

# **WORK LOAD ANALYSIS FOR DETERMINING THE OPTIMAL EMPLOYEE NUMBER – A CASE OF FACULTY OF ECONOMICS PAKUAN UNIVERSITY BOGOR, INDONESIA**

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## **Abstract**

Generally, the number of employees in an organisation needs to be based on the workload of the administrative staff and this is practised at the Economic Faculty Pakuan University, Indonesia too. To calculate the activity time of employees who work or not, researchers use the work sampling table. The method of calculating labour requirements is based on the calculation of the workload with the task per duty of the office according to Government guidelines. In Indonesia, the guidelines are spelt out in detail in the government document MenPAN No. KEP/75/M.PAN/7/2004 namely the “Guidelines for Employee Needs Calculation”. Samples on employee status were extracted from the Economics Faculty of the Pakuan University from the principal administrative officer. Data was processed using Microsoft Excel. The study concluded that there is a significant result in the use of working time and found that the University had the required number of employees it needed whereby 3 functions of services were done by 9 persons. Based on the calculation of the workload analysis, one more employee is needed for the financial services. It was also noted that efficiency level for effective working hours for administrative staff is 28 hours per week or 1680 minutes and there is a smooth workload administration at the Faculty of Economics. However, an additional employee in the Administration Department and an additional academic staff will increase the efficiency of employees in the Faculty.

**Keywords:** Work Load, Work Time, Pakuan University, Time of Completion Work, Needs of Employee

## **1. Introduction**

In order to provide services to customers, employees are required to work professionally to create effectiveness and efficiency. However, in reality, the expected professionalism has not been fully realized. The main reason is that there exists a discrepancy between the competence of employees and the positions they occupy. This discrepancy is caused by the composition of employee skills or skills that are not proportional. Likewise, services at higher educational institutions currently still do not refer to the actual needs of the organization, in the sense that they are not based on the existing workload. Stacking employees in another unit without clear work description or lack of staff are cases which ultimately cause a problem to the organization.

To overcome these problems, it is necessary to improve the implementation of personnel management towards a better, well directed, clear pattern which is sustainable. One

component that is urgent to be arranged at this time is employee planning, especially human resource planning. Currently, the planning of civil servants in Indonesia is part of personnel management and has not been carried out efficiently to meet the needs of the organization. In relation to human resource planning, this study refers to the Civil Servants Formation Planning (PNS) document as the provisions of Law Number 8 of 1974 concerning the Personnel Principles as amended in Act No. 43 of 1999 states:

- Article 1 paragraph 1: "Civil Servants are every citizen of the Republic of Indonesia who has fulfilled the conditions specified, appointed by an authorized official and entrusted with an assignment in a public office, or entrusted with the duties of another State, and paid according to legislation applies.
- Article 15 paragraph 1: "The number and composition of the ranks of Civil Servants required are set in formation".
- While in paragraph 2: "Formation as referred to in paragraph (1), is stipulated for a certain period of time based on the type, nature and workload that must be carried out".
- Article 17 paragraph 1: "Civil servants are appointed in certain positions and ranks".

University of Bogor, is categorised as a Higher Education Unit under the Bogor University Foundation registered with the Department of Higher Education and Science (PTIP) dated January 10, 1963 No. 21 / B-SWT / P / 1963. With the dissolution of the Bogor Higher Education Foundation in 1982 and replaced by the Kartika Siliwangi Foundation of the Pakuan University Trustees, the Coordinator of the Private Higher Education Region IV of West Java guarantees the cooperation of UNBO alumni to register at Pakuan University.

Furthermore, the decision was confirmed by the Decree of the Minister of Education and Culture of the Republic of Indonesia No. 0185 / O / 1982 dated May 10, 1982 concerning: Changing the name of the University of Bogor to become Pakuan university. The Faculty of Economics, which is one of the six Faculties in the Pakuan University, is currently holding the Strata 1 Higher Education Program and Diploma 3 program with the Semester Credit Unit (SKS) system. Its existence came from the merger of the Faculty of Economics, Bogor University which conducted joint programmes with several private universities in the city of Bogor to become Pakuan University under the auspices of the Kartika Siliwangi Foundation.

