



ANALYSIS OF EMPLOYEES WORKLOAD AT SHIPPING AGENCY SECTION IN PT PERTAMINA TRANS KONTINENTAL DUMAI BRANCH FULL TIME EQUIVALENT (FTE) METHOD

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Abstract

Indonesia as an archipelagic country depends on ships as the main means of connecting between its islands because ships play an important role. The quality of service in a ship agency is very dependent on its human resources (HR) which play an important role in the success of ship service operations. During the research, it was found that employees of the shipping agency at PT Pertamina Trans Kontinental Dumai Branch often did overtime that exceeded the provisions of Law Number 13 of 2003 concerning Employment, so this research aims to determine employee workload. Quantitative descriptive methods were used in this research with primary data sources in the form of each employee's work activities, working time for each work activity, and also the total work frequency and duration of each job carried out by shipping agency employees as the research subject of this thesis. The data analysis technique in this research uses the Full Time Equivalent (FTE) method, where this method compares the time needed to complete a job with the effective working time available. By calculating using this method, we get the completion time for all activities carried out by the shipping department. agency is 16020.25 hours/year where this time is equivalent to 10 employees. Meanwhile, there are 9 employees, which indicates that there is a shortage of 1 employee in the shipping agency section at PT Pertamina Trans Kontinental Dumai Branch.

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1. INTRODUCTION

Indonesia, as an archipelagic country with 17,504 islands and a coastline of 99,093 kilometers, has 70% of its territory in the form of water. This geographical situation emphasizes the importance of sea transportation to build communication and interaction between regions and support the national economy (Maritime Affairs and Fisheries in Figures, 2014). Sea transportation, including the maritime and shipping services industry plays a vital role in encouraging national economic growth,

distribution of goods and services throughout Indonesia, and also mobilization of its population.

Ships as a means of sea transportation are considered to have advantages compared to other means of transportation. This is because ships can be used to transport passengers, goods and animals with a large capacity and can cover long distances. Apart from that it's also relatively cheap to wear. This makes ships have good prospects in distributing goods throughout Indonesia.

PT Pertamina Trans Kontinental (PTK), which was founded on September 9 1969, initially focused on distributing fuel oil (BBM) to PT Pertamina (Persero). Over time, PTK developed and entered various fields of maritime services, including ship agency, which provides ship agency services in ports throughout Indonesia. This service includes managing crew needs, formalities, bunkers, water and other ship needs.

The quality of service in a ship agency is highly dependent on human resources (HR), which plays an important role in operational success. The number of employees, work allocation, and employee working hours affect the company's efficiency and productivity. However, at PT Pertamina Trans Kontinental Dumai Branch, it was found that employees often did overtime that exceeded the provisions of Law Number 13 of 2003 concerning Employment. This research aims to evaluate the workload in the shipping agency section of PT Pertamina Trans Kontinental Dumai Branch using Full Time Equivalent (FTE) to determine optimal labor requirements and assess the impact on service quality. Find out the impact of the large workload and the causes of imposing overtime policies on shipping agency employees.

Identification of Problems

Based on the background above, the author identified problems while the author carried out practical activities. These problems are as follows.

1. The workload of the shipping agency employees at PT Pertamina Trans Kontinental Dumai Branch is too large.
2. There are still limited employees in the shipping agency department who have the competence to be able to operate the system to expedite ship service activities.
3. There is a ship certificate that has passed its validity period so that the issuance of the SPB is hampered and the ship's departure schedule is postponed.
4. There is an overtime policy imposed on shipping agency employees at PT Pertamina Trans Kontinental Dumai Branch.
5. Existing facilities such as printers, computers and internet networks are not optimal, which sometimes hampers ship service operations.
6. Lack of transportation for employee mobilization and permits to enter the refinery area which are quite complicated cause employees to take longer to service ships

Problem Limitations

Based on the identification of the problem described above, the author creates limitations so that the discussion does not expand later. The

limited time and data in conducting this research is also the reason the author made limitations. The problems determined by the author are:

1. The workload of the shipping agency employees at PT Pertamina Trans Kontinental Dumai Branch is too large.
2. There is an overtime policy imposed on shipping agency employees at PT Pertamina Trans Kontinental Dumai Branch.

Formulation of The Problem

In writing this thesis, the author needs to formulate the problem that will be researched and solved in order to find the right solution to overcome the problem. The formulation of the problem is:

1. What is the cause of the workload of the shipping agency employees at PT Pertamina Trans Kontinental Dumai Branch being too large?
2. What is the cause of the overtime policy imposed on shipping agency employees at PT Pertamina Trans Kontinental Dumai Branch?

