

The Effect of Transformational Leadership and Work Environment on Organizational Productivity with Employee Performance as the Mediating Variable

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ABSTRACT

This study investigates the influence of transformational leadership and work environment on organizational productivity, with employee performance serving as a mediating variable among Indonesian MSME workers. Using a quantitative approach with 170 samples and data analyzed via Structural Equation Modeling-Partial Least Squares (SEM-PLS), the findings reveal significant direct and indirect relationships. Transformational leadership and work environment positively impact employee performance, which in turn significantly enhances organizational productivity. Employee performance is confirmed as a critical mediating factor, emphasizing the importance of leadership and conducive work environments in achieving optimal productivity. The study provides valuable insights for MSME leaders to strategically invest in human capital and organizational culture to foster growth and competitiveness.

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1. INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) play a vital role in the economic development of Indonesia, contributing over 61% to the national GDP and employing more than 97% of the workforce, thus serving as the backbone of the economy [1]. They function not only as economic drivers but also as a social safety net, particularly in rural areas, by improving welfare and providing employment opportunities [2]. Despite their importance,

MSMEs face persistent challenges that hinder their productivity and competitiveness, including limited access to capital and technology [1], [3], inadequate leadership and managerial skills, lack of product innovation [3], and an unfavorable business environment shaped by uneven government policies and low digital literacy [3]. Addressing these barriers is essential for enabling MSMEs to thrive in a competitive, technology-driven market. Effective strategies include improving access to financial and

technological resources, offering targeted entrepreneurship and managerial training [1], [3], fostering innovation, and promoting digitalization to expand market reach and operational efficiency [3]. Understanding these dynamics is crucial for formulating policies and interventions that strengthen MSMEs' contribution to Indonesia's sustainable economic growth.

Transformational leadership, characterized by inspiring and motivating employees to achieve higher performance levels, has been widely recognized as a critical factor in organizational success, particularly within the context of Micro, Small, and Medium Enterprises (MSMEs), where limited resources and infrastructure heighten the importance of effective leadership. Leaders who adopt transformational practices foster a shared vision, encourage innovation, and promote a strong sense of purpose among employees, which is essential for driving innovation and enhancing employee engagement. Transformational leaders foster a culture that values creativity and risk-taking, encouraging employees to think outside the box and experiment with new ideas [4], [5], and they promote intellectual stimulation, vital for the continuous development and implementation of novel processes and services [5]. In fast-changing environments like MSMEs, this leadership style facilitates innovation by fostering knowledge sharing and an environment conducive to creativity [4]. Moreover, transformational leaders enhance employee engagement by providing clear direction, recognizing contributions, and offering growth opportunities, resulting in higher levels of engagement and retention [4], [6]. Elements such as Inspirational Motivation (IM) and Individualized Consideration (IC) have a significant impact on boosting employee performance and fostering a collaborative workplace [6], [7]. Ultimately, transformational leadership improves organizational performance by cultivating a dynamic and productive culture, which contributes to better financial outcomes, increased market share, higher productivity,

job satisfaction, and reduced turnover rates [4], [6].

A supportive and conducive work environment plays a crucial role in enhancing employee satisfaction, engagement, and performance, which collectively influence organizational productivity. This environment not only fosters employee well-being but also encourages collaboration, creativity, and operational efficiency. The interplay between leadership and the work environment forms a foundational structure for boosting employee performance, serving as a bridge to higher organizational outcomes. A positive work environment significantly improves job satisfaction and motivation, leading to greater commitment and productivity among employees [8], [9]. Key elements such as open communication, opportunities for growth, and healthy workplace relationships are instrumental in increasing satisfaction and reducing absenteeism [10]. Effective leadership is essential in shaping such an environment, as it directly impacts motivation and satisfaction, which are critical drivers of performance [11]. Leadership practices that prioritize support and engagement create conditions where employees are more involved and productive, ultimately contributing to organizational success [11]. Furthermore, a positive organizational culture reinforces employee involvement and motivation, while a well-supported work environment enhances commitment and performance, underscoring their combined effect on productivity [8], [9]. This study investigates the influence of transformational leadership and work environment on organizational productivity, with employee performance serving as a mediating variable. By focusing on Indonesian MSME workers, the research aims to provide insights into how these factors interconnect to drive productivity in resource-constrained settings.

