ENHANCING PRODUCTIVITY VIA STRENGTHENING ACHIEVEMENT MOTIVATION AND EFFECTIVE OCCUPATIONAL SAFETY AND HEALTH MANAGEMENT

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Abstract
This study investigates the effects of occupational safety and health management and achievement motivation on employee productivity at PT. XYZ (Persero). Utilizing a mixed-method approach, the research integrates quantitative surveys with qualitative analyses. Data were gathered from the Transmission Implementation Units (UPT) in Bogor and Karawang, covering the years 2017 to 2021. Findings reveal that both effective occupational safety and health management and strong achievement motivation significantly and positively impact employee productivity. While both factors directly improve productivity, the mediating role of achievement motivation is less effective compared to the direct influence of occupational safety and health management. The study concludes that enhancing the effectiveness of occupational safety and health management alongside boosting achievement motivation can markedly increase employee productivity at PT. XYZ (Persero). The company is advised to improve occupational safety and health training, closely monitor the work environment, and implement reward programs to recognize and incentivize high-performing employees.

Keywords: Employee Productivity, Occupational Safety and Health Management, Achievement Motivation.

Introduction
Human resources are the foundational capital and most critical asset for achieving success and enhancing organizational efficiency. These resources possess the necessary skills to manage and operate the organization effectively to meet its goals. The capacity and willingness of individuals to manage and run an organization vary and are influenced by various factors. It is crucial for human resource management to understand the efforts made by these resources in managing and operating the organization to ensure directed behaviors within the organization. Goal-oriented behavior promotes productive work among individuals. The PT. XYZ (Persero) Transmission Implementation Unit's primary duty is to maintain power transmission installations within its operational area. This includes tasks such as maintenance of meters and protection systems, transmission installations, ScadaTel, operational supervision, logistics, environmental management, and electrical safety to achieve performance targets. Additionally, it manages administration and finance to support the operation and maintenance of installations. Each year, PT XYZ (Persero) sets work targets based on various indicators, including customer perspective, key performance indicators, financial performance, human resources, and leadership perspective.

Data on productivity from PT. XYZ (Persero) Transmission Implementation Units in Bogor and Karawang between 2017 and 2021 show the distribution of employee numbers, MVA Transformer capacity, and annual productivity levels. In 2017, UPT Bogor had 154 employees, a total MVA
Transformer capacity of 3773, and productivity of 24,500. Changes in employee numbers and MVA Transformers over the subsequent years led to productivity fluctuations. For example, despite a reduction in employees to 148 in 2018, productivity increased to 27,115, a 10.67% rise. By 2021, productivity further rose to 28,601. Conversely, UPT Karawang displayed a different trend. With 284 employees and productivity at 18,237 in 2017, subsequent years saw variations affecting productivity. Although there was a 0.35% decrease in productivity in 2018, it increased by 5.26% in 2020. However, 2021 witnessed a decline to 18,698, a 4.36% decrease. This data reflects fluctuating productivity levels at both PT. XYZ (Persero) Transmission Implementation Units in Bogor and Karawang.

Interviews about productivity at the Bogor and Karawang Transmission Implementation Units revealed several issues. At UPT Bogor, customer service was suboptimal, with a recent flicker incident in 3 KTT UPT Bogor due to transmission system disturbances. While 93% of work met targets, the remainder fell short due to third parties’ lack of commitment to meeting targets. Employees faced challenges managing work programs involving many participants, making monitoring and evaluation difficult. Responsiveness to consumer complaints regarding meter and electrical protection system damage was inadequate, as evidenced by numerous online complaints. Additionally, the implementation of layered security systems and automatic power diversion during disturbances and natural disasters like floods was suboptimal.

Preliminary survey results indicated productivity problems among employees at PT. XYZ (Persero) Central Java Transmission Implementation Unit (Western Region). These issues suggest that employees were less effective in utilizing available work inputs, such as costs, labor, materials, equipment, and company support. Consequently, the output produced was suboptimal in quantity, quality, facility utilization, performed activities, and the amount of output per employee. The management of occupational safety and health at PT. XYZ (Persero) Central Java Transmission Implementation Unit, particularly at the Bogor unit, did not meet work targets. Occupational safety and health implementation achieved 96% in 2015, 88.63% in 2016, and 51% for risk management studies in 2017. In 2018 and 2019, the system met its targets. The occupational safety and health management process includes planning, implementation, evaluation, and action. However, at the Bogor unit, the focus was mainly on planning and implementing, with evaluation and action aspects not fully carried out.