Research Objectives

1. To determine the causes of the large workload of shipping agency employees at PT Pertamina Trans Kontinental Dumai Branch.
2. To find out the reasons for implementing the overtime policy for shipping agency employees at PT Pertamina Trans Kontinental Dumai Branch.

Benefits of Research

1. Theoretical benefits. Providing information for readers such as cadets and cadets studying in the shipping sector, government institutions or agencies related to the ship agency sector, as well as especially shipping companies that provide ship agency services.
2. Practical benefits. Enables the author to know, analyze and understand the causes of the large workload in the shipping agency and the cause of overtime at PT Pertamina Trans Kontinental Dumai Branch.
3. Benefits for STIP. It is hoped that it can provide additional scientific insight for cadets and cadets and can complete the library treasury which can be used as a reference for further research.

2. METHOD

2.1 Data Description

From the four definitions of workload put forward by experts as a reference, the author can conclude that workload is a condition where a group of organizational

units must complete a given task within a certain time period. With the following dimensions. Jenis-jenis beban kerja yang terdiri dari beban kerja kuantitatif dan beban kerja kualitatif.

- 1) Types of workload consisting of quantitative workload and qualitative workload.
- 2) Workload factors consisting of internal factors (gender, age, body posture, etc.) and external factors (work environment, physical tasks, and work organization).
- 3) Aspects of workload consisting of time norms, work volume and effective working hours, and
- 4) Impact of workload.

Shipping agency is a service business activity to manage the interests of ships of foreign sea transportation companies and/or ships of national sea transportation companies while they are in Indonesia. With the following dimensions:

- 1) Types of shipping agencies which are divided into general agents, sub-agents and branch agents.
- 2) The duties and functions of a shipping agency are as follows.
 - a) Develop an agency operational program based on company policy, both for liner service and tramp services.
 - b) Monitor the implementation of agency handling and services, both physical cargo activities and ship arrival and departure schedules.
 - c) Administer agency activities, both those related to physical operational activities and those related to finance.
 - d) Provide data and evaluation of activity developments as input in determining appropriate policies.
 - e) Strive for agency activities in such a way that they can provide a stimulus to the company's main activities.

From four definitions taken from reference books or expert opinions regarding Full Time Equivalent (FTE), the author concludes that FTE is a workload analysis method by comparing the time needed to complete a job with the effective working time available.

2.2 Research Time

research was conducted when the author carried out Land Practice (Prada) from March 2023 to August 2023.

2.3 Research Place

The author conducted research at PT Pertamina Trans Continental Dumai Branch.

2.4 Research Methods

The author uses a quantitative descriptive method designed as a case study with primary data sources in the form of work activities for each employee, working time for each work activity, and also the total work frequency and duration of each job carried out by shipping agency employees as the research subject of this thesis. This data was obtained through direct observation by the author and documentation.

2.5 Data Analysis Techniques

In this research, the author used 2 data analysis techniques, namely data analysis techniques according to Miles and Huberman and data analysis techniques using the Full Time Equivalent (FTE) method. However, the author focuses more on data analysis techniques using the FTE method because the main aim of this research is to find out the causes of the shipping agency's shipping agency employee workload being too large and the causes of the overtime policy imposed on shipping agency employees as well as analyzing the employee workload. shipping agency section to find out the amount optimal workforce needs at PT Pertamina Trans Kontinental Dumai Branch.

Full Time Equivalent (FTE) is a method of analyzing workload by comparing the time needed to complete a job with the effective working time available. The FTE calculation according to Tisyulianti in *Optimizing Workload Management* by Didik Wahyu Setyawan, et al (2023:16) is as follows.

$$FTE = \frac{\text{total working time in a year}}{\text{Effective working time in a year}}$$

FTE aims to simplify work measurement by converting workload hours to the number of people needed to complete a specific job. In analyzing the data obtained using FTE, the author carried out 5 steps which were modified from previous research as follows.

- a. Determine the work unit to be researched.
- b. Collect employee data and working time from predetermined work units.
- c. Determine allowance factor.

Leisure is special time given by the company to employees for purposes such as meeting personal needs, the need to unwind,

- and other needs that are beyond their control.
- d. Calculate the available working time during the year.

Calculation of working time for a year using the FTE method includes the following components.

- 1) Number of days in a year.
 - 2) Annual leave.
 - 3) Weekend holidays (Saturday and Sunday).
 - 4) National holidays and collective leave.
- e. Calculate labor requirements.

From the results of data analysis using the FTE method, it will be possible to determine the optimal number of workers required according to the workload obtained in the work unit studied.

