

WORKLOAD ANALYSIS FOR PLANNING NEEDS OF EMPLOYEE IN PT. BATUWANGI PUTERA SEJAHTERA

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Abstract. Business competition in Indonesia is growing rapidly. Generally, each company provides maximum treatment to the employees to improve efficiency and productivity aimed to achieve company goals. Every company has similar goal in terms of getting a significant advantage with the aid of existing human resources. Human resource planning is the analysis of the number of employees needed by a company (Stoner and Wankel, 1986). Thus, the company can make the right decisions to solve the problem of human resource needs through the analysis of workload. PT. Batuwangi Putera Sejahtera is a company engaged in the milling and mining of limestone. The workload in the company is not distributed evenly yet, which causes some divisions have excess work. Companies must provide appropriate workloads for employees to reduce employees stress while working. The purpose of this research is to find ways to conduct manpower planning for PT. Batuwangi Putera Sejahtera by using workload analysis as consideration. The method used in this research is direct sampling. This method is used because there is numerous number of employees and the employees are doing regular task. The expected result of this research is the better distribution of workload and optimal allocation of employees in PT. Batuwangi Putera Sejahtera. The findings of this research that has been resulted from 12 employees of PT. Batuwangi Putera Sejahtera showed that there are currently 3 employees who have a very high workload, 7 employees are thinking about high work load but can still be overcome, and 2 employees have the normal workload. From these results, it is suggested that PT. Batuwangi Putera Sejahtera adds 3 additional employees, so that the total number of employee is 15 people.

Keywords: workload analysis, manpower planning

Introduction

PT. Batuwangi Putera Sejahtera is one of mining company located in Padalarang, West Java. Established in 1965, the company produces limestone and stone grain flour as raw material in the manufacturing of tile/terrazzo floor tiles. The company has currently 12 employees in the office process on consumer buying and selling process. However, there is a problem with what employees feel about their workload based on an interview conducted on January 2015. Mostly employees feel that they have high workload (59%) while only 8% of them who feel they have normal workload and the rest (33%) feel that they have low workload. This workload problem can affect employee's performance and in the end will lower company performance. However, this is not enough to make decision fairly just by relying upon what employees feel. Therefore, there is a need to conduct workload analysis systematically through obtaining accurate data regarding employee's workload. The objective of this study is to find out the most suitable workload and figure out the best quantity of employees by using FTE Workload Analysis to execute the issue.

1. The researcher using Workload Time type to calculate the workload issue.
2. This calculation describes a workload evaluation for one year period.

Literature Review

Human resource management is the process of acquiring, training, appraising, and compensating employees, and of attending to their labor relations, health and safety, and fairness concerns (Dessler, 2015). Human resource management refers to the policies, practices, and systems that influence employees behavior, attitudes, and performance (Noe et al, 2011).

Human resource planning is generally seen from the main relationship between strategic planning and human resource management. A strategic plan is the company's plan for how it will match its internal strengths and weaknesses with external opportunities and threats in order to maintain a competitive advantage. (Dessler, 2015).

Workload refers to the intensity of job assignments. It is a source of mental stress for employees. Stress is an active state of mind in which human being faces both an opportunity and constraint (Robbins, 1999). There are various ways in detecting stress symptoms or outcomes which are reflected in the workplace. In stress, outcome that is desired from an employee is generally perceived to be both uncertain and important (Robbins, 1999).

Type of Workload

The workload calculation can be seen from three aspects: physical, mental, and use of time. The physical aspect includes the calculation of the workload based on the human physical criteria. Mental aspect is a computation workload by considering aspects of mental (psychological). While exploiting more time to consider the aspects of the use of time to work (Wignjosoebroto & Zaini, 1999).

In general, physical workload can be seen from two sides, namely the physiology and biomechanics. Physiological side sees human work capacity of the physiology of the body (physiology), including heart rate respiration, etc. Whereas the biomechanics better observe the relevant aspects of the mechanical processes that occur in the body, such as muscle strength, and so on. Mental workload is the difference between mental works, demands with mental abilities possessed by the workers concerned. Refers to the portion of operator resources or information processing capacity that is actually required to meet system demands (Wilson & Eggemeier, 1991). And other source by Gopher & Donchin (1986), mental workload may be viewed as the difference between the capacities of the information processing system that are required for task performance to satisfy the performance expectations and the capacity available at any given time. In this research, researcher will only conduct workload based on time.

