

Dynamics of Work Stress of Technical Service Employees (Qualitative Study of Outsourcing at PT. PLN ULP Bantul)

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ABSTRACT

This study aims to analyze the dynamics and determinants of work stress among outsourced engineering service employees at PT PLN (Persero) ULP Bantul. Using a qualitative case study approach, eight informants were selected through purposive sampling, and data were gathered via in-depth interviews, observations, and documentation, then analyzed using Miles and Huberman's interactive model with triangulation to ensure validity. The findings reveal that work stress is experienced at varying levels, with most employees reporting significant pressure arising from internal factors such as time constraints, heavy workloads, disrupted rest periods, customer demands, and technological adaptation, as well as external factors including family issues and economic pressures. The study concludes that work stress dynamics are multifactorial and adaptive, shaped by the interaction between job demands and individual capacity to cope with pressure.

INTRODUCTION

In the modern industrial era, outsourcing has become a strategy for many organizations to increase workforce efficiency and flexibility. In Indonesia, this system is widely implemented by large companies such as PT Perusahaan Listrik Negara (Persero) or PLN, particularly in the technical services sector, which demands speed and accuracy. However, despite these efficiency benefits, outsourced employees face various psychological challenges, including work stress arising from work pressure, precarious employment, and high performance expectations (Ramdhan & Fajrianthi, 2021; Falakha & Parwoto, 2024).

Job stress is a state of tension that affects a person's emotions, thought processes, and physical condition when job demands exceed their ability to cope (Luthans, 2015; Robbins & Judge, 2019). In the context of fieldwork, such as electrical engineering services, physical and psychological stress often occurs due to work targets, safety risks, and high customer demands (Handayani & Fachrin, 2022). This is in line with the Job Demand–Control Model theory, which explains that job stress increases when job demands are high but individual control over their work is low (Karasek, 1979; Bakker & Demerouti, 2007).

Several studies in Indonesia have shown that internal work factors such as workload, a less than conducive work environment, and relationships between coworkers significantly influence work stress (Ritonga & Syafrizaldi, 2019; Febriana, 2022). On the other hand, external factors such as job insecurity, economic pressure, and lack of social support can also exacerbate the psychological well-being of outsourced workers (Maulidina, 2022; Hutari, Syah, & Setriani, 2025). Therefore, the phenomenon of work stress in the outsourcing system cannot be viewed as a single consequence, but rather as a complex dynamic involving individual, organizational, and social factors.

Although numerous studies have examined work stress across various industrial sectors, studies specifically examining the dynamics of work stress among outsourced engineering service workers in the electricity sector, such as PT PLN (Persero) ULP Bantul, are still limited. This is despite the fact that the fieldwork context, which demands physical readiness, time pressure, and direct responsibility to customers, has unique characteristics that distinguish it from other sectors. Therefore, this research is important to better understand how work stress is formed, developed, and experienced by outsourced engineering service workers.

Based on the problems in the preliminary study and the still limited literature related to work stress that focuses on outsourcing employees. The purpose of this study is to determine the dynamics of work stress of outsourcing employees of engineering services at PT PLN (Persero) ULP Bantul. This research and development begins with the research questions, (1) how are the dynamics of work stress that occur in outsourcing employees of engineering services at PT PLN (Persero) ULP Bantul? (2) what are the factors of work stress that occur in outsourcing employees of engineering services at PT PLN (Persero) ULP Bantul?

LITERATURE REVIEW

Job stress is defined as psychological pressure that occurs when job demands exceed an individual's abilities or resources (Suprianto & Nadiyah, 2022; Saputra et al., 2023). This condition affects workers' physiological, emotional, and behavioral states, and has implications for organizational commitment and performance. According to the transactional model of stress by Lazarus and Folkman (1984), stress emerges when individuals perceive workplace demands as exceeding their adaptive capacity. Similarly, job stress is viewed as a response resulting from the interaction of environmental, organizational, and interpersonal factors (Saleh et al., 2020; Brun et al., 2025), where the mismatch between workload and capability is a fundamental trigger.

Existing research indicates that job stress is influenced by multiple determinants. An unfavorable physical work environment increases fatigue and reduces productivity, particularly in high-risk or field-based occupations (Charkhabi et al., 2013; Parker et al., 2017). Time pressure, including heavy workloads and strict deadlines, is a major contributor to job stress, especially when workers have low levels of job control (Karasek, 1979; Schaufeli & Taris, 2014). Disrupted rest time further exacerbates stress by decreasing sleep quality and concentration (Mao et al., 2023; Baso et al., 2022). Customer demands in service-based roles heighten emotional pressure when expectations for accuracy and responsiveness are high (Raja, 2014; Putra & Erwandi, 2025).

