

Analysis of The Quality of Loading and Unloading Services To Customer Satisfaction at PT Jakarta International Container Terminal Year (2021)

Insan Habibi Siregar^{a1*}, Rafly Hendikesta Ramadhan^{b2*}, Asep Suparman^{c3}, Andri Primadi^{d4}

^{abcd}Institut Transportation dan Logistik Trisakti, Jakarta, Indonesia

insanhabibisr123@gmail.com¹, raflyashar47@gmail.com², supaman1501@gmail.com³, andriprimadi_ok@yahoo.com⁴

Abstract. PT Jakarta International Container Terminal (Persero) is a State-Owned Enterprise (BUMN) engaged in port services to uphold the smooth flow of marine vessels. One of the strategies that can uphold success in business is that the company can provide optimal service quality, to be able to win the competition which in the end will get maximum profit. Pt. Jakarta International Container Terminal is a large port, in addition to serving freight transportation, it also serves container loading and unloading.

Keywords : analysis, quality, service, loading and unloading, satisfaction

Abstrak. PT Jakarta International Container Terminal (Persero) merupakan Badan Usaha Milik Negara (BUMN) yang bergerak di bidang jasa kepelabuhanan untuk menunjang kelancaran arus kapal laut. Salah satu strategi yang dapat menjunjung tinggi keberhasilan dalam berbisnis adalah perusahaan dapat memberikan kualitas pelayanan yang optimal, sehingga mampu memenangkan persaingan yang pada akhirnya akan mendapatkan keuntungan yang maksimal. Pt. Jakarta International Container Terminal merupakan pelabuhan besar, selain melayani angkutan barang, juga melayani bongkar muat peti kemas.

Kata Kunci : analisis, kualitas, pelayanan, bongkar muat, kepuasan

1. Introduction

PT Jakarta International Container Terminal is a company engaged in the business of container loading and unloading services both export and import. Pt. Jakarta International Container Terminal has facilities such as Container Yard, Area = 87 Ha, Capacity, 40562 Teus, Ground Slot = 10560, Reefer 380 V = 780 Plugs. Equipments, Quay Crane Container = 14 Units, Forklift Diesel = 10 Units, Head Truck = 109 Units, Chassis / Trailer = 115 Units, Reach Stacker = 4 Units, Rubber Tyres Gantry Crane = 59 Units, Side Loader = 6 Units. However, the container service at the JICT container terminal is currently experiencing several obstacles that affect the speed of container services. These obstacles are caused by a bean, among others:

Lack of maximum use of gantry cranes and rubber-tired gantries in carrying out container loading and unloading.

The irregular arrangement of containers in the stacking field.

The service time of the truck from outside carrying the export container which coincides with the chassis truck that serves loading to the Kapa, thus slowing down the process, the same is true of the import loading and unloading process.

*Corresponding Author: insanhabibisr123@gmail.com

The number of truck chassis does not meet the standard configuration of operational standards.

Include Literature Review

"Management is the planning, organizing, directing, and controlling (P4) of organizational resources to achieve goals effectively and efficiently (Husaini, 2011: 5)

Quality is one of the keys to winning the competition with the market. Meanwhile, service quality is a measure of the level of service quality that is assumed to be related to price developments (Roederick & Gregory, 2009).

According to the Government Regulation of the Republic of Indonesia No. 61 of 2009 quoted by Capt. R. P. Suryono (2007: 1), a port is a place consisting of land and waters and its surroundings with certain boundaries as a place for government activities and economic activities used as a place for ships to lean, dock, up and down passengers, and unload goods equipped with shipping safety facilities and port support activities and as a place for ships to lean, dock, and unload goods equipped with shipping safety facilities and port support activities and as a place for ships to lean, dock, and unload goods equipped with shipping safety facilities and port support activities and as a place for ships to lean, dock, and unload goods equipped with shipping safety facilities and port support activities and as a place for ships to lean, dock, and unload goods equipped with shipping safety facilities and port support activities and as a place for ships to lean, dock, and unload goods equipped with shipping safety facilities and port support activities and as a place for ships to lean, dock, and unload goods equipped with shipping safety facilities and port support intra- and intermodal displacement of transport.

2. Method

The research method used is quantitative. By using quantitative methods researchers can understand the quantity of a phenomenon that can be used later for comparison. Using inferential statistics, researchers can see patterns of relationships, interactions, and duality over observed phenomena so the data in the situation can't be netted with quantitative methods with instruments such as tests, questionnaires.