Workload Calculation

According to Sतालaksana et al. (2006), when all have been performed with uniformity desired, and the amount has been fulfilling the levels of accuracy and confidence desired, then time measurement is done. The next step is the management of data so that it would give informations regarding the standard time. The steps are:

a. Cycle time must be measured, which is the average completion time during the measurement.

$$W_s = \frac{X_i}{N}$$

W_s = Average Workload

X_i = Total working time used

N = Total working available

b. N

Equation 1 Cycle Time

$W_n = W_s \times P$
<p>W_n = Normal Workload P = Rating factor</p>

Equation 2 Normal Time

where p is the adjustment factor. This factor is measured if the measurer thinks that the job operator has abnormal speed of work; then there must an adjustment of time measurement or put to normal prior. The objective is to get the normal average cycle time. If the labors work normally, the adjustment factor would be, p , equal to 1. If the works performed are too slow then to normalize, the measurer must give a price of $p < 1$, and the opposite $p > 1$, if it is considered as working fast.

c. Measuring the standard time

Ultimately, after the measurement is completed, the standard time for the works completion may be obtained by:

$W_b = W_n \times (1 + L)$
<p>W_b = Standard Workload</p>

Equation 3 Standard Time

Where L is the allowance given to the labors to complete the works aside from the normal time. This allowance is given for three reasons, such as personal needs, relieving fatigue, and constraints that may occur inevitably by the workers. Generally, the allowance is considered in percent from the normal time.

Methodology

This research applies qualitative method analysis and the researcher set the objective to conduct workload analysis in identifying which division having low, normal, and high workload. The data obtained is then becoming an input in calculating manpower planning of PT. Batuwangi Putera Sejahtera. After that, the researcher collect the data from secondary and primary data. *Primary data* is the data that the researcher collect directly by using direct sampling method. The sequences of workload analysis direct sampling method. *Secondary data*, is the data collected from annual report of PT. Batuwangi Putera Sejahtera. Furthermore, there are several information collected regarding company profile, employee profile, and job desk data. There are five processes in workload analysis. The first is to define observation time after getting the permission to conduct research. The researcher start to collect data in PT. Batuwangi Putera Sejahtera for a 16-day observation period. Secondly, the researcher defines the job description in determining each job description available at PT. Batuwangi Putera Sejahtera. Thirdly, the researcher prepares the form; this form entitled Employee Workload Form is distributed over 12 existing employees. It is used to gain some data about the detail list of employees activities and how is their current spare time activities.

Employee Workload Form						
Employee Name		Mrs. Ayu				
Position		Administrative vice production				
No	Activity	Tally				
		1	2	3	4	5
A	Job Description					
1						
2						
3						
B	Unproductive Activities					
1						
2						
3						
C	Allowance					
1						
2						
3						

Figure 1. Employee Workload Form

Fourthly, calculating data sufficiency. After calculating employee workload, the next required step is to ensure the sufficiency of collected data. This can be done by using excel calculation. The last process is to calculating the workload by using excel. Besides, there are other forms, namely rating factor form and allowances form, which are also used to support this research.

Rating factor form is a performance assessment form that is filled out by CEO. This form is used to obtain the data about skill and effort level of employee based on CEO perspective. The form consists of a score number of 50 to 200; the score 50 shows lowest performance; the score 100 indicates the average performance and the score 200 represents higher performance.

Allowance Form is filled out by the researcher. The allowance number obtained from this form is based on observation in the management of PT. Batuwangi Putera Sejahtera. This form aims to know how much the allowance that owned by employees.

Data Analysis

The data is obtained from a total 12 employees of PT. Batuwangi Putera Sejahtera as respondents and the findings are resulted after conducting some analysis. The following is the table explaining assessment from director working in PT. Batuwangi Putera Sejahtera regarding employees skill and effort. The data is taken through questionnaire, which is directly filled by director.

Table 1. Assessment Score from Director

No.	Name	Job Position	Skill Score	Effort Score	Treatment Needed
1	Mrs. Ayu	Administrative Vice Production	80	80	Give Training & Give Motivation
2	Mrs. Siti	Field and Laboratory	100	80	Give Motivation
3	Mrs. Lilis	Finance and Sales	120	120	Already Good
4	Mrs. Asih	Weigher	100	100	Already Good
5	Mr. Eko	Head of IT	100	80	Give Motivation
6	Mrs. Nur	Sales Administration and Tax Administration	120	100	Already Good
7	Mrs. Dewi	Tax	100	100	Already Good
8	Mrs. Imas	Head of Administration	120	100	Already Good
9	Mrs. Tatin	Finance and Purchasing	80	120	Give Training
10	Mrs. Anita	Travel document	100	80	Give Motivation
11	Mrs. Reni	Warehouse and Production Administration	100	80	Give Motivation
12	Mrs. Tati	Transportation	100	80	Give Motivation

The following is the table explaining the assessment of workload analysis through observation.