3. RESULT AND DISCUSSION

3.1 Data Description

In accordance with what has been explained in the previous data analysis technique, the following will describe the results of data analysis using the Full Time Equivalent (FTE) method.

1. Determine the work unit to be researched.
At this stage, the author determines the shipping agency section as the work unit that will be studied using the FTE method.
2. Collect employee data and working time from specified work units.
The following is data on shipping agency employees and their available working hours.

No	Name	Position	Age	Long Work
1	Rahman	OP sistem, lap	40	6 years
2	Iwan	OP sistem	32	8 years
3	Lukman	OP lapangan	46	10 years
4	Irfan	OP sistem	27	4 years
5	Pujo	OP sistem, lap	50	29 years
6	Rusdi	OP lapangan	40	14 years
7	Katman	OP lapangan	50	16 years
8	Aswin	OP lapangan	49	18 years
9	Madhan	OP sistem	35	13 years

PT Pertamina Trans Kontinental Dumai Branch employs 9 employees in the shipping agency section which is headed by a Sr. Port Supervisor. Where the working day for employees consists of 5 working days, namely Monday to Friday and working time is 8 hours per day (08.00-16.00) including 1 hour of rest (12.00-13.00).

3. Determine the allowance factor.

The assessment of the allowance factor in this research was carried out by the author himself and was approved by the company based on the results of direct observations during the author's ground practice at PT Pertamina Trans Kontinental Dumai Branch. The amount of allowance in the shipping agency section is 12.5%, consisting of meeting personal needs at 5%, needs for unwinding at 4%, and other needs beyond control at 3.5%.

4. Calculate the available working time during the year.

The following is the available working time during the year which is used in calculating the workload for each employee in the shipping agency section.

Code	Factor	Calculation	Information
A	Day of 1 year	365	Day/Year
B	Annual Leave	12	Day/Year
C	Final holiday week (Saturday and Sunday)	105	Day/Year
D	National holiday and Mass Leave	16	Day/Year
E	Effective working days	232	Day/Year
F	Effective working time per day	7	Hour/Day
G	Effective working time per year	1.624	Hour/Day
H	Effective working time per month	140	Hours/Month

In this table there are the number of working days in one year (code A) minus the amount of annual leave (code B), weekend holidays (code C), as well as national holidays and collective leave (code D). Where in code E the effective working days are 232 days. The calculation can be seen below.

$$\begin{aligned}
 &\text{Number of effective working days} \\
 &= A - (B + C + D) \\
 &= 365 - (12 + 105 + 16) \\
 &= 232 \text{ days}
 \end{aligned}$$

It can be seen in the table in the form of effective working hours per day (code F), total effective working hours per year (code G), and effective working hours per month (code H).

The following are the calculations for the g code and H code.

Effective working hours per year
 = 7 hours x 232 days
 = 1,624 hours/year
 Effective working hours per year
 = 7 hours x 20 days
 = 140 hours/month

3.2. Data Analysis

Based on observations that the author has made while carrying out land practice, in this section the author will analyze the data obtained using Full Time Equivalent (FTE). The data obtained is a description of the activities carried out by 9 shipping agency employees for one year.

1. Preparations Before Ship Arrival.

In this work activity, it was found that the total time required to complete the job description related to preparations before the arrival of the ship was 903 hours/year with the target call for a year being 903 ships.

2. Ship Arrival

When the ship is about to arrive, the agent will submit a request for the ship's arrival via the Inaportnet system within a period of 1 x 24 hours starting with submitting SPM and PKK until submitting SPOG anchoring so that the ship can enter the port area.

No	Work Activity	Target Call (Year)	Total Time (Hour)
1	Submission SPM and PKK	903	1414,7
2	Submission RKBM	903	556,85
3	Submission RPKRO	903	496,65
4	Guide booking through the system Phinnisi	903	632,1
5	Submission SPOG	903	496,65
Total			3596,95

3. Ship at Anchor

Furthermore, if the ship that has previously docked has received a berthing schedule from the terminal, the agent will first make a request for ship services via the

Inaportnet system so that the ship can maneuver and berth at the designated pier.

No	Work Activity	Target Call (Year)	Total Time (Hour)
1	Submission of moving ship	903	406,35
2	Submission RPKRO anchored	903	496,65
3	Booking a tugboat berth	903	632,1
4	Submission SPOG berth	903	496,65
5	KKP clearance	951	3487
6	KSOP clearance	903	797,65
7	Immigration clearance	84	142,8
8	Custom clearance	87	143,55
Total			6602,75

4. Preparation for Ship Departure

After the agent receives information from the terminal that the ship has arrived After carrying out loading and unloading activities or other purposes, the agent will apply for departure via the Inaportnet or INSW system to obtain SPB as a condition for the ship to leave the port to go to the next port.

