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Literature Review on Job Observation Methods as a Basis for Workload and Productivity Analysis

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Abstract: Job observation is an important way to understand how people work and the extent of their workload. Through this literature review, the author attempts to discuss various studies that use job observation methods such as time and motion study, work sampling, and functional job analysis (FJA) as a basis for assessing employee workload and productivity. A search was conducted on various scientific sources from 2020 to 2025, including national and international journals. Based on the study results, job observation is considered capable of providing more realistic and objective data on work activities compared to other methods such as interviews or questionnaires. The application of time and motion study has proven effective in measuring work duration, identifying inefficient activities, and helping to increase productivity in various fields, particularly in the healthcare and industrial sectors. Meanwhile, functional job analysis focuses more on aspects of workers' roles and responsibilities as a basis for HR planning and the development of more accurate job descriptions. Overall, the combination of direct observation and functional analysis can provide a more comprehensive picture of workload and the potential for improving individual performance. This review also emphasizes the importance of utilizing digital technology, such as time-tracking apps or work monitoring systems, to make observation processes more accurate and efficient in the Industry 4.0 era.

Keywords: Work Observation, Time, Motion Study, Functional Job Analysis, Workload, Productivity

Introduction

In the ever-evolving world of work, efficiency and effectiveness are two important things that greatly affect the success of an organization. Technological developments, increasingly high productivity demands, and the complexity of work make companies need to understand how employees actually work in their daily lives. One of the most widely used ways to understand this is through the work observation method, which is by directly observing the activities that workers do while carrying out their duties. Through

observation, researchers or human resources practitioners can find out how a person works, what activities are most often performed, and how long it takes to complete each part of his or her work.

Organizations that want high operational efficiency need to fully understand how employees use their time, the nature of their workloads, and how operational activities affect work outcomes and quality. In this context, work observation methods such as direct observation, time study, work sampling, and other work measurement techniques serve as the main foundation for:

1. Set a standard time for each element of the job
2. Measuring the distribution of productive and non-productive activities. Identify loads

   Work
3. Quantitatively, both physically and mentally. Analyze the relationship between
4. workload and productivity and worker performance. For example:

Research using the Workload Analysis (WLA) method at packaging stations shows how workloads can be measured and used to determine the optimal number of operators. Meanwhile according to (Issue, Aqsha, Husda, & Ramdhani, 2025), the literature on worker productivity using work sampling shows that there is still significant potential for non-productive time in the current work system (Goretti, Setyo, & Susanto, 2023).

The Importance of Work Observation Methods

The work observation method offers several advantages in the context of workload and productivity analysis, including:

1. Provide empirical data directly from the field, rather than just perceptions or questionnaires.
2. This method allows the measurement of the quantity of cycle time, idle wasted time, and the distribution of activity (e.g., percentage of productive time versus non-productive time).
3. This method serves as a basis for setting time standards, determining optimal staffing levels, and redesigning workflows and work systems.
4. This method supports the identification of obstacles, wasteful activities, or unbalanced distribution of workloads, which ultimately affects productivity and output quality (Indah et al., 2021).

Literature Review

Relationship of Workload, Job Observation, and Productivity

In the management and ergonomics literature, workload is defined as the number of activities or tasks that workers must complete in a given period, using their skills and abilities. A high or unbalanced workload can affect worker performance and organizational productivity. For example, a study in the industry found that excessive workload has a negative impact on productivity (Situmorang, 2019).

The job observation method serves as an important way to measure the actual workload in real-time and then relate it to productivity. Using time and movement data from observations, we can analyze: how much time workers spend on value-added activities compared to non-value-added activities, how much idle or waiting time occurs, and how the work cycle can be optimized. For example, work sampling is a method in which random

observations of worker activities are made over a certain period to determine the proportion of productive versus non-productive activities (JONNAIDI, 2020).

Through these measurements, organizations can set realistic time standards, calculate workload (the number of tasks multiplied by standard time), and then assess productivity by comparing the results achieved with the time inputs used. This relationship has been the basis for many empirical studies examining how workload and productivity are interconnected.

Classical job analysis breaks down duties, responsibilities, skills, work environment, and relationships between roles helps organizations create job descriptions, specifications, and qualification requirements (Susanto, Rachman, & Saepudin, 2024). However, in an era where risks such as operational errors, information leaks, and internal threats can shake organizational stability, work analysis needs to evolve. He cannot just explain what needs to be done: he must also show how security can be built into every job and work process (Dr. Mustadin Taggala, S.Psi., n.d.).

By incorporating elements of security management into the job description such as aspects of access control, security responsibilities, security awareness training needs, and internal threat prevention, the organization gains a formal basis to:

1. Establish a clear and operationally secure position structure
2. Restrict access and authority based on roles, which reduces the risk of abuse of authority
3. Provide guidance for recruitment, training, and performance evaluations that consider security aspects
4. Aligning information security needs, operational procedures, and human resources in one integrated framework (Mulyana Dede Hendri, Muhyi Herwan Abdul, 2019).

