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Strategic Improvement of Physical Work Facilities to Enhance Employee Performance at PDAM Tirta Bahari, Tegal City

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Abstract**:** *This research explores strategic improvement of physical work facilities as a crucial driver for enhancing employee performance at PDAM Tirta Bahari, Tegal City. In public service institutions, work performance depends not only on human resource quality but also on the adequacy of physical facilities. Properly designed and maintained facilities improve motivation, concentration, and job satisfaction, while inadequate ones create discomfort, stress, and inefficiency. This study adopts a qualitative descriptive approach using literature review, observation, and documentation to examine the relationship between work environment conditions and employee performance. The results reveal that physical facilities directly influence motivation, safety, and overall organizational productivity. Improving ergonomics, cleanliness, and maintenance routines can foster greater work efficiency and reduce absenteeism. Furthermore, physical facilities serve as an expression of the organization's commitment to employee welfare and professional service delivery. This paper concludes that physical facility management should be integrated strategically within human resource management to ensure sustainable performance improvement.*

Keywords: Physical Work Facilities; Employee Performance; Ergonomics; Public Service; PDAM Tirta Bahari

1. INTRODUCTION

Employee performance within public sector organizations is profoundly influenced by the quality of both human resources and physical work environments. The physical environment includes tangible factors such as building layout, equipment, air circulation, lighting, and other infrastructural aspects that contribute to comfort and productivity. Gu et al. (2022) demonstrated that high-quality work environments are significantly correlated with increased performance levels and reduced employee fatigue. A conducive workplace supports psychological well-being, fosters concentration, and improves job satisfaction, while poorly maintained facilities cause dissatisfaction, physical discomfort, and reduced efficiency.

Public service organizations, including PDAM Tirta Bahari, operate within a unique context where employee performance directly affects public trust. PDAM staff work in diverse settings, such as administrative offices, water processing plants, and distribution networks. These varying environments demand well-maintained, safe, and ergonomic facilities. Without adequate equipment and infrastructure, employee performance deteriorates, operational risks rise, and service delivery slows down. As Paxton et al. (2022) noted, inadequate physical environments in the water utility sector can lead to increased occupational hazards and service disruptions.

Moreover, improving physical work facilities is not merely a matter of compliance but a strategic necessity. Well-designed facilities enhance employee motivation and retention while signaling that the organization values its workforce. Such investments translate into improved operational continuity and higher public satisfaction. Gallagher (2023) emphasized that physical workplace improvements build a positive organizational culture, foster collaboration, and support long-term sustainability. Therefore, PDAM Tirta Bahari must view facility improvement as a critical part of its strategic development agenda.

Given these considerations, this research seeks to examine the strategic role of physical work facility improvement in enhancing employee performance at PDAM Tirta Bahari, Tegal City. The study aims to identify the current condition of facilities, explore strategies for improvement, and integrate facility management with human resource policies.

2. THEORETICAL FRAMEWORK

The theoretical framework in this study serves as the foundation for analyzing the relationship between physical work facilities and employee performance within public service organizations, particularly PDAM Tirta Bahari, Tegal City. A theoretical framework provides a structured explanation of how various variables interact to influence organizational behavior and outcomes. In this research, theories related to physical facilities, motivation, ergonomics, and employee performance are synthesized to build a conceptual model that connects environmental conditions to work productivity and service quality.

The discussion in this section is structured into three major theoretical aspects: (1) the concept and importance of physical work facilities in organizational performance, (2) the theoretical foundation of employee performance and its determinants, and (3) the relationship between physical work environments and employee productivity. Each aspect supports the formulation of hypotheses that will guide the analysis and discussion in subsequent sections.

By developing this framework, the study aims to establish a logical connection between theoretical understanding and empirical conditions observed at PDAM Tirta Bahari. The integration of organizational behavior theories and facility management concepts helps explain how physical environmental factors can drive or hinder employee performance. Therefore, the theoretical foundation does not merely serve as a descriptive reference but also as a conceptual

tool for interpreting findings and designing strategic recommendations for organizational improvement.