In this work activity, it was found that the total time required to complete the job description related to preparation for ship departure was 4033.4 hours/year with the target call for a year being 903 ships.

5. Additional Activities

The following additional activities are additional services provided by agents to ensure ship operations run smoothly while at the port of call and in accordance with applicable regulations.

No	Work Activity	Target Call (Year)	Total Time (Hour)
1	Ship bunker Endorse	174	292,9
2	ship certificate Crew	45	247,5
3	change management	75	343,75
Total			884,15

6. Analysis Results

From the data analysis presented above, the following results were obtained.

No	Work Activity	Target Call (Year)	Total Time (Hour)
1	Preparation before ship arrival	903	903
2	Ship Arrival		
	Submission SPM and PKK	903	1414,7
	Submission RKBM	903	556,85
	Submission RPKRO	903	496,65
	Guide booking through the system Phinnisi	903	632,1
	Submission SPOG	903	496,65
3	Ship Berthing		
	Submission of moving ship	903	406,35
	Submission RPKRO anchored	903	496,65
	Booking a tugboat berth	903	632,1
	Submission SPOG berth	903	496,65
	KKP clearance	951	3487
	KSOP clearance	903	797,65
	Imigration clearance	84	142,8
	Custom clearance	87	143,55
4	Preparation for ship departure	903	4033,4
5	Additional Activities		
	Ship bunker	174	292,9
	Endorse ship certificate	45	247,5
	Crew change management	75	343,75
	Total		16020,25

It can be seen from the table that the time required to complete all ship service activities starting from before the ship arrives until the ship departs as well as supporting activities by the shipping agency section at PT Pertamina Trans Kontinental Dumai Branch is 16020.25 hours/year with the effective working time for a year being 1624 hours/year.

$$FTE = \frac{\text{Total working time in a year}}{\text{Effective working time in a year}}$$

$$FTE = \frac{16020,25}{1624}$$

$$FTE = 9,86$$

From the calculation above, it can be seen that the optimal number of employees required with an activity completion time of 16020.25 hours/year is 10 people. This indicates that PT Pertamina Trans Kontinental Dumai Branch lacks 1 employee out of the existing number of employees, namely 9 people.

3.3 Alternative Problem Solving

Based on data analysis using Full Time Equivalent (FTE), there are several alternative problem solutions provided by the author that can be used as consideration for companies regarding the problems that are the topic of this research. Below are several alternative problem solutions provided.

- 1) Overtime work is additional work time carried out by an employee outside normal working hours.
- 2) Recruitment is an effort to attract employees who have the skills, attitudes and qualifications needed to achieve the goals of the organization.
- 3) Training is a series of activities arranged in a coherent manner to improve skills, experience, expertise, increase knowledge and change attitudes of an individual.

3.4 Evaluation of Alternative Problem Solving

Evaluation of the alternative problem solving provided in order to assess the various options available which can later be used by the company as consideration for making the best decision regarding the existing problem.

- 1) Overtime work has the advantage of increasing productivity, earning additional income, and also opening up opportunities for learning and development. However, it also has disadvantages, such as decreasing long-term productivity, increasing company operational costs, and affecting the balance between work and life.
- 2) Recruitment is divided into internal and external recruitment, each of which has the following advantages and disadvantages.
 - a) Internal recruitment has advantages, namely increasing salaries and career status, reducing risks in selection and placement, and known work experience. Meanwhile, the disadvantages are limited resources, giving rise to potential conflict and dissatisfaction, and incurring training and development costs.
 - b) External recruitment has advantages such as the presence of ideas and outlook new, reduced conflict, and changes in organizational heirarchy. Meanwhile,

the disadvantages are that it requires greater costs, requires time to adjust, and limited opportunities for internal employees.

- 3) Training has advantages such as increasing productivity, improving service quality, and reducing errors and risks in the workplace. Meanwhile, the disadvantages are that it requires large costs, takes a long time for the training process, and can disrupt work-life balance.

3.5 Problem Solving

Based on an evaluation of several alternative problem solutions that have been described by considering the advantages and disadvantages, the best problem solving to be able to overcome the problems at PT Pertamina Trans Kontinental Dumai Branch which is the topic of this research is as follows.

1) Short Term Problem Solving

Overtime work is the right solution for the short term in overcoming the need for an optimal number of workers at PT Pertamina Trans Kontinental Dumai Branch because it can provide a quick response to sudden increases in work volume or urgent work.

