Workload Analysis and Determination of Financial Service Employee Requirements using the Full-Time Equivalent Method

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Abstract

Company performance is supported by employee productivity, so an ideal workload is one way to maintain good company performance. PT. XYZ is a company engaged in financial services. Interviews with several employees revealed overlapping work, despite each having their job description. This imbalance in employee workload potentially leads to excessive workloads. This study aims to determine the workload received by PT employees. XYZ and choose the required number of employees based on workload calculations. This study uses the full-time equivalent (FTE) method, which analyzes workload based on employee working time converted into an FTE index value. The results show that 17% of employees have an inload workload, 33% are overloaded, and 50% are underloaded. When evaluated based on the field of work, workload equalization needs to be carried out. The separation of work involves adding two employees in the General and Participant Service division and one employee in the Administration and Membership division and reducing two employees in the Finance and Accounting division. Equalizing the workload needs to be done to help employees be more effective and productive in their work.

Keywords: analysis, workload, full time equivalent, employees, ergonomics

1. Introduction

Ergonomics is a science that studies various human characteristics and aspects, such as strengths, abilities, limitations, and others, that are relevant to the work context and uses the information obtained to strive for the best design of products, environments, tools, machines, and work systems (Iridiastadi & Yassierli, 2019). Ergonomics not only discusses the relationship between human aspects and characteristics with the work environment and work facilities but also discusses human capabilities. One aspect of capability consideration is the workload received by workers (Manuaba & Wignjosoebroto, 2004).

The workload is the volume of work delegated to the workforce, both physical and mental, and it is their responsibility (Mahawati et al., 2021). According to (Sanders & McCormick, 1992), mental workload is based on the difference between total available resources and the demands of the tasks. The definition of mental workload (Wulanyani, 2013) is the ability to process when performing work, and it is understood that mental workload arises as a result of the process of interpretation, perception, and information processing

channeled through the sensory senses. From an ergonomics perspective, workload can be designed in such a way as to be optimal because too little will cause boredom, and too much will cause a decrease in work performance (Iridiastadi & Yassierli, 2019).

An imbalance between workload and worker capabilities can negatively impact workers. Excessive workload can cause health problems and fatigue, both physical and mental, such as irritability, headaches, and digestive issues. In contrast, an insufficient workload can cause boredom, which leads to a lack of attention to work (Mahawati et al., 2021) However, job analysis is inseparable from two important things: job descriptions and job specifications (Sudaryanto, 2016).

PT. XYZ is a financial services company that manages pension funds, and each employee has their job description. However, with a relatively broad scope of work, employees are assigned a lot of work, sometimes not matching their job descriptions. Some employees also do the same work, causing overlap that confuses employees and adds to their workload. This overlapping work is also caused by miscommunication between employees and uneven distribution of work. Employees

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with excessive or insufficient workloads will disrupt their performance and can impact company performance. Based on these problems, it is necessary to evaluate the workload of PT. XYZ employees and calculate the number of employees according to company needs.

Analyzing workload is one step in determining the workload of a job. Workload analysis calculates optimal labor for task performance in a department or company unit (Madiun & Kakerissa, 2017), to estimate the labor required to handle the workload (Pranoto et al., 2015). The benefits of workload analysis include determining the number of employee requirements, assisting in the process of adding and reducing employees in an organized manner, assisting in improving the tasks of existing positions, assisting in calculating workloads within a certain period, assisting in improving organizational structure and standard operating procedures (SOP), and assisting in measuring working time and time standards in task completion (Koesomowidjojo, 2017).

Several methods can be used to analyze workload, both physical and mental. One method that can be used to measure mental workload is the Full Time Equivalent (FTE) method. The FTE method is a workload analysis calculation method based on time, obtaining its measurement results by comparing the time spent performing various tasks with adequate working hours (Adawiyah & Sukmawati, 2016; Adianto & Karo, 2014; Sukirman et al., 2021), then converting the FTE value to the number of employee requirements (Anisa & Prastawa, 2019; Buchholzer, 2022). The calculation results can be a reference for whether the employee's workload falls into the inload, overload, or underload category. This study uses the FTE method to analyze the workload of PT.XYZ employees and to determine the number of employee requirements to be compared with the actual number of employees in the company.