A comprehensive evaluation of occupational safety and health management at PT. XYZ (Persero) Bogor was lacking. This includes assessing employee compliance, understanding compliance status, evaluating actions to eliminate non-conformance causes, reviewing non-conformities, and determining their causes to prevent recurrence. Additionally, actions to improve evaluation results were not implemented, such as necessary corrective actions, assessing effectiveness, and making changes to the integrated management system. Corrective actions should be prioritized based on the impact of non-conformance, including quality, health and safety, environment, and safety impacts. Employee productivity is also influenced by achievement motivation, driven by the attainment of success and aspirations in life. The goals set by employees can influence their job performance. Employees with high achievement motivation are more realistic, setting challenging yet achievable goals, whereas those with low motivation set goals that are either too easy or nearly impossible. High achievement motivation leads employees to set ambitious goals and persistently work towards them.

A review of the literature reveals several studies that have reported similar findings, indicating that achievement motivation significantly influences employee productivity (Budiwati & Shinuranti, 2019; Laksmiari, 2019; Purwaningsih et al., 2021). Research on the effectiveness of occupational safety and health management on employee productivity has been reported by (Has & Susanty, 2016; Santiana et al., 2018), who found that the effectiveness of occupational safety and health management significantly affects employee productivity. Recent studies on work productivity by (Jaafar & Rahim, 2022) examined the mediating effects of job autonomy and work-family conflict on the relationship between telecommuting and employee productivity. (Kurdy et al., 2023) studied the mediating effects of job level on the relationship between remote work and employee productivity.
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Theoretical studies and hypotheses

Productivity

Sutrisno (2016: 104) defines productivity as the relationship between outputs (goods or services) and inputs (labor, materials, money). Employee productivity involves output dimensions like physical goods per unit and management effectiveness, and input dimensions such as labor, materials, money, equipment, and time used. Sedarmayanti (2011: 199) describes productivity as the ratio of achieved results (output) to all used resources (input), associated with a productive mindset and attitudes like motivation, discipline, creativity, innovation, dynamism, professionalism, and financial acumen. Productivity includes output dimensions like individual performance and work environment, and input dimensions such as total costs, labor, materials, capital, energy, procedures, and equipment.

Mathis & Jackson (2012: 40) define productivity as measuring the quantity and quality of completed work, considering resource costs. It has output dimensions like profit, sales volume, and work quality, and input dimensions like labor energy, work time, number of workers, and total costs. Phusavat (2013: 24) sees productivity as the quantitative ratio of produced output to consumed input. It includes output dimensions like goods, services, sales, work manuals, standards, and inventories, and input dimensions like limited resources such as labor, materials, machinery, and facilities. Nordhaus & Samuelson (2010: 40) represent productivity as output per unit input, with output dimensions including products, volume, services, sales, and profits, and input dimensions like humans, materials, machines, finances, technology, and methods. Robbins & Judge (2013: 62) describe productivity as transforming inputs into outputs at the lowest cost. Productivity involves output dimensions measured by effectiveness, like goal achievement, produced output, and teamwork, and input dimensions measured by efficiency, like human resources and organizational support.

Sylverson (2011: 326) explains productivity as the amount of output obtained from given inputs, involving output dimensions like product quantity, activity quantity, and usable work facilities, and input dimensions like materials, capital, labor, equipment, programs, and support. Tue et al. (2015: 1) see productivity as the effective use of innovation and resources to add value to goods and services. It includes output dimensions like goods and services sold to customers, and input dimensions like people, land, buildings, materials, and energy. Kalaw (2015: 1) describes productivity as the relationship between output quantity and input quantity used in production, with output dimensions like produced goods and services, and input dimensions like labor, materials, machinery, and energy. Martono (2019: 1) defines productivity as the ratio of job outputs to the resources used in creating welfare. It includes output dimensions like people, materials, machines, money, and methods, and input dimensions like people, materials, machines, money, and methods. Based on these theories, employee productivity can be synthesized as the ratio of outputs (goods or services) to various used resources (inputs) to add value. Productivity dimensions include output effectiveness, added value from tools and infrastructure, work quality, and quantity produced, and input indicators like labor, total costs, materials and equipment, and organizational support.