Technological development has also introduced technostress, characterized by overload, complexity, and invasion, which reduces job satisfaction and increases psychological strain (Ragu-Nathan et al., 2008; Tarafdar et al., 2007). Personal and socioeconomic factors, such as work-family conflict and financial pressure, intensify emotional exhaustion and increase the risk of burnout (Tresnawati & Erwandi, 2021; Wei et al., 2024; Nadhira, 2023). Overall, the literature emphasizes that job stress is a complex phenomenon shaped by the interplay of individual, occupational, technological, and socioeconomic factors. A comprehensive understanding of these determinants is crucial in developing effective stress management strategies to support employee well-being and organizational performance.

METHODOLOGY

This research uses a qualitative approach with a case study type. The research was conducted at PT PLN (Persero) ULP Bantul, located at Jl. Dr. Wahidin Sudiro Husodo, Karanggayam, Bantul. The subjects of this research were outsourcing employees of PT PLN (Persero) ULP Bantul. The data collection techniques for this research used primary and secondary data. The primary data used were interviews, observations, and documentation. Meanwhile, secondary data were obtained from reports or company data owned by the company.

Data analysis was conducted using the Miles and Huberman (1994) model, which includes three main stages: data reduction, data presentation, and conclusion drawing/verification. The reduction stage was carried out by selecting information relevant to the research focus; data presentation was

carried out in the form of a thematic narrative; while conclusions were drawn by interpreting the patterns, meanings, and relationships between emerging work stress factors. The validity of this research was tested using source and technical triangulation techniques. Source triangulation was carried out by comparing the results of interviews from various informants, while technical triangulation was carried out by comparing the results of interviews, observations, and documentation. In addition, researchers also conducted member checks with informants to validate data interpretation (Sugiyono, 2019).

Table 1. Semi-structured question protocol

Questions about the causes of work stress	Additional follow-up questions
Now I'm going to ask specifically about work stress. During your time as a field employee at PT PLN ULP Bantul, how have you experienced your daily tasks? Have you ever felt pressure or encountered situations that made you feel stressed at work? While working in the field, what factors can influence stress at work? For example, do the work environment, weather, field conditions, or distractions from the surrounding environment affect stress levels at work? Are there any work targets or deadlines here? If so, does that also affect work stress levels? Can working with a shift model like this affect stress levels? your experience, how do customers respond to your work? Is that also a cause of work stress? With the advancement of systems and technology in today's era, are there any obstacles or problems that can cause work stress? Could you tell us if you've ever experienced stress from non-work sources while working as an outsourced employee in the engineering services department at PT PLN (Persero) Bantul ULP? For example, from family at home, financial issues, or personal problems. If so, please explain.	Could you explain what your daily work environment is like? Have extreme weather or terrain conditions ever made the job more difficult? What kind of targets do you usually set in your work? How do you feel when your target has not been achieved? Does time pressure often make you rush or feel stressed? How are work shifts divided in the field? How does this impact rest time or life at home? Do you feel that shift patterns affect your enthusiasm or focus at work? Can you tell us about a specific experience that made you feel stressed when serving customers? How do you deal with complaints or pressure from customers? Does changing the work system make the job feel easier or more complicated? How do you feel when you have to adapt to new technology?

RESEARCH RESULT AND DISCUSSION

Dynamics of Work Stress in Engineering Service Outsourcing Employees

The results of the study show that work stress is a phenomenon experienced by most employees. outsourcing technical services at PT PLN (Persero) ULP Bantul, albeit with varying intensity. Stress arises from high work pressure, significant responsibility for the reliability of the electricity network, and customer expectations for fast service. High-risk field work situations – such as extreme weather, emergency calls outside of working hours, and direct responsibility for customer satisfaction – give rise to complex psychological burdens.

Dynamics of work stress in employees outsourcing is fluctuating and adaptive. At certain times, pressure can be a trigger for work motivation (eustress), but if it continues without adequate support, it can turn into distress which negatively impacts well-being and work performance (Robbins & Judge, 2019). According to Karasek (1979), high levels of work stress arise when workload and organizational demands are not balanced with sufficient job control. In this context, employees outsourcing have limitations in making decisions or determining work priorities, so that psychological pressure becomes greater.

This finding aligns with research by Handayani and Fachrin (2022), which found that work pressures involving high responsibility and limited time lead to increased job stress among public service employees. Furthermore, the technical work conditions at PLN, which demand physical and mental readiness, indicate that stress stems not only from cognitive demands but also from the physical conditions of the work environment.