In this way, combining job title analysis with security management ensures that not only do people tailor their roles appropriately, but also protect the organization's assets including human assets, data, and operations within the organization (2018, 2020).

Additional Framework Structure: Managing Security in Job Analysis To enrich job analysis with a focus on security, the following additional topics can be developed:

1. Identifying work-related risks examines potential threats such as operational errors, data leaks, unauthorized access, and internal threats.
2. Job specifications that focus on security add competencies such as security awareness, integrity, understanding of protocols, and auditing capabilities.
3. Describe security procedures and controls in job descriptions e.g., access monitoring, verification procedures, data management practices, and authority limitations.
4. Security training and culture integrate security training as part of job requirements and development.
5. Evaluation and monitoring of safety in performance including safety indicators in performance assessment, internal audits, and compliance with standards.
6. Managing change and adaptation in a dynamic context ensures that job analysis remains relevant amid new technological changes, regulations, and threats (Taggala, 2015). Framework

it allows organizations to align human resource management with risk management holistically – making it more than just an administrative tool, but also a safeguard for the sustainability of the organization (Dr. Mustadin Taggala, S.Psi., n.d.).

Research Methods

According to (Snyder, 2019), literature review as a research method provides a foundation for developing theories, evaluating empirical evidence, and identifying research gaps in increasingly complex fields. (Sigh, n.d.) states that literature research or literature-based research is a type of research that "emphasizes on theoretical analysis and related references regarding values, cultures, and norms that develop in the social context being studied.

This study uses a qualitative approach with a literature review method. This approach was chosen because the research does not involve collecting data directly in the field, but focuses on an in-depth analysis of various existing studies and theories. Through a literature review, the researcher sought to understand how job observation methods, including time and motion study and Functional Job Analysis (FJA), are used in the context of workload analysis and employee productivity improvement. In other words, this study tries to describe the relationship between the method of job observation and the efficiency and performance of individuals in the work environment based on the results of previous research.

The data sources in this study are entirely derived from secondary data, namely scientific journals, research articles, academic reports, and proceedings published between 2020 and 2025. The literature search process is carried out through several scientific databases such as PubMed Central (PMC), SpringerLink, ScienceDirect, ResearchGate, and Garuda (Garba Reference Digital Indonesia) so that the data coverage includes both international and local research. Article search was conducted using keywords such as "work observation", "time and motion study", "functional job analysis", "workload analysis", and "productivity". From these search results, only articles that meet the inclusion criteria are selected for further analysis, i.e. articles that are relevant to the topic, use clear scientific methods, and are fully accessible. Meanwhile, articles that are not directly related to work observation or do not present data that support the research objectives are excluded from the analysis process.

The data collection steps are carried out systematically, starting from the literature search process, then filtering based on inclusion and exclusion criteria, to an in-depth reading of each selected article. After that, the researcher conducts a content analysis to examine and compare the results of the research with each other. The analysis was carried out by identifying patterns, similarities, and differences in findings from each article, especially related to the application of work observation methods to workload and productivity. The results of this analysis are then categorized into several main themes, namely (1) work observation methods, (2) the application of time and motion studies, and (3) workload and productivity analysis in the context of the organization.

In the analysis process, the researcher uses a qualitative descriptive approach to describe the research results narratively. The analysis is carried out in three main stages, namely data reduction, data presentation, and conclusion drawn. Data reduction is carried out by selecting relevant information, while data presentation is carried out in the form of a descriptive description that explains the relationship between work observation and productivity. The final stage is the drawing of conclusions, where the researcher compiles a

synthesis of various research results to understand how the work observation method can be used as a basis for assessing workload and increasing employee productivity.

Although this study provides a broad picture of the method of observation of work, the researcher is aware of the limitations of the study. Due to its nature as a literature review, this study did not involve direct observation of workers or activities in the field. Additionally, contextual variations in each study studied—such as differences in work sectors or organizational culture—can influence the results and generalization of findings. Nevertheless, through the synthesis of various relevant scientific sources, this study still provides a comprehensive understanding of how work observation methods can be utilized in workload analysis and productivity improvement in the context of industrial and organizational psychology.

Result and Discussion

Based on the results of a search of various literature published between 2020 and 2025, it can be concluded that the work observation method is still one of the main approaches used to understand how a person performs his or her duties in the workplace, as well as to assess employee workload and productivity. Through observation, researchers can get a real picture of individual work behavior, activity intensity, and factors that affect work effectiveness and efficiency. In other words, this method helps to describe working conditions objectively because the data obtained comes from direct observation of employee activities.

From the results of the analysis of various literature sources, several main themes emerged that are often discussed, namely: (1) the role of work observation in assessing workload,

(2) Application of Time and Motion Study Method to Improve Efficiency work, and

(3) the contribution of the Functional Job Analysis (FJA) method to the understanding regarding roles, responsibilities, and work productivity.