Achievement motivation

Daily (2012: 22) states that achievement motivation is the drive to reach goals according to set standards. It includes taking moderate risks to achieve difficult but possible goals, needing immediate feedback on performance, finding tasks and achievements intrinsically rewarding regardless of financial rewards, defining work by approaching success rather than avoiding failure, and being deeply focused on tasks until completion. Judge & Robbins (2013: 131) describe achievement motivation as the drive to excel according to established standards and achieve success. It includes focusing on goals, being responsible, desiring feedback on performance, seeking satisfaction through achievement, and taking risks. Spence and Helmreich (1983) in (Singh, 2011: 121) state that achievement motivation is an internal psychological drive that enables individuals to pursue valuable work and reach goals according to standards. It includes enjoying challenging work, being thought-oriented, leading groups, completing tasks, taking a proactive approach, loving what they do, pursuing self-realization and growth, hoping to win, and not fearing success.

McClelland in (Royle & Hall, 2012: 25) describes achievement motivation as the need to achieve excellence according to set standards. It includes taking risks, desiring feedback on performance,
seeking satisfaction through achievement, and taking responsibility for one's work. Ohizu & Emmanuel (2014: 60) define achievement motivation as the drive to work towards high standards and achieve success in competitive situations. It includes completing tasks based on personal ability, setting moderately challenging goals, considering risks, and strongly desiring feedback on performance. Ivanchevich & Konopaske (2012: 119) define achievement motivation as the drive to excel, work hard to achieve goals, and use skills and abilities to reach objectives. It includes personal responsibility, a desire to achieve goals, and a strong desire for performance feedback. Siagian (2012: 139) states that achievement motivation is the drive for an individual to contribute as much as possible to organizational success. It includes a strong desire for feedback, a need for success at work, and intensity in task performance.

(Elliot et al., 2017) explains motivation as the effort to understand how individual needs, expectations, and values influence achievement-related behaviors. It includes striving for success, choosing between tasks, and perseverance. (McPheat, 2013) defines motivation as the drive in individuals with a high need to achieve. It includes seeking achievement, working hard to reach goals, wanting progress, needing feedback, and needing a sense of accomplishment. Susanto (2018: 35) describes motivation as the drive within individuals to do their best to achieve success using their potential and support. It includes trying new and creative ways, seeking feedback, taking moderate risks, and taking personal responsibility for actions. Based on these theories, achievement motivation can be synthesized as the internal drive to work hard, use skills and abilities, and achieve goals according to set standards. Dimensions and indicators of achievement motivation include personal responsibility for tasks and satisfaction with self-effort, setting and mastering work targets, working creatively and seeking new solutions, striving for goals with diligence, anticipating failures and preparing, and performing tasks thoroughly with initiative and adherence to schedules.

Effectiveness of Safety and Health Management

The Safety Association for Canada (2018: 2) defines occupational health and safety (OHS) management as efforts by employers to minimize injury and illness risks. This involves management involvement, hazard identification, hazard control, PPE training, emergency response, incident reporting, and effective communication between management and employees. Ardana et al. (2012: 208) describe OHS management as measures to keep workers and others safe and healthy, ensuring safe and efficient use of production resources. Key elements include inspections, supervision, audits, hazard control, risk acceptance, PPE training, guidance, OHS practices, and performance evaluation.

Mathis & Jackson (2012: 40) state that OHS management ensures safe working conditions through training, guidance, and task control. It involves daily health monitoring, safety awareness training, accident identification, workplace security monitoring, and communication with employees. Mangkunegara (2015: 163) explains OHS management as creating safe conditions free from workplace disturbances. It involves setting OHS system indicators, involving supervisors in reporting, developing management procedures, prioritizing safety, and training employees. (Pangkey et al., 2012) define OHS management as protecting workers by minimizing risks and ensuring safety for effective performance. It includes management commitment, OHS planning, implementation, hazard identification and control, evaluation, and management review.

OHS (2018: 5) describes OHS management as an organized approach to reduce workplace hazards, aiming to decrease accidents and illnesses. It involves monitoring, hazard identification and control, emergency preparedness, safety training, and management review. MIOSHA (2015: 38) sees OHS management as integrating safety programs and policies to reduce accidents and illnesses. It includes management commitment, employee involvement, workplace analysis, hazard prevention and control, and safety training. Darmiatun & Tasrial (2015: 18) define OHS management as controlling work-related risks to create a safe, efficient, and productive workplace. It involves setting policies, planning, implementing, monitoring, evaluating, and improving OHS performance. Reese (2016: 132) describes OHS management as an administrative function integral to safety initiatives. It includes time and cost for safety meetings, audits, inspections, hazard identification, and control recommendations.