2. LITERATURE REVIEW

2.1 Transformational Leadership

Transformational leadership significantly enhances organizational

performance by inspiring employees through a shared vision and personal development, making it especially beneficial for Micro, Small, and Medium Enterprises (MSMEs), where leaders often take on multiple roles and closely interact with employees. This leadership style comprises four dimensions—idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration—that together foster trust, creativity, and commitment. Leaders act as role models [12], [13], communicate compelling visions [6], [13], encourage innovation [12], [14], and provide personalized support [12], [15]. These traits promote innovation, job satisfaction, and productivity, which are vital for MSMEs' success [6], [13], [15]. However, MSMEs often face challenges in adopting this leadership style due to limited training and resource constraints, underscoring the need for focused leadership development.

2.2 Work Environment

A positive work environment is essential for enhancing employee performance, especially in Micro, Small, and Medium Enterprises (MSMEs), as it fosters collaboration, reduces stress, and boosts job satisfaction—factors critical to organizational success. Several key elements contribute to a conducive work environment, including ergonomic facilities, supportive management, open communication, and opportunities for personal growth, all of which lead to a motivated and productive workforce [9], [16]. A well-designed physical workspace enhances comfort and efficiency, while ergonomic features help reduce physical strain and prevent injuries, thereby increasing productivity and satisfaction [9], [16]. Moreover, a positive organizational culture that values collaboration and employee contributions strengthens engagement and motivation [8], [9]. Employee engagement itself is closely linked to satisfaction and performance, with engaged employees being more committed, productive, and less likely to leave the organization [8], [16]. Supportive management further reinforces this environment by offering clear communication, constructive feedback, and

professional development opportunities, all of which significantly enhance motivation and performance [8], [17].

2.3 Employee Performance

Employee performance in Micro, Small, and Medium Enterprises (MSMEs) is strongly influenced by various factors, particularly leadership style, work environment, motivation, and opportunities for skill development. Transformational leadership and a positive work environment stand out as key drivers, as they enhance employee engagement, creativity, and efficiency. Employees who view their leaders as supportive and their workplace as conducive are more likely to perform optimally—an essential advantage for MSMEs operating with limited resources. Transformational leadership fosters a motivating atmosphere that encourages innovation and boosts morale, leading to improved productivity and engagement [18], [19], with one study reporting a strong positive correlation ($r = 0.974$) between this leadership style and employee performance [19]. Additionally, a well-structured work environment contributes significantly to comfort, satisfaction, and efficiency, positively affecting performance [20], while also increasing engagement and empowerment [21]. Motivation—both intrinsic and extrinsic—further drives employees to achieve organizational goals [20], and access to skill development opportunities such as training and career advancement enhances loyalty and productivity [20].

2.4 Organizational Productivity

Organizational productivity in Micro, Small, and Medium Enterprises (MSMEs) is significantly shaped by leadership quality, employee engagement, and organizational culture, with transformational leadership and a supportive work environment playing particularly influential roles. Transformational leaders inspire employees with a shared vision, fostering engagement and job satisfaction, which in turn enhances productivity [22]. Effective communication from leaders also contributes to a positive atmosphere that drives performance [22].

Employee engagement acts as a critical mediating factor, where engaged and empowered employees—motivated through autonomy and delegation—demonstrate higher levels of productivity [22], [23]. Additionally, a strong organizational culture reinforces motivation, commitment, and leadership effectiveness, all of which are essential for sustaining workforce productivity [23], [24]. Furthermore, supportive work environments and fair compensation create conditions that allow employees to perform at their best, making these factors crucial for MSMEs striving to maximize output with limited resources [24].