The research was conducted at PT. Jakarta International Container Terminal is located in North Jakarta. The scope of this study is to formulate strategies to plan performance measurements with the BSC approach to loading and unloading operations at PT Jakarta International Terminal Container with the approach of operational performance indicators of loading and unloading Waiting Time (WT), Box Ship Hour (BSH), Box Crane Hour (BCH), Berth Occupancy Ratio (BOR), Yard Occupancy Ratio (YOR). Secondary data are obtained from documents and reports on the operational performance of container loading and unloading at JICT. Primary data are used to determine strategies that affect the company and are obtained by questionnaires and observation methods.

Data Collection Techniques This research begins with a quantifiable analysis, namely to identify the operational situation carried out by PT JICT at this time, as well as collect relevant data on operational performance that has been carried out. Furthermore, the weighting and scoring of performance indicators in each perspective is carried out using the Kuesioner method. To determine the priority of the strategy to improve the operational performance of loading and unloading at PT JICT, it is carried out using the Kuesioner method because it is considered that at this strategy level the relationship of influence and feedback is very strong between the four perspectives in the BSC.

3. Discussion and Result

Before conducting further analysis, first test the validation of the research questionnaire. In testing the validity of 24 question items in the questionnaire, results can be produced in 2 variables.

Variable Quality of Loading and Unloading Service

No	Question	Ss	S	N	Ts	Sts
1.	In loading and unloading service activities have been swift in serving consumers	52,4%	38,1%	9,5%	0	0
2.	Loading and unloading services have provided services according to consumer needs	42,9%	57,1%	0	0	0
3.	Timely loading and unloading service	57,1%	33,3%	4,8%	4,8%	0
4.	The quality of container loading and unloading services is already with what is expected	38,1%	52,4%	4,8%	4,8%	0
5.	Fast loading and unloading service in loading and unloading containers	38,1%	52,4%	9,5%	0	0
6.	The security guarantee of loading and unloading containers is as expected	33,3%	66,7%	0	0	0
7.	The condition of the loading and unloading operational equipment or equipment is still good, or it is away used	38,1%	47,6%	14,3%	0	0
8.	I often encounter queues of trucks delivering containers	14,3%	42,9%	9,5%	19%	14,3%
9.	I have encountered a shortage of the number of TKBM in loading and unloading activities	4,8%	47,6%	14,3%	14,3%	19%
10.	I often encounter container buildup on the dock (lossing code)	9,5%	38,1%	19%	9,5%	23,8%
11.	Reach stacker services in serving container movements are as expected	42,9%	52,4%	4,8%	0	0
12.	I feel that if the loading and unloading activities use adequate facilities so that the work is effective and efficient	47,6%	47,6%	4,6%	0	0

Variable Level of Customer Satisfaction

No.	Question	Sp	P	N	Kp	Step
1.	I feel satisfied with the quality of loading and unloading	38,1%	61,9%	0	0	0
2.	I am satisfied with the placement of the container in the storage	33,3%	66,7%	0	0	0
3.	I feel satisfied with the safety of loading and unloading services	38,1%	42,9%	14,3%	4,8%	0
4.	The container is not damaged in carrying out loading and unloading activities	38,1%	52,4%	4,8%	0	4,8%
5.	I feel that the loading and unloading service facilities are adequate	38,1%	47,6%	9,5%	0	1,8%
6.	The equipment used is still good or not good	33,3%	42,9%	19%	0	4,8%
7.	I feel the activities of loading and unloading containers with efficient TKBM	19%	71,4%	4,8%	4,8%	0
8.	I am satisfied with the performance of loading and unloading services	23,8%	61,9%	9,5%	0	4,8%
9.	I am satisfied with the performance of the equipment of the container loading and unloading facility	28,6%	57,1%	9,5%	4,8%	0
10.	I feel satisfied with the timely service performance time	23,8%	61,9%	9,5%	0	4,8%
11.	I feel satisfied with the timely performance time of the equipment or facilities	28,6%	52,4%	14,3%	0	4,8%
12.	My complaint was dealt with quickly	28,6%	52,4%	14,3%	0	4,8%

From the results of the variable analysis above, the quality of container loading and unloading services has the greatest influence on increasing customer satisfaction, so it needs to be a consideration for PT. Jakarta International Container Terminal to further improve equipment or facilities in loading and unloading activities, to provide convenience in loading and unloading services. Pt. Jakarta International Container Terminal needs to pay attention to the completeness of its loading and unloading facilities and equipment so that the implementation of loading and unloading services to customers will be further improved following what customers expect. Customers always expect the loading and unloading process carried out by PT. JICT is fast, timely, and safely executed.