2. Research Methods

The first stage of this research involves identifying and defining the research problem. The problems that are the focus of this research are the workload received by PT. XYZ employees and the required number of employees using the Full Time Equivalent (FTE) method. A literature review and library research on the issues raised follows this. This library research is related to ergonomics, workload including mental and physical workload, workload measurement, allowances, and the FTE method. This study aims to determine the workload received by employees in the company and the calculation of employee requirements using the FTE method.

In the data collection stage, the data taken are the work units and employee classifications, job descriptions, effective working time, and allowances. The data taken comes from historical data and employee

interviews. The data obtained is then processed using the FTE method (Mahawati et al., 2021), with the calculation formula number (1).

$$FTE = \frac{Total\ working\ hours}{Total\ effective\ working\ hours\ per\ year} \quad (1)$$

The FTE value calculated based on the formula above will then fall into three categories, namely:

1. FTE value 0 – 0.99, which means the workload is underload
2. FTE value 1 – 1.28, which means the workload is inload
3. FTE value >1.28, which means the workload is overload

To determine the required workforce, the total time to complete tasks per year is divided by the number of effective working hours in one year. The next step is to analyze the data processing results to determine the workload employees receive and compare the calculated employee requirements based on the FTE method with the number of employees in the company.

3. Results and Discussion
3.1. Data Collection Results

Data was obtained over one year from interviews with PT. XYZ employees. Employee working hours in one year during 2022 are shown in Table 1.

Table 1: Employee Working Hours Data

Calculation	Total	Unit
1 Day	8	Hour
1 Week	5	Day
1 Month	30	Day
1 Year	365	Day
Holidays		
National Holidays	16	Day
Weekend Holidays	105	Day
Annual Leave	12	Day
Total Holidays	133	Day
Calculation Results		
Working Days 2022	232	Day
Working Hours/Year	1856	Hour

Tables 2 and 3 present the recapitulation data of employee working hours for each division and each employee for one year.

Table 2: Employee Unit Working Hours Data

Position	Total Working Hours (year)
Head of Compliance, Internal Control and Risk	1668.00
Head of Investment Division	545.17
Investment Staff	2679.33
Head of General & Participant Services Division	3369.25
General & Participant Services Staff	2491.87
Head of Administration and Membership Division	2426.25
Administration and Membership Staff I	1915.42
Administration and Membership Staff II	1187.97

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Position	Total Working Hours (year)
Head of Finance & Accounting Division	1038.50
Accounting Staff	1219.45
Tax Staff	653.67
Cashier	423.40

Table 3: Working Hours Data per Division

Division	Total Working Hours (hours/year)
Compliance, Internal Control, and Risk Management Division	1668
Investment Division	3224.5
General and Participant Services Division	5861.12
Administration and Membership Division	5529.63
Finance and Accounting Division	3335.02

3.2. Allowance Calculation

According to (Cudney, 2009) allowance is time wasted by employees to carry out other activities outside of their work, to know the value of the allowance from activities or work (Rachmuddin, 2020). The allowance used in this study is determined based on the ILO standard table (Sutalaksana et al., 2006). Allowance values can be obtained from direct observation by researchers with the approval of the company (Matiro et al., 2021) and are categorized as Non-Technical (Anisa & Prastawa, 2019). The company has approved the values of the allowance factors based on direct observation and interviews, as shown in Table 4 below.

Table 4: Allowance Time

No	Allowance Factor	Percentage (%)
1	Working at a desk	3
2	Sitting position	1
3	Normal eyesight	2
4	Normal temperature	2
5	Physical needs	5
	Total (%)	15
	Total allowance (hours)	278.4

3.3. FTE Value Calculation

Using formula number (1), the FTE value results for each employee are shown in Table 5.