Thus, the dynamics of work stress in employees outsourcing Engineering services at PLN can be understood as a continuous process of adaptation between the external demands of the job and the individual's ability to cope. This process reflects a complex interaction between job factors, the organization, and the employee's psychological capacities.

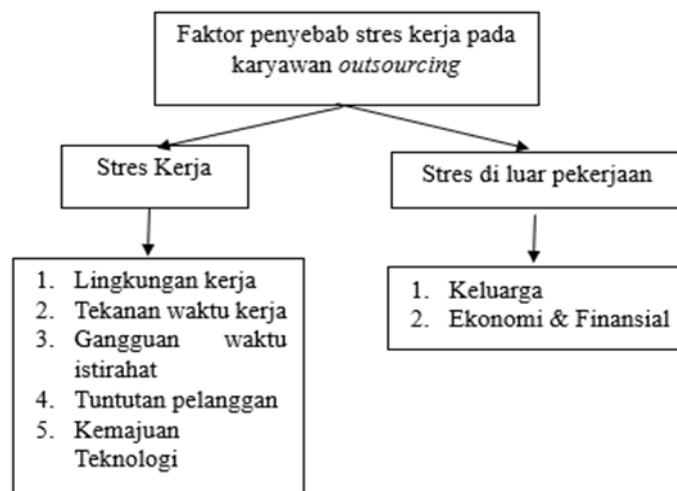


Figure 1. Display of data on factors causing work stress

Factors Affecting Work Stress

Factors that influence work stress in employees outsourcing Technical services at PT PLN (Persero) ULP Bantul can be grouped into internal work factors and external individual factors.

Internal factors of work

These factors are the main causes of work stress, including heavy workloads, time pressure, disrupted rest periods, and a work environment that demands high precision. Employees are often faced with tight deadlines and pressing customer demands, while field conditions are not always supportive. This is reinforced by research by Ritonga and Syafrizaldi (2019) and Febriana (2022), which shows that time pressure and excessive workloads are the main causes of work stress in the technical sector.

Furthermore, technological advances can also be a source of stress. Changes in digital service systems require employees to adapt quickly, and for some workers, this can lead to anxiety and feelings of incompetence. Bakker and Demerouti (2007) explain that a mismatch between job demands (job demand) and individual resources (personal resources) can cause ongoing work stress.

The first factor influencing the dynamics of work stress among outsourced employees at PT PLN ULP Bantul is the work environment. As field employees, they are faced with varied work situations that demand high levels of physical endurance. The results of the study indicate that most respondents consider the work environment to play a significant role in triggering stress, particularly due to unpredictable weather, difficult terrain, and limited communication networks. One respondent stated, "My enemy is rain, sir, because I work on the road and need a cell phone to work, so I can't continue working when it rains and my targets are definitely reduced." (Respondent 3, 7/7/2025).

These findings indicate that challenging environmental conditions can hinder work and increase physical and psychological burdens. However, some employees are less affected because they are accustomed to field situations. This difference reflects variations in individual adaptation levels to environmental stressors. This aligns with the Person-Environment Fit Theory (Kristof-Brown et al., 2005), which states that stress arises when there is a mismatch between environmental conditions and an individual's ability to adapt.

The second factor influencing work stress among outsourced employees at PT PLN ULP Bantul is time pressure or deadlines. This pressure arises when work must be completed within a limited timeframe, especially when field conditions are unfavorable, such as rain or difficult repair access. One respondent stated, "Work stress is greatest when it rains, when customers demand speed, and repairs are difficult. That's what causes stress." (Respondent 5, July 7, 2025).

The results of the study showed that some employees felt burdened by tight deadlines, while others considered deadlines realistic as long as equipment was adequate and communication with customers was good. This difference reflects the dynamics of individual perceptions of time pressure. This finding aligns with the Transactional Model of Stress by Lazarus and Folkman (1984), which explains that stress arises from an individual's cognitive appraisal of the situation. If time pressure is perceived as a threat, stress increases; conversely, if it is perceived as a challenge, it can boost work motivation.

Another factor influencing work stress among outsourced employees at PT PLN ULP Bantul is disrupted rest periods. Research shows that some employees experience stress due to irregular rest periods and uncertain working hours. One respondent stated, "Because I have to be available 24/7, sometimes my rest periods are disrupted." (Respondent 6, July 7, 2025).

Employees who are constantly on call tend to experience fatigue and difficulty maintaining sleep quality, potentially reducing psychological well-being. However, some employees are still able to adjust their rest time thanks to flexible shift work systems. This finding aligns with the Work Recovery Process Theory (Sonnentag & Fritz, 2015), which emphasizes the importance of psychological and physical recovery after work. Recent research by Mao et al. (2023) also shows that sleep disturbances are positively associated with increased levels of work stress, particularly in workers with irregular work patterns such as shifts and field work.