Uto analyzes the prediction of the performance of incoming container flows at the port of Tanjung Priok in the following years. Calculation of container flow predictions based on actual throughput realization data in 2016-2020. The method used in performing the prediction of container flow data is determined in advance from the readings of the graph. Regarding the level of productivity and land use of stacking is relatively good because the estimated YOR value for the next 5 years is less than 70% of the YOR standard set by the Ministry of Sea Transportation. For this reason, judging from the results of the YOR value of 24.4% until 2025, there is no need to add

a stacking place, because the currently available stacking field can still accommodate containers in the next five years.

Equipment quality and container loading and unloading productivity

To support optimal container loading and unloading performance at JICT Port, it is necessary to provide driving facilities, such as container loading and unloading equipment. Existing facilities greatly affect the speed of service or cargo service time, including facilities owned by transport ships, for example, there are ships with cranes that can support the loading and unloading process faster. To know the capacity of the equipment and the productivity of loading and unloading. Value To find out the length of time for operational activities of loading and unloading containers can be calculated by the following equation:

Quay Side Operation 2020 (moves per hour)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Average YTD
Gross QC Rate	27,04	28,02	27,25	26,76	29,58	30,48	30,41	29,30	28,95	28,33	28,55
Vess. Op. Rate	65,26	66,38	71,72	65,99	69,71	74,66	72,16	73,45	70,63	68,80	69,26
Berth Productivity	53,50	51,65	56,30	54,83	51,67	59,23	56,49	57,70	56,43	55,36	55,09
Quay Side Operation 2021 (moves per hour)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Average YTD
Gross QC Rate	27,26	26,39	24,80	26,09	25,83	24,30	24,23	26,29	26,36	25,98	25,60
Vess. Op. Rate	67,13	61,61	56,29	57,77	57,19	52,90	48,36	62,09	60,26	55,51	56,33
Berth Productivity	53,79	48,65	46,60	46,56	45,95	45,12	41,45	50,90	48,88	45,28	46,40
Quay Side Operation 2022 (moves per hour)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Average YTD
Gross QC Rate	25,95	25,73	29,71	28,81	28,96	25,13	26,61	26,67			27,20
Vess. Op. Rate	57,33	54,42	66,73	55,03	63,31	54,15	62,84	61,35			59,40
Berth Productivity	49,66	44,88	54,60	45,15	46,28	46,51	47,35	52,23			48,33

Figure 1. JICT Performance Data

Field Operations, Facilities, and Supporting Equipment

The entire series of container stacking and manufacturing services (lift off / lift on) both receiving, delivery, marshaling, and housekeeping in the stacking field. Rubber Tyred Gantry Crane (RTGC) and Rail Mounted Gantry Crane (RMGC) operators are obliged to pay attention to the following:

Carry out receiving and delivery activities following the commands of the system;

The placement of containers must be in accordance / precisely with the existing markings;

When lift-on containers in the chassis and lift-on containers in the container block, do it carefully until no blowing occurs;

Not stacking single tower containers;

The 40' container must be placed in the even slot position and started from odd to even slot example slot 01-02/03-04, not allowed from even slot to odd slot example slot 02-03/04-05.

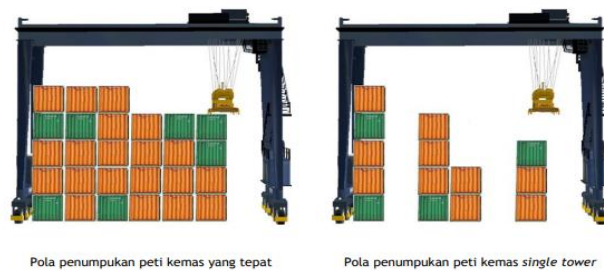


Figure 2. RTGC & RMGC

Twin-lift Service Operations, in serving activities at the dock, make sure the front container is placed right at the end of the front chassis and the rear container is right at the end of the rear chassis so that there is a distance in the middle between containers to make it easier for WOA officers to see the presence of seals.



Ilustrasi penggunaan chassis 45 feet oleh YCO untuk melayani twin-lift operation di dermaga

Figure 3. Truck Container

The Reach Stacker operator must pay attention to the following:

Reach Stacker should only be used for full containers and empty containers should use a side loader.

Stacking in the reach stacker block is not allowed to follow the single tower pattern but should follow the pyramid pattern.