The Administration department holds the records and compiles all information in an effective and efficient manner by using the facilities and infrastructure available so that the information can be used directly as for the leadership of the organization concerned or can be used by parties outside the organization on request. The main activities of the tasks of academic and student work at the administrative unit are student academic services, administration of lectures, practicums, examinations, as well as archiving.

The administration department of the Faculty of Economics at Pakuan University consists of permanent employees and contract employees. Permanent employees are administrative employees having long-term work quality to work at Pakuan University, and consist of permanent employees appointed by the foundation, while non-permanent employees are non-permanent employees at Pakuan University in the Faculty of Economics administration.

The data on administrative employees in the Economics faculty are as follows:

Table 1 Number of administrative employees at Faculty of Economics, Pakuan University

Description	Manpower
Permanent	8
Contract	1
Total Employees	9

From table 1, it can be seen that the number of administrative staff is only 9 people. Workload that are too heavy have an impact on work efficiency, lack of labour or a lot of work with a small number of employees employed may result in physical and psychological fatigue for employees which may cause employees to become less productive as they are too tired. This may cause inefficiency among employees. The more job descriptions that must be completed by employees, the greater the likelihood of over capacity.

Besides that, the workload also depends on the use of technology in carrying out the work. To get human resources in accordance with needs, it is necessary to measure workload so that number of employees can be optimal in carrying out their work. Workload measurement is needed to determine the time for an employee who meets the requirements in carrying out a particular job at a predetermined level of achievement. This discrepancy is caused by the composition of expertise or skills of employees who are not yet professional. Similarly, the current placement of employees still does not refer to the actual needs of the economic faculty, in the sense that it is not based on the existing workload. As such, there must be human resource planning, this is an important element in developing strategies. The availability of quality human resources with the right quantity is absolutely necessary in every university. The right number of employees can be calculated using the workload analysis. It is important for employees to know the workload because it is fundamental to identifying how well an employee works. The right number of employees will help the Faculty of Economics to further improve its effectiveness. The purpose of workload analysis that explains the following is:

1. Structuring or improving organizational structure.
2. Assessment of job performance and work performance of the unit.
3. Material improvement of work systems and procedures.
4. Means of improving the performance of the Faculty of Economics.
5. Compilation of employee lists
6. Preparation of plans for the needs of employees from excessive units to deficient units.
7. Material setting policy for leaders in order to increase the utilization of human resources

To carry out the workload analysis there are four steps, namely:

1. Compile a list of positions
2. Compile employee lists according to position.
3. Make estimates of employee supply
4. Calculation of employee requirements

## **2. Literature Review**

Workload is one aspect that must be considered by each organization because the workload is an important element that can increase or decrease employee work productivity. According to Irwandy (2007), in planning the needs of health workers, the health department of the Republic of Indonesia has compiled a Basic Personnel Composition module (DSP) which contains methods for calculating health personnel, namely the estimation of workload. In this method each employee can calculate his workload based on his duties and functions. Workload is the frequency of the average activity of each job within a certain period (Irwandy, 2007).

Workload includes physical and mental workload. As a result of workload that are too heavy or physical abilities that are too weak, it may result in an employee suffering from work-related disorders or diseases. Workload is one element that must be considered for a workforce to get harmony and work productivity high in addition to the element of additional burden due to the work environment and work capacity (Sudiharto, 2001). Workload according to Haryono (2004) refers to the "The number of activities that must be completed by a person or group of people during a certain period of time under normal circumstances." According to Adil Kurnia, (2010) "Workload is a process of analysis of the time used by a person or group of people in completing the tasks of a job (occupation) or group position (work unit) carried out under normal conditions / conditions ".