2.5 Mediating Role of Employee Performance

Employee performance serves as a crucial intermediary between leadership, work environment, and organizational productivity, particularly in Micro, Small, and Medium Enterprises (MSMEs), where resource constraints demand high efficiency and engagement. Various studies underscore the significant influence of leadership style and work environment on employee performance, often mediated by motivation and job satisfaction. Leadership style directly affects performance, as demonstrated at PT. Assalaam Niaga Utama, where a statistically significant relationship was found [25], and also impacts motivation, which subsequently enhances performance, as shown in the study at PT. XYZ [26]. Similarly, a positive work environment significantly improves

employee performance, evidenced by findings from PDAM Tirta Kampar [27], while also influencing motivation, which mediates its effect on productivity, as seen in the PNM Medan Branch case [28]. Motivation thus emerges as a key mediating factor, reinforcing how leadership and environmental factors indirectly shape performance and, ultimately, organizational outcomes [26], [28]. These findings highlight the necessity for MSMEs to foster motivational strategies and performance-oriented cultures to maximize productivity.

2.6 Conceptual Framework

Based on the reviewed literature, a conceptual framework is proposed in which transformational leadership and work environment both positively influence employee performance and organizational productivity. Transformational leadership enhances motivation, engagement, and innovation, while a supportive work environment fosters satisfaction, collaboration, and efficiency—each contributing directly to improved employee performance. Furthermore, employee performance acts as a mediating variable that bridges the effects of transformational leadership and work environment on organizational productivity, emphasizing its pivotal role in translating internal organizational factors into measurable performance outcomes.

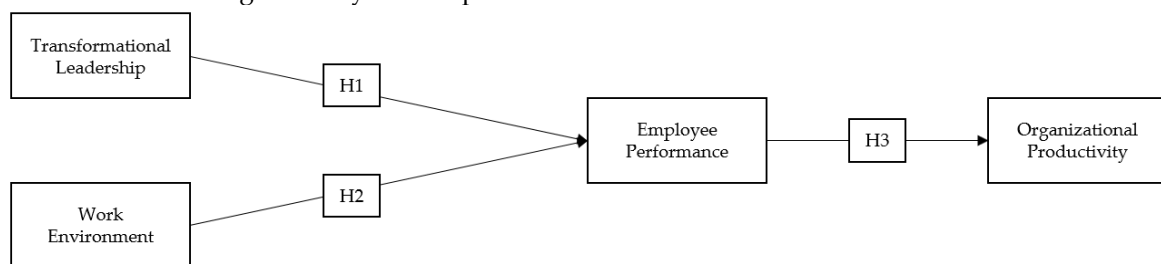


Figure 1. Conceptual Framework

3. METHODS

This study employs a quantitative research design to examine the direct and indirect effects of transformational leadership and work environment on organizational productivity through employee performance. Data were collected using a structured survey

distributed online and in person, targeting employees of Micro, Small, and Medium Enterprises (MSMEs) across various sectors in Indonesia. A purposive sampling technique was used, with criteria including current MSME employment, a minimum of six months' experience, and roles involving

leadership interaction. A total of 170 respondents were selected, based on SEM-PLS sampling guidelines requiring ten times the maximum number of indicators in the model.

The study analyzes four variables: transformational leadership (measured using Bass and Avolio's MLQ), work environment (covering physical, psychological, and social aspects), employee performance (based on Campbell's task, contextual, and adaptive dimensions), and organizational productivity (measured by output quality, efficiency, and goal attainment). Items were rated on a five-point Likert scale. Data were pre-tested for clarity, and confidentiality was ensured. The analysis used SmartPLS 3 with SEM-PLS, involving descriptive analysis, measurement model assessment (validity and reliability), structural model testing (path coefficients, t-statistics, and p-values), and goodness-of-fit evaluation (R^2 , Q^2). Mediation effects were tested using bootstrapping to confirm the role of employee performance in linking leadership and work environment to productivity.

