has a positive effect on service quality.
- H11: Service quality has a positive effect on perceived value.
- H12: Service quality has a positive effect on customer satisfaction.

7. Results

7.1 Service Marketing

Before proceeding to the main analysis, it is important to examine the goodness of fit between the data collected and the research model developed from the literature review. Based on Table 1, it can be seen that the model overall has good fit. The results for the RMR, GFI, AGFI, CFI, NFI, NNFI, IFI and RFI all have surpass the cut-off value and thus can be concluded to have good fit. The result for the RMSEA has marginal fit, but can still be accepted to have goodness of fit.

7.2 Hypothesis Testing

Figure 1 illustrates the research model and the results of the t-values obtained from analysis using Structural Equation Modeling. It can be seen that there are ten determinants of service quality (SQ), which were tested and

proven, namely accessibility (PACSS), reliability (PREL), functionality (PFUNC), information availability (PIA), tangibles (PTAG), responsiveness (PRESP), trust (PTRUST), knowledge (PKNOW), service recovery (PSRC), and empathy (PEMPT). The t-values for the ten variables range from 2.25 to 16.91, all above the minimum value of 1.96. Therefore, it can be concluded that H1 to H10 are accepted. Out of the ten variables, the ones with the biggest impact are empathy (0.55), responsiveness (0.53), trust (0.51) and knowledge (0.51). This is determined from the values of the standardized loading factors which are all above 0.50.

Moreover, service quality (SQ) has a positive and significant effect on perceived value (PVALUE). The t-value is 37.07 (above 1.96) with standardized loading factor of 0.96. This means that H11 is accepted as service quality has a very big effect on perceived value. Service quality also affects customer satisfaction with t-value of 38.29 (above 1.96) and standardized loading factor of 0.88. Although not as high as its effect on perceived value, service quality also has a highly significant effect on customer satisfaction. Thus H12 is accepted.

8. Conclusions and Implications

In accordance with the customer orientation, the business activities of port companies must be implemented within the framework of the well-studied service marketing. The study has defined the port service marketing model on the basis of empirical research. There are ten variables affecting service quality, from port accessibility to port empathy. Furthermore, service quality also affects perceived value and customer satisfaction.

It can be concluded that service quality is a very important factor for ports to pay attention. Thus, the company should be more concern about this variable in order to improve its quality. Further research on other ports can identify other service marketing strategies. When a full set of variables does exist, a theory can be built for which strategy to choose in different circumstances.

In relation to Port Tanjung Priok, the port authorities should ensure the service quality that is received by the customers of the port. Ensuring the quality starts by focusing on the most important determinants of service quality, namely are empathy, responsiveness, trust and knowledge.

References

- Caldeirinha V, Felíci JA, Dionísio A. 2013. *The Container Terminal Characteristics and Customer's Satisfaction*. Evora (PT): CEFAGE-UE
- Carman J. 1990. Consumer perceptions of service quality: an assessment of the SERVQUAL dimensions. *Journal of Retailing* 66: 33–55.
- Chang YT, Lee SY, Tongzon JL. 2008. Port selection factors by shipping lines: Different perspectives between trunk liners and feeder service providers. *Marine Policy* 32: 877–885
- Chaudhuri A, Holbrook MB. 2001. The Chain of Effects from Brand Trust and Brand Affect to Brand Performance: The Role of Brand Loyalty. *Journal of Marketing* 65(2): 81–93
- Fornell C. 1992. A National Customer Satisfaction Barometer: The Swedish Experience. *Journal of Marketing*. 56(1): 6-21
- Gitman, L. J. & McDaniel, C. (2005), *The Future of Business; the Essential*. Mason, Ohio: South- Western.
- Heskett, J. L. & Swe, S. L. A. (1997). *The service profit chain: How leading companies link profit to loyalty and satisfaction*. New York: Free Press.
- Kolanović I, Dundović Č, Jugović A. 2011. Customer-based Port Service Quality Model. *Promet – Traffic&Transportation*. 23(6): 495-502
- Kotler P, Keller LK. 2007. *A Framework for Marketing Management*. New Jersey (US): Prentice Hall
- Kotler P. 1997. *Marketing Management*. New Jersey (US): Prentice Hall
- Magala M, Sammons A. 2008. A New Approach to Port Choice Modelling. *Maritime Economics & Logistics*, 10, (9–34)
- Malhotra NK. 2010. *Marketing Research An Applied Orientation*. New York (US): Prentice Hall
- McKinsey. 2012. *Perekonomian nusantara: Menggali potensi terpendam Indonesia*. Jakarta (ID): McKinsey Global Institute.
- Oliver RL. 1999. Whence consumer loyalty. *Journal of Marketing*. 63 (special issue): 33–44.
- Pantouvakis A. 2010. The relative importance of service features in explaining customer satisfaction: A comparison of measurement models. *Managing Service Quality*. 20(4): 366-387
- Parasuraman A, Berry L, dan Zeithmal V. 1988. SERVQUAL: “A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality”. *Journal of Retailing*.
- Parasuraman A, Zeithaml VA, Berry LL. 1985. A Conceptual Model of Service Quality and Its Implication for Future Research. *Journal of Marketing*. 49(4): 41-50.
- Patunru A, Nurridzki N, Rivayani. 2007. *Port competitiveness: a case study of Indonesia*. LPEM-FEUI and Asian Development Bank Institute. [internet]. <http://www.adbi.org/files/2007.06.26.indonesia.sea.ports.competitiveness.pdf>