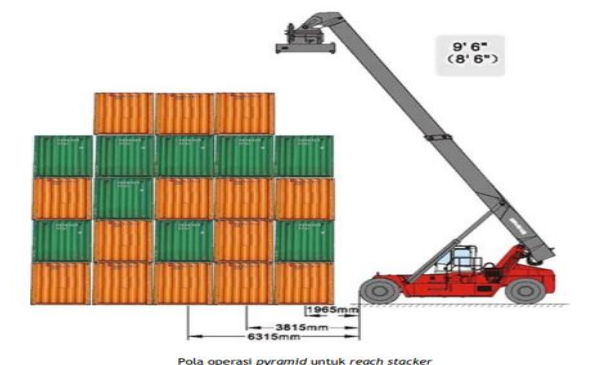
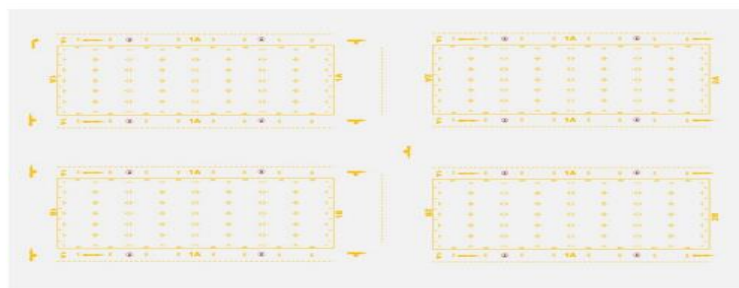


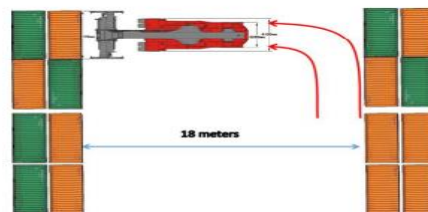
Figure 4. Reach Stacker

The reach stacker block has a distance between container blocks that are bound by the reach stacker, it is recommended to have a minimum distance of 18 meters to avoid container damage

when the reach stacker performs a maneuver/movement process. Markings in the field in addition to container stacking are required to provide truck lane markings on the service line in the reach stacker service block. Furthermore, it has a parking area for reach stackers and slides loaders during periodic maintenance where the parking area is close to the maintenance area. And OOG containers are highly recommended stacked in blocks handled by reach stackers.



Ilustrasi sebagai contoh blok lapangan peti kemas yang dihandle oleh reach stacker



Penataan blok yang disarankan jika di-handle oleh reach stacker

Some things that must be considered in structuring the RTGC block are as follows:

Have an RTGC / RMGC parking area during periodic maintenance, where the parking area is close to the maintenance area, parking is not allowed in areas that interfere with operational activities.

It is recommended that the arrangement of RTGC blocks follows a back-to-back pattern, namely the arrangement of RTGC blocks with their backs to each other between service lines / other RTGC truck lines. The advantage of the back-to-back pattern is to support zero accident initiatives and facilitate etc electrification initiatives later in life.

For RTGC investment in branches and subsidiaries should be the type that can handle a maximum of 6 rows, to make it easier if there is a relocation of tools from one terminal to another in the IPC work environment.

A steering plate to facilitate wheel rotation on RTGC, when moving from one block to another, in addition to making it easier when steering, using a steering plate reduces rotation friction so that tires are more durable.

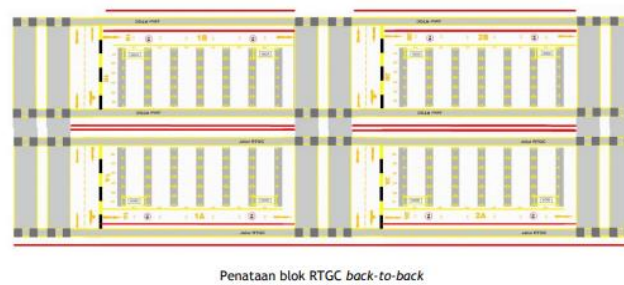


Figure 5. RTGC Block Structuring

The naming and numbering system of field tools and facilities is, first Is the numbering of blocks, rows, and slots with a double-digit writing format, for example, block 1A, slot 01, row 01, Block 1B, Slot 02, Row 02 and so on. Both block numbering starts from the side of the pier with the largest block number in the direction of field development according to RIP. All three-row numberings in the RTGC block use the reference point of the service line/truck line so that the smallest row number 01 is the closest to the service line/truck line and also vice versa for the largest row number. The four-row numberings in the RMGC block are horizontal against the docks using the reference point with the smallest row number 01 starting from the land side. The five YC tool numberings are carried out according to the order of purchase. The device that first operated in the terminal was numbered 01 and so on. Markings for container stacking in the field follow the operating pattern of the tool, both RTG, RMGC, and RS have different standards, the following are some pictures of examples of markings and stacking fields according to the crane yard used.