Concept of Physical Work Facilities

Physical work facilities encompass all material resources that directly or indirectly support employee activities in achieving organizational goals. According to Sedarmayanti (2021), physical environments influence emotional stability, work enthusiasm, and concentration. These facilities include office space, furniture arrangement, lighting, ventilation, and supporting amenities such as cafeterias and rest areas. Cleanliness and comfort also reflect professionalism and organizational values. In public institutions, facilities additionally shape public perceptions of service quality (Sari & Nugroho, 2022).

Facilities also represent an organization's commitment to occupational safety and health. Lee et al. (2024) found that ergonomic design reduces fatigue, prevents musculoskeletal injuries, and increases work satisfaction. In PDAM's context, where employees work in technical environments such as treatment plants and distribution sites, ergonomic equipment and adequate safety facilities are indispensable. Thus, facility quality should align with both employee well-being and regulatory compliance.

Finally, physical facilities form part of a broader investment strategy. Gu et al. (2022) demonstrated that organizations with comprehensive facility upgrades experience higher employee retention and performance. Hence, the improvement of physical facilities must be managed strategically as a long-term investment that enhances productivity and public trust.

Employee Performance

Employee performance is defined as the qualitative and quantitative output resulting from an employee's efforts within a specified period (Mangkunegara, 2021). Robbins and Judge (2022) identified three determinants of performance: ability, motivation, and opportunity. While ability and motivation are personal factors, opportunity is largely influenced by the work environment. Therefore, adequate facilities provide the necessary opportunity for employees to maximize their potential.

Motivational theories also highlight the importance of physical conditions. According to Herzberg's two-factor theory, physical facilities belong to hygiene factors that prevent dissatisfaction but are essential for maintaining morale (Rahman, 2021). Similarly, Vroom's expectancy theory posits that employees who perceive adequate support and resources are

more likely to believe that their efforts will yield desirable results (Putri & Lestari, 2022). The equity theory also suggests that fair treatment through adequate facilities strengthens employee engagement (Handayani, 2023).

In PDAM's operational setting, where service quality depends heavily on timeliness and precision, employee performance is shaped by how well facilities support efficient workflow. Therefore, facility enhancement should be integrated into performance management systems to achieve sustainable improvements.

Relationship Between Physical Facilities and Productivity

The relationship between physical work facilities and productivity has been extensively discussed in management and organizational behavior literature. A productive workforce is not only the result of skill and motivation but also the consequence of a conducive and well-designed work environment. According to Handayani (2023), physical environments—including workspace layout, air quality, lighting, and temperature—have a direct influence on cognitive function and physical endurance. Employees who operate in clean, comfortable, and well-ventilated workplaces tend to exhibit higher concentration and accuracy in task completion. Conversely, inadequate facilities can create discomfort and fatigue, which in turn reduce work efficiency and increase error rates. Thus, the physical environment serves as both a psychological stimulus and an operational enabler that determines the extent to which employees can perform optimally.

Moreover, ergonomic design plays a central role in bridging the connection between physical facilities and productivity. Lee et al. (2024) argued that ergonomically structured facilities—such as adjustable furniture, proper lighting, and noise control—help minimize physical strain and occupational injuries. In industrial and field-oriented organizations like PDAM Tirta Bahari, ergonomic design is not only about comfort but also safety. Technical employees engaged in water distribution, maintenance, and field operations are exposed to environmental risks; therefore, the provision of ergonomic tools, protective gear, and well-structured workstations directly impacts both performance and well-being. When employees feel physically secure and supported, they are more likely to sustain high energy levels, which translates into improved productivity.

Another critical dimension of this relationship involves the psychological perception of fairness and value. According to equity theory, employees interpret facility conditions as a

reflection of how much the organization values them (Handayani, 2023). When an organization provides modern and functional facilities, employees perceive this as an investment in their welfare, thereby enhancing motivation and emotional commitment. On the other hand, deteriorating or unsafe environments can trigger feelings of neglect and reduce morale. This psychological mechanism underscores the idea that productivity is not only a mechanical outcome of tools and space but also a cognitive and emotional response to the perceived quality of the work environment. Thus, improving physical facilities indirectly strengthens intrinsic motivation, loyalty, and engagement—all of which are crucial drivers of sustained productivity.