Shanaki M, Ranjbar V, Shakhshian F. 2012. Investigation on Relationship between Service Quality and Customer Satisfaction (Case-study in Iranian Shahid Rajayi Port). *Indian Journal of Science and Technology*. 5(12): 111-120

Wang M. (2000). Relationship between SQ and customer's satisfaction. *Journal of Marketing*. (5) : 339-56.

Wu JHC, Lin YC, Hsu FS. 2011. An empirical analysis of synthesizing the effects of service quality, perceived value, corporate image and customer satisfaction on behavioral intentions in the transport industry: a case of Taiwan high-speed rail. *Innovative Marketing*. 7(3): 83-99

About the Authors

Rati Farini Srihadi is a Commercial and Administration Director at PT Jakarta International Container Terminal, Jakarta, Indonesia. In 1992, she graduated her bachelor degree (SH) in international law from University of Islam Bandung,

Indonesia. Further in 1994 she has her Masters's Degree (LL.M) in an international business law from Washington College of Law, the American University, Washington D.C., USA, and in 2015 she obtained her Masters's Degree in executive master of business and administration (Executive MBA) from IMD, Lausanne, Switzerland. Currently, she is pursuing her Doctoral at Graduate Program of Management and Business, Bogor Agricultural University, Indonesia.

Hartoyo is an associate professor and researcher lecture at the Department of Family and Consumer Sciences, Faculty of Human Ecology, Bogor Agricultural University, Indonesia. In 1986 he has his bachelor degree (B.Sc) in agricultural economics (agribusiness) from Bogor Agricultural University, Indonesia, and further in 1991 he obtained his Masters's Degree (M.Sc) in family resource management from Virginia Tech, Blacksburg, USA. Then in 1998 he has his Ph.D in family and consumer economics from Virginia Tech, Blacksburg, USA. He has been actively involved as a leader team including An Inter-generational Transfer of Poverty at Difference Agro-Ecological Zones and also he has been more than fifteen years did research including the Survey of Parents' Satisfaction on Basic Education Service Provided by School Decentralization System.

Dadang Sukandar is a lecture at Department of Community Nutrition, Faculty of Human Ecology, Bogor Agricultural University, Indonesia. In 1985, he has his bachelor degree (Ir) in statistics from Bogor Agricultural University, Indonesia. He obtained his Master Degree (MSc) in statistics from UP Los Banos Phillipina in 1990, and further his Phd in statistics from UP Los Banos Phillipina in 1994. He is actively do research on community nutritions.

Agus Maulana is a lecture at School of Management and Business, Bogor Agricultural University, Indonesia. In 1979 he obtained his Chemical Engineer (Ir.) Departement of Chemistry Technology, Bandung Institute of Technology, Indonesia. Further in 1984 he has his Master of Science in management (MSM) from Arthur D'Little management Education Institute, Cambridge, Massachusetts, USA. Further in 2005 he obtained his Doctoral Program in agricultural technology industry from Bogor Agricultural University, Indonesia. He is also actively as a senior consultant, trainers, and independent management consultant especially in strategic management and corporate planning.