4. RESULTS AND DISCUSSION

4.1 Descriptive Analysis

The descriptive analysis offers an overview of the demographic characteristics of respondents and their perceptions of transformational leadership, work

environment, employee performance, and organizational productivity. The majority of respondents were aged 25–30 years (40%), followed by 31–40 years (35%) and above 40 years (25%). In terms of gender, 52% were male and 48% female. Regarding work experience, 10% had less than 1 year, 50% had 1–3 years, and 40% had more than 3 years of experience, indicating a relatively experienced workforce within the MSME sector.

Descriptive statistics of the main variables show generally high average scores. Transformational Leadership received a mean score of 4.21 (SD = 0.73), suggesting that respondents perceive their leaders as inspiring and motivating. The Work Environment was rated positively, with a mean of 4.18 (SD = 0.69), indicating supportive and resourceful conditions. Employee Performance had the highest mean at 4.25 (SD = 0.71), reflecting strong task achievement and adaptability among respondents. Organizational Productivity also scored well, with a mean of 4.15 (SD = 0.65), suggesting that respondents view their organizations as effective in producing quality outcomes and meeting their goals.

4.2 Measurement Model Assessment

To ensure the reliability and validity of the constructs, the measurement model was evaluated based on factor loadings, Composite Reliability (CR), Cronbach's Alpha (CA), and Average Variance Extracted (AVE).

Table 1. Measurement Model Assessment

Variable	Code	Loading Factor	CA	CR	AVE
Transformational Leadership	TL.1	0.858	0.916	0.941	0.798
	TL.2	0.930			
	TL.3	0.916			
	TL.4	0.868			
Work Environment	WE.1	0.883	0.890	0.932	0.820
	WE.2	0.926			
	WE.3	0.907			
Employee Performance	EP.1	0.791	0.877	0.913	0.681
	EP.2	0.841			
	EP.3	0.900			
	EP.4	0.841			
	EP.5	0.913			
Organizational Productivity	OP.1	0.721			

	OP.2	0.884	0.863	0.903	0.653
	OP.3	0.867			
	OP.4	0.839			
	OP.5	0.801			

The evaluation of the measurement model demonstrates that all constructs meet the recommended reliability and validity criteria. All indicator loadings exceeded the threshold of 0.7, indicating strong indicator reliability. Composite Reliability (CR) and Cronbach's Alpha (CA) values for all constructs were above 0.7, confirming high internal consistency and reliability. Additionally, the Average Variance Extracted

(AVE) values were all above 0.5, which supports the convergent validity of the constructs used in the study.

4.3 Discriminant Validity

The Fornell-Larcker criterion was used to assess discriminant validity. The square root of the AVE for each construct was greater than its correlation with other constructs, indicating satisfactory discriminant validity.

Table 2. Fornell-Larcker Criterion

	Employee Performance	Organizational Productivity	Transformational Leadership	Work Environment
Employee Performance	0.825			
Organizational Productivity	0.848	0.808		
Transformational Leadership	0.957	0.726	0.894	
Work Environment	0.708	0.698	0.598	0.905

These results confirm that the constructs exhibit strong reliability, convergent validity, and discriminant validity, enabling the study to proceed to the structural model analysis.

4.4 Model Fit Assessment

The model fit was evaluated using several key indicators, including SRMR (Standardized Root Mean Square Residual), NFI (Normed Fit Index), and R^2 values for the endogenous constructs, to assess how well the structural model aligns with the observed data. The SRMR value of 0.045 is well below the threshold of 0.08, indicating a good fit with minimal residuals between observed and predicted values. Similarly, the NFI value of 0.923 exceeds the recommended minimum of 0.90, demonstrating that the model effectively captures the variance in the data compared to a null model. The R^2 value for employee performance (EP) is 0.721, showing

that 72.1% of the variance is explained by transformational leadership and work environment. Meanwhile, the R^2 value for organizational productivity (OP) is 0.719, suggesting that employee performance explains 71.9% of the variance in organizational productivity, both of which reflect strong predictive power.