2) Long-Term Problem Solving

Recruitment is the right long-term solution to address the need for an optimal number of workers at PT Pertamina Trans Kontinental Dumai Branch because it is able to create a stable and skilled workforce, reduce turnover and operational disruptions.

4. CONCLUSION

Based on the description of the Workload Analysis of Shipping Agency Section Employees at PT Pertamina Trans Kontinental Dumai Branch using the Full Time Equivalent (FTE) Method, it can be concluded as follows.

1. It is known that the cause of the workload being too large in the shipping agency section at PT Pertamina Trans Kontinental Dumai Branch is due to lack of employees. The total work completion time of 16,020.25 hours during a year can be completed optimally by 10 employees. Meanwhile, the number of employees is 9 employees. With this it can be concluded that the shipping agency section at PT. Pertamina Trans Kontinental Dumai Branch lacks 1 employee.
2. A shortage of 1 employee based on the total time to complete work of 16,020.25 hours, which is equivalent to 10 employees, is the cause of the implementation of the overtime policy for

shipping agency employees at PT Pertamina Trans Kontinental Dumai Branch.

BIBLIOGRAPHY

- [1] N. Pattipawaej, M. Tjoanda, and ..., "Carrier Responsibilities Regarding the Availability of Passenger Facilities on Board," *TATOHI J. Ilmu ...*, vol. 2, no. 2, pp. 149–157, 2022, [Online]. Available: <https://fhukum.unpatti.ac.id/jurnal/tatohi/article/view/906>
- [2] A. M. Dr. R. Luki Karunia, SE., "Optimizing the Role of the Maritime Services Industry Through Increasing the National Shipping Fleet and Ports in the Context of Maintaining National Unity and Unity," *J. Public Policy Appl. Adm.*, vol. 1, no. 2, pp. 111–118, 2019.
- [3] Hotmaria Situmorang & Yusnidah, "Agency Services in Handling Ship Arrivals and Departures at PT Sea Asih Lines Kualat Tanjung," *Bul. Utama Tek.*, vol. 16, no. Januari, pp. 147–151, 2021, [Online]. Available: <https://jurnal.uisu.ac.id/index.php/but/article/view/3774/2630>
- [4] V. S. Nabila and W. Syarvina, "Analysis The Effect of Workload on Employee Performance PT. Perkebunan Nusantara IV Medan Vania," *J. Kewarganegaraan*, vol. 6, no. 2, pp. 2788–2797, 2022.
- [5] K. Karauwan *et al.*, "RSOUTH MINAHASA REGIONAL RETRIBUTION THE EFFECT OF WORK ETHICS , WORKLOAD AND WORK ENVIRONMENT ON EMPLOYEE WORK PRODUCTIVITY AT THE SOUTH MINAHASA REGIONAL TAX AND RETRIBUTION EMBA Journal Vol . 12 No . 01 Januari 2024 , Hal . 499-509," vol. 12, no. 01, pp. 499–509, 2024.
- [6] S. Ramadhanti, "The Influence of Workload, Work Environment and Communication on Employee Performance at the Surakarta City Disperumkimtan," vol. 1, no. 5, pp. 372–384, 2023.
- [7] P. E. Megawati and Supriatin, "The Influence of Motivation, Job Stress and Workload on Employee Performance," *J. Ilmu and Ris. Manaj.*, vol. 8, no. 8, pp. 1–21, 2019.
- [8] Tridoyo and Sriyanto, "Load Analysis Working with the Full Time Equivalent Method to Optimize Employee Performance," *Ind. Eng. Online J.*, vol. 3, p. 8, 2014.
- [9] Annisa, Rullie. dkk. 2023. Special Topic Analysis and Design of Work Systems. Malang : Media Nusa Creative.
- [10] Bairizki, Ahmad. 2020. Human Resource Management (Competency Based Strategic Review) Volume II.. Surabaya : Pustaka Aksara.

[11] Lathifaturahmah. dkk. 2023. Human Resources Management. Sukabumi : CV. Haura Utama

[12] Affairs Regulation no. 12 (2008) Guidelines for Workload Analysis in the Department of Home Affairs and Regional Government 2008.

[13] Regulation of the Minister of Transportation of the Republic of Indonesia No. 59

(2021) Implementation of Service Businesses Related to Water Transport 2021.

[14] Regulation of the Minister of State Apparatus Empowerment and Bureaucratic Reform of the Republic of Indonesia No. 1 (2020) Guidelines for Job Analysis and Workload Analysis 2020.