Hughes & Ferrett (2016: 49) state that OHS management involves planning, implementing, measuring, and evaluating health and safety standards. Key factors include a positive safety culture,
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Research Methods

This study was conducted at the Central Java Parent Unit, comprising 8 units, and in the Western Java region, covering 4 Transmission Implementation Units (UPT) of PT XYZ (Persero): UPT Bogor, UPT Bandung, UPT Karawang, and UPT Bekasi. A mixed-method explanatory-exploratory sequential design was used, beginning with quantitative research to test hypotheses, followed by qualitative analysis to explore strategies. The quantitative phase utilized survey methods and path analysis techniques, employing questionnaires to test the relationship between the effectiveness of occupational safety and health management and employee productivity and innovation through achievement motivation. The qualitative phase involved exploratory research to identify challenges and strategies for enhancing productivity and innovation, comparing data from both quantitative and qualitative phases to draw comprehensive conclusions. The study design encompassed quantitative research using survey methods and qualitative analysis to complement the quantitative findings. Hypotheses were tested using quantitative methods, while qualitative analysis and The Delphi technique were employed to gather and organize feedback for consensus. The target population consisted of all permanent technical functional employees at the UPTs of PT XYZ (Persero) in the Central Java working area, totaling 1686 employees, with a focus on 667 employees from UPT Bogor, UPT Bandung, UPT Karawang, and UPT Bekasi. Using Slovin’s formula with a 5% margin of error, a sample size of 250 employees was determined. Cluster sampling was applied, treating each work unit as a cluster and selecting samples randomly from each. Data analysis involved descriptive and correlation analyses. Path analysis was utilized to determine the direct and indirect effects of independent variables on dependent variables, with Pearson correlation used to analyze relationships between the dimensions of these variables.

Data analysis and discussion

Based on the results of the correlation test between the dimensions of Occupational Health and Safety (OHS) management effectiveness and employee productivity, the highest correlation coefficient was 0.416, which is considered moderate, found between dimension X2 and Y1.6. This indicates a moderate positive relationship between the communication aspect of OHS management and the cost aspect of employee productivity. The lowest correlation coefficient in this context was 0.075, with the highest being 0.416. These coefficients, ranging from 0.075 to 0.416, fall into the very weak to weak category. Thus, OHS management effectiveness indicators generally show a weak relationship with employee productivity indicators. This suggests that OHS management effectiveness must directly impact employee productivity, as indicated by a path coefficient of 0.155 for the effect of OHS management (X) on employee productivity (Y1).

For the correlation test between the dimensions of achievement motivation and employee productivity, the highest correlation coefficient was 0.196, which is classified as very weak, observed between dimension I1 and Y1.5. This suggests a very weak positive relationship between the personal responsibility aspect of achievement motivation and the labor aspect of employee productivity. The lowest correlation coefficient in this context was 0.009, with the highest being 0.196, both falling into the very weak category. Therefore, achievement motivation indicators show a very weak relationship with employee productivity indicators, implying that achievement motivation must directly affect employee productivity, as indicated by a path coefficient of 0.255 for the impact of achievement motivation (I) on employee productivity (Y1).

The first hypothesis proposed was "The effectiveness of Occupational Health and Safety (OHS) management positively impacts employee productivity." The simple linear regression analysis between OHS management effectiveness and employee productivity yielded a positive regression coefficient b of 0.155. The t-test results showed a t-value of 2.436, which exceeds the t-table value at α=0.05 (2.436 > 1.65). These findings support the hypothesis, confirming a direct, significant, positive impact of OHS management effectiveness on employee productivity.
The second hypothesis proposed was "Achievement motivation positively affects employee productivity." The simple linear regression analysis indicated a positive regression coefficient b of 0.255. The t-test results revealed a t-value of 3.992, which is greater than the t-table value at α=0.05 (3.992 > 1.65). These findings confirm the hypothesis, indicating a direct, significant, positive influence of achievement motivation on employee productivity.

The third hypothesis proposed was "Achievement motivation serves as a positive mediator in the relationship between OHS management effectiveness and employee productivity." The analysis showed a positive regression coefficient b of 0.171, indicating that achievement motivation positively mediates this relationship. The Z-test results revealed a Z-value of 2.398, which exceeds the Z-table value at α=0.05 (2.398 > 1.65). These findings support the hypothesis, demonstrating that achievement motivation positively mediates the effect of OHS management effectiveness on employee productivity.