In addition to model fit, predictive relevance was assessed using the Stone-Geisser Q^2 value through the blindfolding technique. The Q^2 value for employee performance is 0.512, and for organizational productivity is 0.506, both of which exceed the threshold of 0, indicating strong predictive relevance. These results confirm that the model not only fits the data well but also has strong capability in predicting outcomes for the endogenous constructs, thus reinforcing the robustness and validity of the proposed structural model.

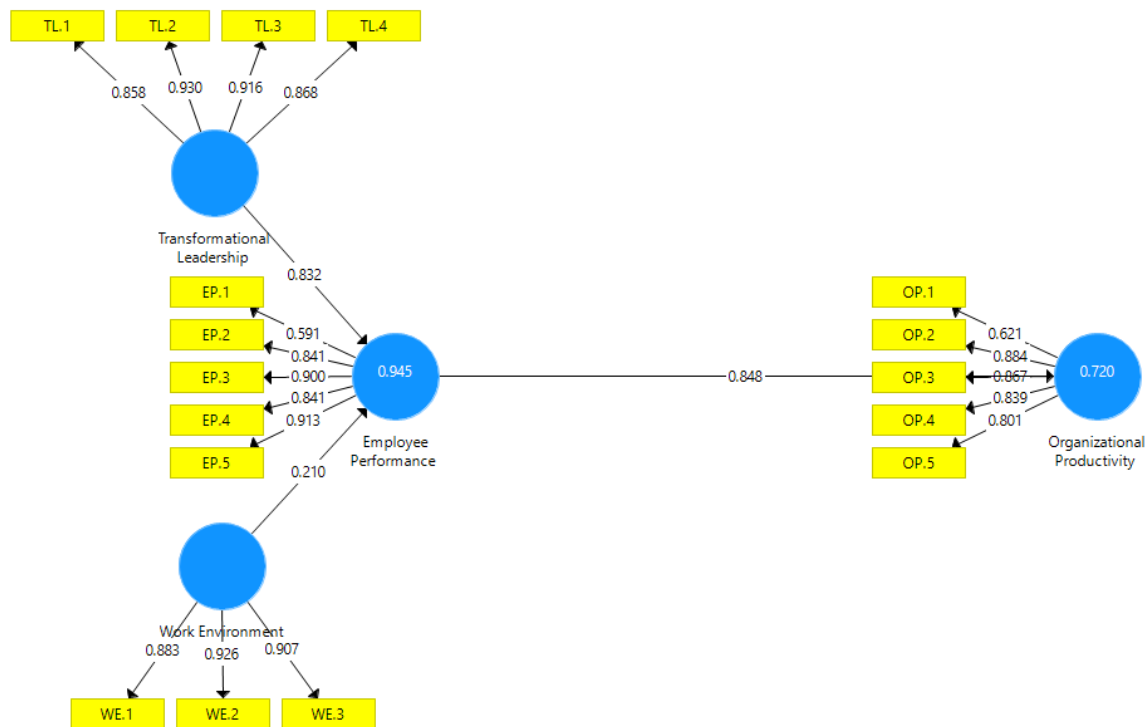


Figure 2. Measurement Internal

4.5 Direct and Indirect Effects

The analysis of direct and indirect effects helps to understand the relationships

between the variables, including the mediating role of employee performance.

Table 3. PLS Bootstrapping

Direct Effects	Original Sample (O)	T Statistics (O/STDEV)	P Values	Conclusion
Transformational Leadership → Employee Performance	0.832	23.398	0.000	Significant
Work Environment → Employee Performance	0.210	5.285	0.000	Significant
Employee Performance → Organizational Productivity	0.848	30.940	0.000	Significant
Indirect Effects	Original Sample (O)	T Statistics (O/STDEV)	P Values	Conclusion
Transformational Leadership → Organizational Productivity	0.705	21.172	0.000	Significant
Work Environment → Organizational Productivity	0.178	5.002	0.000	Significant
Total Effects	Total Effect (O)	T Statistics (O/STDEV)	P Values	Conclusion
Transformational Leadership → Organizational Productivity	0.832	25.973	0.000	Significant
Work Environment → Organizational Productivity	0.388	9.212	0.000	Significant