According to Komaruddin (1996: 235) quoted by Adil Kurnia (2010), workload analysis is a process for determining the amount people working hours that are used or needed to complete a job within a certain time, or in other words the workload analysis aims to determine how many personnel and how much responsibility or workload is appropriate delegated to an officer. According to Simamora (1995: 57) quoted from Adil Kurnia (2010), workload analysis is to identify both the number of employees and qualifications employees needed to achieve organizational goals. According to Menpan (1997) quoted by Adil Kurnia (2010), the definition of workload is a set or a number of activities that must be completed by an organizational unit or position holder within a certain period. The measurement of workload is defined as a technique to obtain information about the efficiency and effectiveness of an organizational unit, or a position holder that is carried out systematically using job analysis techniques, workload analysis techniques or other management techniques. Furthermore, it was also stated that the measurement of workload is one of the management techniques to obtain position information, through a process of research and assessment conducted in an analysis. The position information is intended to be used as a tool to improve the apparatus both in the field of institutions, management and human resources. Workload calculations can be seen from 3 aspects, namely physical, mental and time use. Physical aspects include workload based on human physical criteria. The mental aspect is the calculation of workload by considering the mental (psychological) aspects. While the aspect of time utilization is more considering the aspect of time usage to work (Adipradana, 2008). According to KEPMENPAN no.75 / 2004 the workload is: "a number of job targets or target results that must be achieved within a certain time unit" While the definition of work expenses according to PERMENDAGRI no.12/2008; "Workload is the amount of work that must be carried by a position or organizational unit and is the result of the work volume and time norm"

### **3. Research Methodology**

The calculation of employee requirements was done using the general method, namely the calculation for general functional positions and certain functional positions that have not been determined by the standard needs of the coach. Calculation of employee requirements in that position uses the basic data of existing employee data and a map and job description. Therefore, the main tools used in calculating employee needs are neatly arranged job descriptions. To calculate the needs of employees, firstly the workload of the employees was identified through: Work results, Work objects, Work tools, tasks per job title. This method is a method for calculating the needs of employees in positions where work is abstract or diverse. Diverse results mean that the results of work in many types of positions. The information needed to be able to calculate by this method is: job description along with the amount of load for each task; completion time of the assignment; the amount of effective working time per day on average. The Formula is:

$$\frac{\sum \text{Task Completion Time}}{\sum \text{Efektif Working Time}}$$

Policy implementation requires a sufficient amount of time and resource to carry out all policies made. The implementation of this policy includes the level of utilization of available resources and the time needed in accordance with the procedures for completion of work. However, the head of administration and staffing in carrying out their work related to the available resources says it is still quite a lot, especially regarding work facilities and also human resources that are considered adequate in completing the work. Meanwhile, the employee's working hours are in accordance with staffing procedures.

In-depth understanding requires understanding and comprehension as well as agreement on goals or objectives to be achieved in depth. These objectives must be clearly defined, specific and can be understood and agreed upon by all parties involved in the organization. It is important to understand the procedures made; agreement on the objectives to be achieved, goals set explained in detail and has the same understanding of the procedures that are made.

### **4. Findings**

The administration division has 4 employees for service to students and lecturers. The main tasks of the administration work of the Faculty of Economics is based on information about the work of the administration department, the main tasks of the work are such as: writing letters, keying-in test results (UTS) and mid semester results, keying-in final semester results. Tasks include archiving, student services, student service (print a little), student service (print a lot), make financial reports (per month), registration of attendance. Lecturers, organizing absent lecturers, organizing diplomas, legalizing licenses, preparing and clearing stationary (ATK) conversions, preparing hearings, procurement of goods, repairing or maintaining the printer, and assisting in every event of the Faculty of Economics.

Working day shows the number of days available to work for employees. Working time is a certain unit of time available for work. Working days and work time are very important

factors to know in carrying out workload analysis. Based on working days and work time, it can be seen how the employee's use of time is available. Within a week from Monday to Saturday or as much as 288 working days a year. The employee working hours per day is from 08.00 to 16.00.

Working time that is effectively used for work consists of effective working time and effective working hours. Effective working time applies equally to administration. Effective workdays can be calculated by the following steps. The number of days based on the 2017 calendar is 365 days. The number of Sundays is 104 days a year. Then national holidays in 2017 are 20 days and annual leave based on information from Pakuan University staffing regulations that is 12 days. Total national holidays and annual leave are 136 days. Finally, effective working days are obtained by reducing the number of days in 2017 calendar with the total holidays so the effective working day is 229 days.