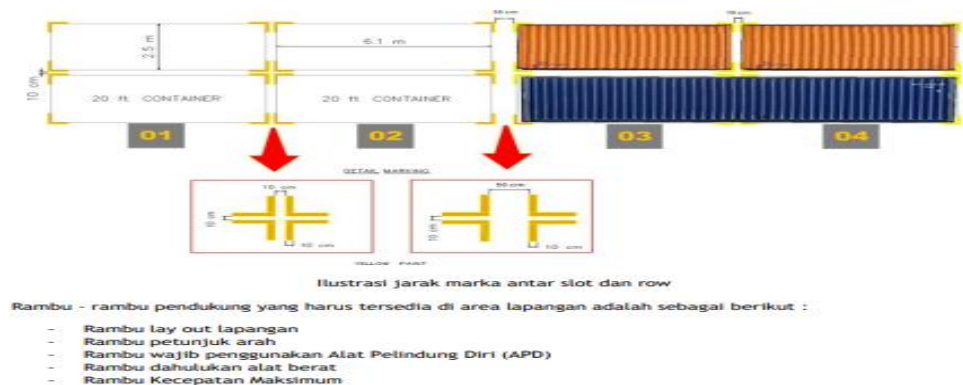


Figure 6. Container Hoarding

4. Conclusions

The quality of container loading and unloading services has the greatest influence in increasing customer satisfaction, so it needs to be a consideration for PT Jakarta International Container Terminal to further improve equipment or facilities in loading and unloading activities, so as to provide convenience in loading and unloading services.

Equipment quality and productivity of loading and unloading containers To support optimal loading and unloading performance at JICT Port, it is necessary to provide propulsion facilities, such as container loading and unloading equipment.

5. Reference

- dewi Juliana Tutratan, K. (. (2021). Performance Analysis Of Container Operational Services At Pt. Xxy (Oil And Gas Logistics, Akamigas Energy And Mineral Polytechnic).
- Dr. Johnny Malisan, D. (. (2017). Passengers Terminal Service Level Analysis. Facilities Operations. (N.D.). Retrieved From [Https://Www.Jict.Co.Id](https://Www.Jict.Co.Id).
- Iputan6. (N.D.).
- Julian, D. (2020). Evaluation Of Loading And Unloading Operational Performance Port Of Tanjung Priok.
- Kinerja Bongkar Muat. (N.D.). Retrieved From [Https://Scholar.Google.Co.Id/Scholar?Q=Kinerja+Bongkar+Muat&Hl=En&As_Sdt=0&As_Vis=1&Oi=Scholar#D=Gs_Qabs&T=1660574504283&U=%23p%3dc93t4jlabyoj](https://Scholar.Google.Co.Id/Scholar?Q=Kinerja+Bongkar+Muat&Hl=En&As_Sdt=0&As_Vis=1&Oi=Scholar#D=Gs_Qabs&T=1660574504283&U=%23p%3dc93t4jlabyoj).
- Liputan6. (N.D.). Bongkar Muat . Retrieved From (1) [Https://Www.Liputan6.Com/Bisnis/Read/4984001/Bongkar-Muat-Makin-Cepat-Kinerja-Pelindo-Melesat](https://Www.Liputan6.Com/Bisnis/Read/4984001/Bongkar-Muat-Makin-Cepat-Kinerja-Pelindo-Melesat).
- Lis Lesmini, D. R. (2021). Performance Quay Container Crane In Container Loading Activities.
- Nova Oktavia, M. A. (2020). Strategies To Improve The Operational Performance Of Container Loading And Unloading: A Case Study At Pt Jakarta International Container Terminal (School Of Business, Ipb University, 2020).
- Septa Riadi, E. A. (2018). Indonesia's Port Management Strategy With A Transdisciplinary Method To Compare Other Ports In The Worlds.
- TRISAKTI, I. (n.d.). Retrieved from <https://www.google.com/url?sa=t&source=web&rct=j&url=https://journal.itltrisakti.ac.id/index.php/jmbtl/article/download/642/318&ved=2ahUKEwjnzIjSrQz4AhVjRmwGHe0BhwQFnoECAQQAQ&usg=AOvVaw0846XQclXkOZjWABuAT3F9>.