Table 2. Workload Analysis Summary Table

No.	Name	Job Position	Score	Workload
1	Mrs. Ayu	Administrative Vice Production	98.24%	Normal
2	Mrs. Siti	Field and Laboratory	107.76%	High
3	Mrs. Lilis	Finance and Sales	123.88%	Very High
4	Mrs. Asih	Weigher	119.91%	High
5	Mr. Eko	Head of IT	102.15%	Normal
6	Mrs. Nur	Sales Administration and Tax Administration	123.03%	Very High
7	Mrs. Dewi	Tax	118.99%	High
8	Mrs. Imas	Head of Administration	132.66%	Very High
9	Mrs. Tatin	Finance and Purchasing	115.28%	High
10	Mrs. Anita	Travel document	111.51%	High
11	Mrs. Reni	Warehouse and Production Administration	111.41%	High
12	Mrs. Tati	Transportation	111.30%.	High

It can be clearly seen that in the case of PT. Batuwangi Putera Sejahtera, if the amount of workload in one year is ranging between 95.00% and 105.00%, then it is considered as normal workload. If the workload ranges between 106.00% and 120.00%, then it is considered as high workload, but can still be

overcome through some treatments, such as giving additional motivation and treatment on overtime hours. If the workload amount is 121.00% or higher, then the workers are considered to have very high workload and this should be the consideration to look for new workers in those positions. In respect to reviews result, the researcher find out that some divisions require new employees in order to reduce very high workload while the rest are already balanced in terms of employee workload, yet it still requires treatment, such as training and motivation to increase employee performance.

Table 3. Required Additional Worker Summary Table

No.	Job Position	Actual	Additional worker needed
1	Administrative Vice Production	1	0
2	Field and Laboratory	1	0
3	Finance and Sales	1	1
4	Weigher	1	0
5	Head of IT	1	0
6	Sales Administration and Tax Administration	1	1
7	Tax	1	0
8	Head of Administration	1	1
9	Finance and Purchasing	1	0
10	Travel document	1	0
11	Warehouse and Production Administration	1	0
12	Transportation	1	1

Conclusion and Recommendation

PT. Batuwangi Putera Sejahtera has currently 12 employees in the office with 12 different positions. There are several divisions in PT. Batuwangi Putera Sejahtera, which are Administrative Vice Production, Field & Laboratory, Finance & Sales, Weigher, Head of IT, Sales Administration & Tax Administration, Tax, Head of Administration, Finance & Purchasing, Travel document, Warehouse & Production Administration, and Transportation. The working daily time is from 07:30 to 16:00 pm, and the employee work for 6 days, from Monday to Saturday.

To answer the distribution of employee workload issue in PT. Batuwangi Putera Sejahtera, researcher has done the research workload analysis. It is found out that the two divisions that have a normal workload are the Head of IT and Administrative Vice Production. While the other 10 divisions show an overload of work with details, 7 divisions indicates high workloads. Lastly, the 3 other divisions have a very high workload. Those division are Finance & Sales Division, Sales Administration & Tax Administration, and Head of Administration.

To answer the second research question related to how many employees are needed in PT. Batuwangi Putera Sejahtera to balance the workload. PT. Batuwangi Putera Sejahtera require an additional three new employees in Finance & Sales Division, Sales Administration & Tax Administration, and Head of Administration in order to increase productivity and achieve company goals. For the divisions that include in high workload category, PT. Batuwangi Putera Sejahtera does not need to hire new employee because it can probably make the workload low. Instead, PT. Batuwangi Putera Sejahtera need to give bonus and special treatment for the employees in these divisions, because they have high workload.

This is a recommendation for PT. Batuwangi Putera Sejahtera to increase the number of employees needed so it can be fairly, efficiently and effectively managed:

1. PT. Batuwangi Putera Sejahtera must add employees as much as 3 people to 15 people, in order to increase the productivity of the company.
2. PT. Batuwangi Putera Sejahtera needs to give bonus to employees that work in divisions with high workload.
3. PT. Batuwangi Putera Sejahtera needs to give training to increase its employees skill especially to employees that considered have low skill
4. PT. Batuwangi Putera Sejahtera also needs to make a system which can motivate its employees especially employees with low effort.

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