The interpretation of results reveals both direct and indirect pathways that significantly influence organizational productivity through employee performance. Transformational leadership has a strong and significant direct effect on employee performance ($O = 0.832$, $T = 23.398$), while the work environment also shows a positive and significant impact ($O = 0.210$, $T = 5.285$). Furthermore, employee performance directly affects organizational productivity with a high degree of influence ($O = 0.848$, $T = 30.940$). Indirect effects also demonstrate that employee performance significantly mediates the relationship between transformational leadership and organizational productivity ($O = 0.705$, $T = 21.172$), as well as between work environment and organizational productivity ($O = 0.178$, $T = 5.002$). In terms of total effects, transformational leadership exhibits a strong overall impact on organizational productivity ($O = 0.832$), and the work environment also contributes significantly ($O = 0.388$), highlighting the critical role of employee performance as a mediating variable in enhancing productivity within MSMEs.

DISCUSSION

The Influence of Transformational Leadership on Employee Performance

The results demonstrate that transformational leadership has a strong and significant positive impact on employee performance, aligning with transformational leadership theory, which emphasizes the role of inspiring and motivating employees to exceed expectations. Transformational leaders support both personal and professional growth, leading to improved work outcomes. This is consistent with prior studies showing that such leadership enhances employee engagement, satisfaction, and performance. In various organizational contexts, including PT Glostar Indonesia, transformational leadership has been statistically confirmed to boost employee performance by creating a motivating and supportive environment [29]–[31].

Transformational leaders enhance employee performance not only through supportive behavior but also by fostering

motivation and articulating a compelling vision. Emotional and intellectual support from leaders helps employees feel valued, increasing their motivation to contribute to organizational goals [6]. Clear communication of vision by leaders strengthens intrinsic motivation and instills a sense of purpose in employees [6]. Moreover, some studies suggest that the relationship between transformational leadership and performance is influenced by mediating or moderating variables such as motivation, indicating that the effect of leadership can be amplified by additional supportive factors [29]. Within Indonesian MSMEs, transformational leadership—characterized by visionary, inspirational, and empathetic behavior—can significantly elevate employee output, even amidst resource limitations.

The Influence of Work Environment on Employee Performance

The work environment also has a significant positive effect on employee performance, although the effect size is smaller compared to transformational leadership. This finding underscores the importance of creating a conducive work setting that includes physical facilities, supportive interpersonal relationships, and a positive organizational culture. The result aligns with Herzberg's Two-Factor Theory, which highlights the importance of hygiene factors—such as working conditions—in influencing motivation and performance. A structured, inclusive, and resource-equipped environment minimizes distractions while promoting focus, creativity, and efficiency. For Indonesian MSMEs, fostering a safe, well-maintained, and encouraging workplace can meaningfully boost employee output, particularly in contexts where financial incentives may be limited.

Several studies support the influence of a supportive work environment on performance. At PT. Infomedia Nusantara, the work environment accounted for 33.2% of employee performance variation, illustrating its substantial impact alongside motivational factors. Specific facilities like air conditioning, internet access, and clean, well-lit spaces have been shown to enhance motivation and task

completion, as observed in the East Java Cooperative and SME Training UPT Office [32]. Additionally, strong interpersonal relationships and transparent communication between employees and leaders foster a positive atmosphere that encourages performance [32], [33]. Notably, the work environment can also mediate the relationship between transformational leadership and employee performance, amplifying the leader's influence on outcomes [34], although it does not mediate the effect of organizational culture, suggesting other variables may be involved in that dynamic.

The Mediating Role of Employee Performance

Employee performance plays a significant mediating role in the relationship between transformational leadership, work environment, and organizational productivity. Transformational leadership indirectly enhances productivity by increasing employee engagement, clarity, and reducing stress—factors that contribute to better work quality and problem-solving capabilities [35]. A systematic review confirms the general positive effect of transformational leadership on employee performance, often through mediating variables [29]. Similarly, a supportive work environment provides employees with the necessary resources and psychological safety to perform effectively [36]. Notably, the work environment also mediates the effect of transformational leadership on performance, emphasizing its role in maximizing the positive outcomes of leadership [34].