Administrative staff works for 8 hours per day or 40 hours per week. Effective working hours are the number of formal working hours with work time lost due to not working due to toilet break, tea break, fatigue, eating breaks, and so on. Non-working time allowance is estimated to average around 30 percent of the total work. Thus, the effective working hours of administrative staff after deducting non-working time allowance is reduced to 28 hours per week or 1680 minutes

Each main task has a workload of tasks which describes how many tasks are in the unit of results and a certain period of time. The average ability standard shows how long it takes for a person to complete a task. Task completion time for academic service activities is calculated by multiplying the workload for a week with an average ability standard of 15 minutes. The workload of the administrative work assignment and the time needed to complete the task is given in minutes. Task load (BT) and average ability standard (SKR) completion time of each element of the main task is obtained from the results of interviews with employees in the administration department. The results of the multiplication research between the task load and the average ability standard for each work assignment are then summed up, so that the total completion time is 8277 minutes per week. These are shown in the tables below.

Table 2 - Administrative Needs for Academic Services

No	Study Program	No of Students	TST Mins	No of Employees
1	S1 Management	1750	1000	1.75 (2 persons)
2	S1 Accounting	1235	1000	1.24 (2 persons)
3	D3 Accounting	31	1000	0.03 (0 persons)
4	D3 Tax Management	58	1000	0.06 (0 persons)
5	D3 Financial & Banking Management	81	1000	0.08 (1 persons)
<b>Total</b>		3155	5000	3,155 (5 persons)

TST - Task Settlement Time

Table 3 - Employee Needs for Administration for Public Services

No	Study Program	Number Of Students	TST Mins	No of Employees
1	S1 Management	1750	750	2.33 (3 persons)
2	S1 Accounting	1235	750	1.65 (2 persons))
3	D3 Accounting	31	750	0.04 (0 persosn)
4	D3 Tax Management	58	750	0.08 (1 persons)
5	D3 Financial & Banking Management	81	750	0.11 (1 persons )
<b>Total</b>		3155	3750	4.2066667 (7 persons)

Task Settlement

\* Time

Table 4- Employee Needs for Administration for Financial Services

NO	STUDY PROGRAM	Number of Lecturer	TST Mins	No of Employees
1	S1 Management	60	625	0.10 (1 person)
2	S1 Accounting	40	625	0.06 (0 persons)
3	D3 Accounting	20	625	0.03 (0 persons)
4	D3 Tax Management	20	625	0.03 (0 persons)
5	D3 Financial & Banking Management	20	625	0.03 ((0 persons)
<b>Total</b>		160	3125	0.256 (1 person)

## 5. Conclusion

Based on the results of the study, a few conclusions can be drawn as follows:

Firstly, the employee workload policy is carried out at the Faculty of Economics, Pakuan University. The workload policy that has been described in tertiary education at the Faculty of Economics, University of Pakuan contains the management of human resources, recruitment, position and appointment of employees, rights and obligations of employees,

violations and sanctions. The policy is stated in the employment regulations of Pakuan Bogor University employees.

Secondly, the implementation of the duties of employees of the administration department of the Faculty of Economics - there are still rules that have not been implemented, for example, tasks that have not been detailed.

Thirdly, the level of efficiency of effective working hours for administrative staff is 28 hours per week or 1680 minutes and the workload of Administration at the Faculty of Economics is running smoothly.

## **6. Recommendations**

Based on the results of the research conducted some policy implications and recommendations to be considered by the faculty administration are as follows:

Firstly, the Administration Section of the Faculty of Economics at Pakuan University needs to review the analysis of work at the administrative unit. Elements that need to be reviewed with regards to the tasks whereby the main tasks of the work must be more detailed, so it is necessary to make a more specific description of the work done by each employee. However, the policies that have been implemented at Pakuan University should be maintained and monitored.

Secondly, to increase efficiency in completing a task, it needs to be more stabilised and not fluctuate where the employees need to complete a task given within a stipulated time limit.

Based on the calculation, there is a need to increase one more academic employee and one more employee in the financial services department.

There needs to be more training given to the employees on "Excellent Service" to improve the quality of services of lecturers.

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