Another factor influencing work stress among outsourced employees at PT PLN ULP Bantul is customer demands. Interactions with customers can be a source of psychological stress, especially when customers demand fast service without understanding the challenging field conditions. One respondent said, "Customers make strange demands. We work in areas we're unfamiliar with, but they demand speed, which is a hassle." (Respondent 6, July 7, 2025).

Some employees experience stress when faced with high and unrealistic customer expectations, creating a sense of urgency in completing work. However, others are able to adapt because they are used to it and have good emotional control skills. This finding aligns with the Transactional Model of Stress by Lazarus and Folkman (1984), which explains that stress arises from an individual's appraisal of situations perceived as exceeding their capabilities.

Technological advances in the 4.0 era have brought convenience to work systems through the use of digital applications, but they can also be a source of stress for some outsourced employees at PT PLN ULP Bantul. Changes to application-based work systems require a high level of adaptability, especially for senior workers who are unfamiliar with new technologies. One respondent stated, "Regarding age, everyone uses applications, so it's a bit slow to catch up." (Respondent 1, July 7, 2025).

The research results show that difficulties in understanding new systems and technical glitches in applications can cause stress and delay work completion. These findings align with the concept of technostress (Tarafdar et al., 2011), which explains that stress can arise from an individual's inability to adapt to the rapid development of information technology in the workplace.

Individual external factors

External factors that influence work stress include family conditions, economic pressure, and uncertainty of employment status (job insecurity). Anxiety about the future of work often arises due to the temporary nature of the contract system. According to Maulidina (2022), job insecurity become one of the main causes of stress in employees outsourcing due to uncertainty regarding the length of employment and the opportunity for contract extension.

Besides factors from the work environment, stress can also be triggered by aspects outside of work, one of which is family. Although most outsourcing employees at PT PLN ULP Bantul do not consider family to be a source of stress, one respondent said, "Family matters are usually more difficult when someone is sick. So, you have to manage your time while also having a lot of work, which is what causes stress." (Respondent 1, 7/7/2025).

These findings suggest that for some employees, family responsibilities can cause psychological stress when work and family demands overlap. This is consistent with Work-Family Conflict Theory (Greenhaus & Beutell, 1985), which explains that stress arises when work and family roles conflict, particularly when work obligations interfere with family time and energy.

The final non-work factor influencing work stress is economic or financial pressure. Although most outsourced employees at PT PLN ULP Bantul do not experience stress due to economic issues, one respondent stated, "I work from home, and it's a hassle if there are losses that reduce my salary from here to cover business expenses." (Respondent 1, July 7, 2025).

Personal financial stress can cause anxiety and psychological burden, especially during times of economic instability or business losses. However, the majority of employees are able to manage their finances well, preventing this stress from developing into significant work stress. This finding aligns with research by Sinclair and Cheung (2016), which showed that financial stress has an indirect impact on well-being and work performance, depending on an individual's level of financial literacy and social support.

CONCLUSIONS AND RECOMMENDATIONS

Based on the results of research on the dynamics of work stress among outsourcing employees at PT PLN (Persero) ULP Bantul, it can be concluded that the phenomenon of work stress is not experienced equally by all employees. A small proportion of employees feel that their work does not cause significant stress, while the majority experience work stress at varying levels of intensity. This variation indicates that the dynamics of work stress are individual and complex, depending on the perception, adaptability, and psychological condition of each employee.

The dynamics of work stress among outsourced employees are multifactorial, encompassing both internal and external sources. The most dominant internal factors include an uncomfortable work environment, time pressure or tight deadlines, disruptions to rest periods, customer demands, and technological advances that require high adaptability. Meanwhile, external factors also influence personal and social life, such as family issues and economic pressures, which cause anxiety and can impact work performance.

In addition to the causal factors, the dynamics of work stress are also determined by how individuals interpret and manage pressure. Differences in adaptability to job demands influence the level of stress experienced. Therefore, work stress among outsourced employees at PT PLN (Persero) ULP Bantul is influenced not only by working conditions but also by personal capacity to adapt to the work pressures they face.

ADVANCED RESEARCH

Future studies are encouraged to expand the scope of investigation by adopting a multi-case qualitative approach and applying comprehensive triangulation of sources, methods, and researchers to obtain more in-depth and comparable findings across organizational contexts. For researchers employing quantitative methods, it is recommended to develop standardized measurement instruments and rigorously test their validity and reliability. Additionally, the use of advanced statistical analyses, such as *Structural Equation Modeling* or multivariate regression, is suggested to identify causal relationships between work stress factors and performance outcomes, thereby producing more objective results with higher generalizability.

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