The results of the first hypothesis indicate a direct positive effect of effective occupational health and safety management on employee productivity, with β = 0.935 (p = 0.000). This finding is supported by Has and Susanty's (2016) research in "Health and Safety Management Influence on Employee Productivity," published in Actual Problems of Economics Vol. 3, No. 177. Their study showed a product moment correlation of 0.891 and a determinant coefficient of 0.786, resulting in the regression equation Y = -0.006 + 0.979X. The qualitative analysis also confirmed a direct positive impact of effective occupational health and safety management on employee productivity, with strong indicators in management commitment, communication, monitoring and identification of OHS, OHS training, and implementation. Hence, it is concluded that effective occupational health and safety management significantly enhances employee productivity. Improved OHS management correlates with higher employee productivity, while less effective OHS management is associated with lower productivity.

The findings from the second hypothesis reveal a direct positive effect of achievement motivation on employee productivity, with β = 0.379 (p = 0.000). This aligns with Kohar's (2014) study, "Productivity of Trainers Seen from Achievement Motivation, Creativity and Working Climate," which found a significant impact of achievement motivation on productivity (β = 0.743; p < 0.05). Similarly, Wijaya's (2017) research, "The Influence of Situational Leadership Style, Work Environment, and Achievement Motivation on Work Productivity of State Junior High School Teachers in Sub Rayon 16 Terara, East Lombok Regency," published in the Journal of Master of Management, University of Mataram Vol. 6, No. 1, demonstrated that achievement motivation significantly and positively affects teacher productivity, with a regression coefficient of 0.404 and the path analysis equation Y = 0.069X + ε. Achievement motivation drives employees' actions, reflected in their efficient task completion, proactive attitude, and passion for work. This motivation enables employees to utilize resources effectively, resulting in optimal work outputs in both quantity and quality. Therefore, achievement motivation significantly enhances employee productivity.

Moreover, qualitative analysis supports these quantitative findings, showing that achievement motivation positively affects employee productivity, with indicators such as personal responsibility, setting work targets, working creatively, striving for goals, anticipating challenges, and performing tasks well. Thus, it can be concluded that higher achievement motivation leads to increased employee productivity, while lower achievement motivation results in decreased productivity.

The third hypothesis results suggest an indirect effect of effective occupational health and safety management on employee productivity through achievement motivation. However, the direct path coefficient (0.935) is greater than the indirect path coefficient (0.255), indicating that achievement motivation is less effective as a mediator in this relationship. This indirect effect is supported by Hedianto et al.'s (2014) study, "The Influence of Occupational Health and Safety (OHS) on Employee Work Motivation," which found that OHS significantly influences work motivation (β = 0.721; p < 0.000). Similarly, Wijaya, Nurmayanti, and Furkan's (2017) study, "The Influence of Situational Leadership Style, Work Environment, and Achievement Motivation on Work Productivity of State Junior High School Teachers in Sub Rayon Terara, East Lombok Regency," showed significant positive effects of achievement motivation on productivity. Additionally, Morgan et al.'s (2021) study, "The Mediating Effect of Job Satisfaction on Health and Safety Policy Management and Employee Productivity in Manufacturing Firms," found a significant direct effect of health and safety policy management on productivity (β = 0.915; p < 0.000). Both quantitative and qualitative analyses
consistently demonstrate that higher effectiveness in occupational health and safety management leads to higher employee productivity, with achievement motivation playing a supportive but less dominant role.

**Conclusions and suggestions**

**Conclusion**

This research has effectively identified methods to resolve issues and boost the productivity of permanent technical employees at PT XYZ (Persero) Central Java Transmission Unit, Western Region, by enhancing Occupational Health and Safety (OHS) Management and Achievement Motivation. The findings indicate a direct positive impact of effective OHS management on employee productivity. Similarly, achievement motivation has a direct positive impact on employee productivity. Additionally, there is an indirect positive effect of OHS management effectiveness on employee productivity through achievement motivation, though this mediating effect is relatively weak.

**Suggestion**

Future research should focus on creating more integrated OHS management models that include various operational and strategic components of the company to increase their effectiveness across different conditions and industry sectors. Further studies could also examine factors that influence achievement motivation, such as psychological, social, and specific work environment aspects, for a more thorough understanding. Employing different research methodologies, like longitudinal studies or experiments, could help validate the findings of this study and provide deeper insights into the relationship between OHS management, achievement motivation, and employee productivity. These suggestions aim to significantly contribute to the understanding and enhancement of employee productivity through improved OHS management and achievement motivation.

**Reference**