From an operational perspective, physical facilities also influence workflow efficiency, communication, and coordination among employees. Gu et al. (2022) demonstrated that the physical arrangement of workplaces affects the speed of information flow and task coordination. Well-structured office layouts, adequate equipment placement, and accessible resources minimize unnecessary movements and time waste. In PDAM Tirta Bahari, the maintenance of operational tools, water testing equipment, and field vehicles determines the organization's responsiveness to public needs. Delays caused by poor facility management can reduce service reliability and lower customer satisfaction. Therefore, facility management must be strategically planned, emphasizing continuous improvement, preventive maintenance, and periodic evaluation to ensure that operational capacity supports productivity objectives.

Lastly, physical facilities contribute to the broader organizational climate, which in turn affects long-term productivity. A workplace that is clean, aesthetic, and functionally designed promotes a positive organizational image and reinforces professional discipline. Rahayu and Santoso (2022) highlighted that in public service contexts, the physical environment also shapes external perceptions of organizational quality. When employees work in well-maintained surroundings, they tend to internalize a sense of pride and responsibility, which is reflected in how they serve the public. In contrast, deteriorated facilities may foster complacency and a lack of accountability. Therefore, the relationship between physical facilities and productivity extends beyond individual performance—it encompasses cultural, operational, and reputational dimensions that collectively determine the organization's overall effectiveness.

3. RESEARCH METHODS

This study utilized a qualitative descriptive approach to examine the strategic improvement of physical work facilities and its relationship with employee performance at PDAM Tirta Bahari, Tegal City. The qualitative descriptive method was selected because it allows researchers to analyze organizational conditions in their natural setting, focusing on describing real phenomena without manipulation of variables. As suggested by Kumar (2022), qualitative research is suitable for understanding behavioral patterns, managerial processes, and contextual factors that shape organizational performance. Through this method, the researcher sought to portray the existing conditions of PDAM's physical facilities, their impact on employee performance, and the strategies required for improvement.

The study was conducted at PDAM Tirta Bahari, a regional-owned enterprise engaged in clean water services for the Tegal community. The institution was chosen as the research site because it represents a complex organizational system combining administrative and technical operations. The research participants consisted of one department head and five employees representing technical, administrative, and customer service divisions. This composition enabled a comprehensive understanding of how physical work environments affect different job functions. A purposive sampling technique was applied to select participants with relevant experience and direct involvement in facility use and maintenance (Almeida et al., 2022). This sampling ensured that the information gathered was accurate and contextually rich, aligning with the study's objective to generate in-depth qualitative insights.

Data were collected through observations, interviews, and documentation. Observation was carried out to assess the physical state of the workplace, including lighting, air circulation, safety facilities, and workspace organization. Semi-structured interviews were used to explore employees' perceptions of comfort, motivation, and the relationship between physical facilities and performance. The interview guide was designed to encourage open responses while maintaining focus on core research objectives. Additionally, documentation such as institutional reports, maintenance records, and employee performance evaluations was analyzed to triangulate findings from the field. According to Zhang and Watanabe (2023), combining multiple data collection techniques strengthens data credibility by ensuring that the observed patterns reflect reality rather than researcher bias.

The data analysis followed the interactive model of Miles, Huberman, and Saldaña (2023), which involves three stages: data condensation, data display, and conclusion drawing. Data condensation entailed summarizing, coding, and categorizing key themes such as facility adequacy, safety, ergonomics, and performance outcomes. The data display stage involved organizing narratives and tables to visualize relationships between variables. Finally, conclusions were drawn by linking empirical patterns with theoretical frameworks discussed earlier. This iterative process allowed the researcher to interpret data systematically and derive strategic recommendations for improving PDAM's facility management and human resource performance.