Job Observation as a Basis for Workload Analysis

Many studies state that the job observation method has an important role in analyzing workload, as it allows observers to see firsthand how much time, effort, and concentration is required to complete a task. By observing, researchers or managers can identify areas of work that need improvement, find out if the workload is proportionate, and reduce the risk of employee burnout.

The results of the study (Bestafirli & Saifuddin, 2024) show that observation with a time and motion approach can help find the most time-consuming or inefficient activities. This provides a basis for organizations to improve work processes so that workloads become more balanced and productivity increases. Another study conducted in the health and industrial fields by (Kalne & Mehendale, 2022) also found that job observation is able to provide a more accurate picture than subjective reports from employees, as the results are obtained based on real behavior in the workplace.

In addition, research by (Fardiansyah, Widodo, & Anggraini, 2022) explains that job observation can be used to calculate Full Time Equivalent (FTE), which is a measure that helps determine the suitability between the number of workers and the available workload. Through direct observation, managers can find out whether the number of workers is

sufficient, excessive, or even underperformed, so that decisions related to the addition or reduction of the workforce can be made objectively and based on real data.

Application of Time and Motion Study Method in Increasing Productivity

The time and motion study method is an observation technique that focuses on measuring time and analyzing movements carried out during work activities. Based on the results of a literature review, this method is widely applied in various sectors such as manufacturing, logistics, education, and health services. The main goal is to find the most efficient work pattern, reduce unnecessary movements, and standardize the ideal time to complete a task**.**

Research from Aritekin Journal (2024) and OJS UMA (2025) explains that the application of time and motion study can increase productivity by identifying ineffective work stages, improving the order of work processes, and reducing unnecessary waiting time. Thus, work activities become more efficient and work results increase without having to increase the number of workers.

In addition, the research contained in (Iyer, Kim, Nam, & Jeong, 2025) highlights a recent development in the application of this method, namely the use of digital technologies such as motion sensors and automated software to accurately record working time. This approach makes observations more objective, efficient, and easy to analyze. In the context of industrial and organizational psychology, this is related to the concepts of ergonomics and adaptive work behavior, where the adjustment between humans and the work system is an important factor to achieve a balance between productivity and the psychological well-being of workers.

With good observation, organizations can not only improve performance, but also understand how work design and work environment affect employee behavior, motivation, and job satisfaction. Therefore, the time and motion study method can be considered as a bridge between the technical aspects of work efficiency and the psychological aspects of employee welfare.

The Contribution of Functional Job Analysis (FJA) to Understanding Roles and Productivity

In addition to the direct observation method, the literature also shows that Functional Job Analysis (FJA) has an important role in understanding the structure of work in depth. This method emphasizes on the analysis of work functions based on three main aspects, namely: interaction with data, relationships with humans, and the use of work objects or tools. With FJA, organizations can gain a comprehensive picture of the responsibilities, skills, and job demands inherent in each position.

Research conducted by (Chung-yan, Cronshaw, Chung-yan, Schat, & Steven, 2019) found that the application of the FJA method helps in compiling a more detailed and accurate job description. This is especially beneficial for ensuring that the workload is in line with the individual's abilities, thus minimizing stress and improving performance.

In the context of industrial and organizational psychology, FJA also contributes to the development of fair and effective work systems, since this method not only measures the technical aspects of work, but also takes into account the cognitive, emotional, and social abilities of workers. Thus, the results of the job analysis become more human and in line with the principles of employee psychological well-being.

Synthesis of Review Results

Overall, the results of the study show that the work observation method, both through time and motion study and Functional Job Analysis, has an important role in understanding and managing workload and productivity in various organizational contexts. Job observation provides empirical data on how work is done in real life, while FJA helps understand the structure and function of each role in an organization.

The combination of these two methods allows organizations to conduct a thorough workload analysis not only from the perspective of technical efficiency, but also from the perspective of psychological and individual well-being. This approach supports the principles of industry and organizational psychology that emphasize a balance between job demands and personal resources.

The results of the literature review also show that when work observation is carried out systematically, the results can be used to improve work design, increase employee satisfaction and motivation, and create a healthier and more productive work environment. Thus, it can be concluded that work observation is not only a measurement technique, but also an important tool to understand the dynamics of human work behavior and build a more efficient work system oriented towards the psychological well-being of workers.

Conclusion

Based on a literature review, the work observation method has proven to be an effective approach to analyzing workload and increasing productivity. Methods such as time and motion studies and Functional Work Analysis (FJA) provide more objective insights into how employees carry out their duties compared to other methods such as interviews or questionnaires. In this study, the study of time and motion helps identify inefficient activities and improve workflow, while FJA offers a deeper understanding of job roles and responsibilities. Overall, combining these two methods can provide a more comprehensive picture of individual workloads and performance improvement potential. In addition, the use of digital technology, such as time recording applications and work monitoring systems, is highly recommended to improve accuracy and efficiency in the observation process, especially in the Industry 4.0 era. These methods are not only important to improve work efficiency but also to maintain the psychological well-being of workers by redesigning work to better suit individual abilities.

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