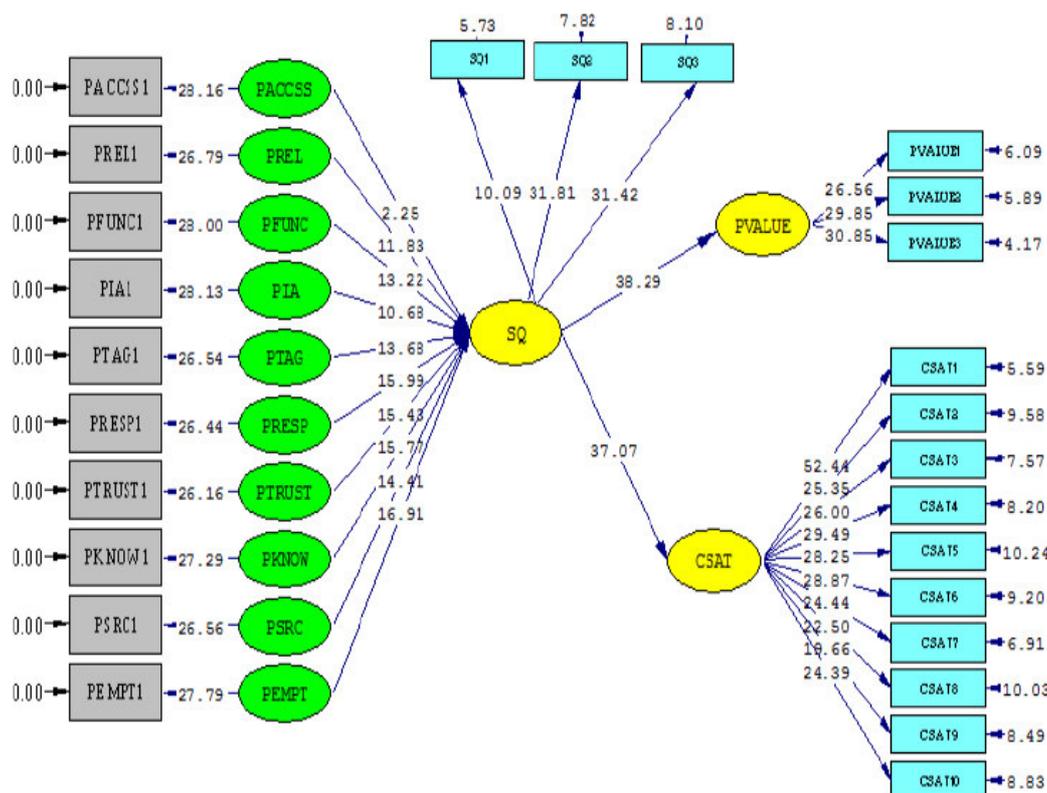


Figure 1. T-values

Table 1. Results of Goodness of Fit Testing

Goodness of Fit	Cut-off Value	Results	Notes
Root Mean Square Residual (RMR)	$\leq 0,05$ or $\leq 0,1$	0.032	Good Fit
Root Mean Square Error of Approximation (RMSEA)	$\leq 0,08$	0.049	Marginal Fit
Goodness of Fit (GFI)	$\geq 0,90$	1.00	Good Fit
Adjusted Goodness of Fit Index (AGFI)	$\geq 0,90$	1.00	Good Fit
CFI (Comparative Fit Index)	$\geq 0,90$	1.00	Good Fit
Normed Fit Index (NFI)	$\geq 0,90$	1.00	Good Fit
Non-Normed Fit Index (NNFI)	$\geq 0,90$	1.00	Good Fit
Incremental Fit Index (IFI)	$\geq 0,90$	1.00	Good Fit
Relative Fit Index (RFI)	$\geq 0,90$	1.00	Good Fit

Table 2. Results of Standardized Loading Factors and T-Values

Path		Standardized Loading Factors	T-values
PACCS → SQ	γ_{11}	0.06	2.25*
PREL → SQ	γ_{12}	0.37	11.83*
PFUNC → SQ	γ_{13}	0.41	13.22*
PIA → SQ	γ_{14}	0.27	10.68*
PTAG → SQ	γ_{15}	0.42	13.68*
PRESP → SQ	γ_{16}	0.53	15.99*
PTRUST → SQ	γ_{17}	0.51	15.43*
PKNOW → SQ	γ_{18}	0.51	15.77*
PSRC → SQ	γ_{19}	0.44	14.41*
PEMPT → SQ	γ_{10}	0.55	16.91*
SQ → PVALUE	β_1	0.96	37.07*
SQ → CSAT	β_2	0.88	38.29*

* Significant at 95% confidence level