To ensure research validity and reliability, four trustworthiness criteria were applied: credibility, transferability, dependability, and confirmability (Nowell et al., 2022). Credibility was achieved through triangulation of observation, interviews, and documentation, while transferability was enhanced by providing a detailed contextual description of PDAM's working environment. Dependability was maintained through consistent documentation of data collection and analysis procedures, and confirmability was ensured through peer review and member checking with respondents to validate interpretations. These methodological principles ensured that the findings not only represent authentic field realities but also contribute to managerial practices that emphasize the alignment of physical infrastructure with employee performance and organizational productivity.

4. RESULTS AND DISCUSSION

The results of this study indicate that physical work facilities at PDAM Tirta Bahari have a strong and direct impact on employee performance. Field observations and interviews showed that employees who work in clean, comfortable, and well-ventilated environments tend to perform their tasks more effectively. The adequacy of physical facilities such as lighting, workspace, air circulation, and ergonomic furniture creates a sense of comfort and motivates employees to work better. This finding is consistent with Sedarmayanti (2021), who stated that an adequate physical environment contributes significantly to work enthusiasm, reduces fatigue, and enhances concentration in completing tasks.

Furthermore, differences in facility quality among departments were observed. Employees in the administrative office benefit from better facility maintenance compared to those working

in technical and field divisions. Workers at water treatment and distribution units experience challenges such as limited safety equipment, poor lighting, and limited storage areas for operational tools. This condition affects both their productivity and safety. According to Sutrisno (2021), proper work facilities are not only a supporting factor but also a key requirement to maintain optimal work results, particularly in organizations that provide public services where performance directly affects community satisfaction.

Interviews with PDAM employees also revealed that physical work facilities have psychological effects on motivation and job satisfaction. When the company provides good facilities, employees feel valued and respected. Conversely, lack of attention to facility improvement creates a perception of neglect, reducing work enthusiasm. This supports the opinion of Mangkunegara (2021), who emphasized that motivation can be influenced by both internal and external factors, including the adequacy of the physical environment. A comfortable environment leads to higher morale, which translates into better productivity and service delivery.

Safety aspects also emerged as a critical issue in this study. Field officers reported that some operational tools and safety equipment were outdated and insufficient. This not only creates potential hazards but also lowers confidence when performing tasks. According to Siagian (2021), ensuring safety and comfort at work is a fundamental managerial responsibility because employees cannot be expected to work optimally in unsafe or uncomfortable environments. Therefore, one of the strategies that must be implemented is periodic evaluation and upgrading of safety equipment and infrastructure to guarantee employees' well-being and confidence while working.

From the operational perspective, inadequate physical facilities can also lead to inefficiencies. Limited workspace, insufficient tools, and poor maintenance often slow down the completion of administrative and technical tasks. Some employees reported delays due to broken equipment or a lack of storage space for important documents and materials. This condition aligns with the findings of Riani (2022), who explained that inadequate physical facilities may disrupt workflow, reduce employee focus, and increase the potential for errors in service execution. Thus, an important strategy is to establish a facility maintenance schedule that ensures every tool, machine, and workspace remains functional and well-organized to support daily operations.

Another finding emphasizes the need for systematic and continuous facility maintenance. Improvements should not only occur when problems arise but must be integrated into long-term planning. Regular inspections, maintenance schedules, and employee involvement in reporting facility conditions are essential steps to ensure sustainability. Sedarmayanti (2021) highlighted that preventive maintenance systems are more cost-effective than corrective maintenance because they prevent damage and minimize downtime. The strategy that PDAM Tirta Bahari should apply is developing a preventive maintenance program supported by periodic audits to anticipate issues before they disrupt performance.

Budget allocation also plays an important role in facility management. Some employees stated that facility repairs or replacements often experience delays due to budget limitations. This condition indicates the need for stronger financial planning and prioritization of infrastructure-related spending. According to Rivai and Sagala (2021), providing an adequate work environment requires management's commitment to allocating financial resources as an investment in employee productivity. Therefore, PDAM's strategic action should focus on integrating facility investment into its long-term financial planning, ensuring that budget allocation for maintenance and improvement is consistent each year.