The combined influence of transformational leadership and the work environment on employee performance is substantial, with a correlation coefficient of 0.833, indicating a strong and significant relationship [37]. Interestingly, some studies identify the work environment as having the greatest influence, suggesting that strategic improvements in this area can yield meaningful productivity gains [36]. These findings underscore the central role of employees as the link between organizational inputs and outputs. When employees are inspired by their leaders and supported by a conducive work environment, they are more

likely to perform at higher levels, ultimately enhancing organizational productivity. This supports the resource-based view, which positions human capital as a key strategic asset for sustainable competitive advantage.

The Influence of Employee Performance on Organizational Productivity

The analysis confirms that employee performance has a strong and significant positive effect on organizational productivity. High-performing employees contribute to the efficient achievement of organizational goals, improved output quality, and increased innovation. This finding aligns with existing productivity literature, which highlights workforce capabilities and motivation as critical drivers of organizational success. Employee engagement, satisfaction, and empowerment play a central role in this process, particularly in MSMEs. These factors have been found to significantly impact productivity, with engagement mediating the relationship between satisfaction and productivity, as well as between empowerment and productivity [23]. A comprehensive human resource strategy that simultaneously addresses these dimensions is essential for strengthening overall performance in MSMEs [23].

In addition, leadership, work environment, and compensation are key contributors to employee performance. Effective leadership and a supportive environment, along with fair compensation, positively influence employee motivation and output [38]. Motivation itself is strongly correlated with performance, indicating that well-designed motivation strategies are essential for achieving organizational goals [39]. Furthermore, employee competence—when combined with motivation—has a significant impact on performance, suggesting that organizations must invest in both skills development and motivational systems to sustain productivity [40]. Individual performance is directly linked to overall work productivity, supporting the organization's long-term success [41]. For MSMEs in Indonesia, strengthening employee performance through these integrated factors

can lead to substantial improvements in productivity and competitiveness.

Practical Implications

To enhance organizational productivity, MSMEs should prioritize three key strategies: first, investing in leadership development programs to cultivate transformational leadership capabilities among managers; second, improving the work environment by upgrading infrastructure, fostering positive interpersonal relationships, and promoting employee well-being; and third, implementing structured employee performance programs that include clear goal-setting, recognition systems, and opportunities for professional development to drive continuous improvement and strengthen overall productivity.

Theoretical Implications

The findings extend the existing literature by emphasizing the mediating role of employee performance in the relationships between leadership, work environment, and productivity. The study confirms the relevance of transformational leadership theory and resource-based views in explaining productivity dynamics in MSMEs.

5. CONCLUSION

This study provides robust evidence of the vital roles played by transformational leadership and work environment in shaping organizational productivity through the mediating influence of employee performance in Indonesian MSMEs. The findings reveal that transformational leadership has a strong and significant positive effect on employee performance,

underscoring the importance of visionary and motivational leadership in achieving organizational goals. While the effect of the work environment is comparatively smaller, it remains a critical factor in fostering employee satisfaction, engagement, and performance. The study also confirms the mediating role of employee performance, showing that the positive impacts of leadership and work environment on productivity are effectively transmitted through enhanced individual performance. Consequently, high-performing employees serve as a key driver of organizational productivity, reinforcing the strategic importance of human capital for MSME success.

The practical implications for MSME leaders include the need to invest in leadership development programs that cultivate transformational qualities, create supportive and resourceful work environments, and implement structured performance management systems. These efforts will not only improve individual employee outcomes but also sustain organizational competitiveness in an increasingly dynamic economic landscape. Additionally, this research contributes to the existing body of knowledge by integrating concepts from leadership, motivation, and organizational performance theories, offering a comprehensive framework for MSME practitioners and policymakers. Future research is recommended to examine these relationships in diverse cultural and industrial contexts to enhance the generalizability and applicability of the findings.

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