Table 5: Employee FTE Values

Position	FTE	Kriteria
Head of Compliance, Internal Control and Risk	1.071	inload
Head of Investment Division	0.350	underload
Investment Staff	1.720	overload
Head of General & Participant Services Division	2.163	overload
General & Participant Services Staff	1.600	overload
Head of Administration and Membership Division	1.558	overload
Administration and Membership Staff I	1.230	inload
Administration and Membership Staff II	0.763	underload
Head of Finance & Accounting Division	0.667	underload

Position	FTE	Kriteria
Accounting Staff	0.783	underload
Tax Staff	0.420	underload
Cashier	0.272	underload

3.4. Employee Requirements Calculation

Based on the workload calculation results using the FTE method above, some divisions have workloads outside the inload category, namely between underload and overload. From these workload results, the employee requirements for divisions with workloads in the unload category can be calculated by summing the total working time in that division without differentiating job levels and then dividing by the effective working time in one year at the company. Table 6 below is a proposal for employee requirements based on the workload calculations that have been carried out previously.

3.5. Discussion

Each employee has a different workload. The employee with the highest FTE index value is the Head of the General & Participant Services Division at 2.163, with a total working time of 3369.25 hours per year, and the division with the lowest FTE index value is the Cashier at 0.272, with a total working time of 423.4 hours per year. Each division has a different workload. The division with the highest FTE index value is the General and Participant Services Division at 3.76, with a total division working time of 5861.12 hours per year. The division with the lowest FTE index value is the Compliance, Internal Control, and Risk Management Division at 1.07, with a total division working time of 1668 hours per year.

Based on the employee requirements calculations that have been carried out, the proposed employee additions at the company are two people in the General and Participant Services Division and one person in the Administration and Membership Division. These calculation results are consistent with similar research on non-technical work, namely the administrative section (Kanya, 2023) and the recruitment section (Prasetyo et al., 2023). Meanwhile, two people are proposed to reduce the number of employees in the Finance and Accounting Division to equalize the workload. This result differs from the finance and accounting section in (Rizkiyani et al., 2019) and tellers (Adi & Rusindiyanto, 2020), which showed an overload. From these studies, there are several alternative solutions other than adding or reducing employees, namely job enlargement or distributing the workload according to the qualifications of the employees carrying it out, job enrichment, namely increasing the capacity of employees in carrying out their work, and the use of information systems to process manual data to facilitate administrative work.

PT.XYZ is advised to equalize the workload and assign and carry out work according to their respective job descriptions to help employees be more effective in their work and minimize employees who have overloaded or underloaded workloads. Further research can add other factors, such as job characteristics and specifications (Faryaputra & Sudiana, 2024) or job rotation (Susilo et al., 2023), as considerations .

Table 6: Calculation of Labor Requirements

Division	Total Working Hours	Effective Working Hours in One Year	Required Employees	Current Employees	Gap Between Required and Current Employees	Keterangan
Compliance, Internal Control, and Risk Management Division	1668	1557.6	1.07	1	0	Ideal
Investment Division	3224.5	1557.6	2.07	2	0	Ideal
General and Participant Services Division	5861.12	1557.6	3.763	2	2	Needs Addition
Administration and Membership Division	5529.63	1557.6	3.55	3	1	Needs Addition
Finance and Accounting Division	3335.02	1557.6	2.141	4	-2	Needs Reduction

4. Conclusion

There is an uneven workload among PT's pension fund management employees. XYZ. Based on calculations using the FTE method, the employee with the highest index is the Head of the General and Participant Services Division at 2.163, with a total employee working time of 3369.25 hours/year. The employee with the lowest FTE is the Cashier, which is 0.272, with a total employee working time of 423.4 hours/year. Two divisions require additional employees due to an overloaded workload, two have a suitable workload, and one can allocate its employees due to underload. Workload equalization must be done to help employees be more effective and productive.

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