Employee involvement in facility evaluation was also found to be a crucial element in this study. The findings show that decisions related to facility improvement are generally centralized, with minimal employee participation. Involving employees in the identification and planning process would help ensure that facility enhancements align with actual needs in each division. Sutrisno (2021) noted that participatory decision-making creates a sense of belonging and increases commitment to maintaining the facilities provided. Accordingly, the strategy that PDAM can adopt is implementing a participatory facility planning model by forming small evaluation teams that include representatives from each department.

Moreover, the improvement of physical facilities also affects the organization's external performance, especially in terms of service quality and public perception. A clean and organized workplace not only improves employee comfort but also strengthens the organization's image in the eyes of customers. According to Riani (2022), physical appearance and cleanliness are important indicators of service quality in public sector institutions. Hence, the strategic step for PDAM Tirta Bahari is to modernize its customer service areas and standardize cleanliness procedures to enhance customer satisfaction and public trust.

Finally, the overall results of this study confirm that physical facilities are a vital component of employee performance improvement. Facility adequacy, safety, ergonomics, and cleanliness collectively create an environment that supports both physical and psychological well-being. As Mangkunegara (2021) and Sedarmayanti (2021) asserted, performance cannot reach its optimal level unless the organization ensures that all supporting resources—especially the physical environment—are well provided and maintained. Thus, the final strategy recommended for PDAM Tirta Bahari is to establish an integrated facility management system that combines planning, maintenance, budgeting, and employee participation to support sustainable organizational productivity.

CONCLUSION

The findings of this research affirm that physical work facilities have a crucial influence on employee performance at PDAM Tirta Bahari, Tegal City. Adequate facilities, including good lighting, ergonomic seating, ventilation, safety tools, and sufficient workspace, contribute significantly to comfort, motivation, and productivity. Employees who work in environments that are physically comfortable and safe show higher enthusiasm, efficiency, and quality of service. This supports the view of Sedarmayanti (2021), who emphasizes that the work environment is one of the most important determinants of human resource performance. Therefore, the adequacy of facilities should be regarded not merely as a technical necessity but as a strategic component of human resource management.

The study also concludes that the physical work environment serves as a form of non-financial motivation that impacts employee satisfaction and loyalty. When PDAM provides proper and well-maintained facilities, employees perceive it as organizational recognition and respect. Conversely, neglecting facility maintenance leads to dissatisfaction, fatigue, and a decline in performance. As noted by Mangkunegara (2021), motivation can be sustained when organizations consistently provide adequate support for employee welfare. Hence, the first strategy recommended is to implement a continuous maintenance and inspection system for all facilities, ensuring comfort, cleanliness, and operational reliability.

Another important conclusion is the significance of safety and occupational health facilities, particularly for field employees. The research revealed that insufficient safety equipment and outdated tools reduce work efficiency and increase risks of injury. Occupational

safety is a fundamental aspect of performance management because employees cannot work optimally under unsafe conditions (Siagian, 2021). Accordingly, the second strategy is to modernize safety and technical equipment, accompanied by periodic training on occupational safety and health to ensure employees' readiness and confidence in their work environment.

The next conclusion highlights the importance of managerial planning and financial allocation. The improvement of physical work facilities requires a clear policy, structured budgeting, and continuous monitoring. Budget delays and limited allocations have been identified as barriers to consistent facility improvement. According to Rivai and Sagala (2021), investment in workplace infrastructure should be considered a strategic expenditure that contributes to long-term productivity. Therefore, the third strategy is to incorporate facility management into PDAM's annual strategic plan, supported by a dedicated budget line for infrastructure maintenance and development to guarantee sustainability and transparency.

Finally, employee participation plays a vital role in ensuring the success of facility improvement programs. Employees possess firsthand knowledge of operational challenges and can provide accurate input on facility needs. Involving them in decision-making processes not only increases commitment but also strengthens accountability in maintaining facilities. As stated by Sutrisno (2021), participatory management fosters a sense of ownership and improves organizational harmony. Thus, the fourth strategy recommended is to form an employee-based facility management team that collaborates across departments to monitor, evaluate, and propose facility improvements on a regular basis. By applying these integrated strategies—maintenance optimization, safety enhancement, financial commitment, and participatory management—PDAM Tirta Bahari will be able to improve both employee performance and public service quality sustainably.

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