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HUMAN RESOURCE MANAGEMENT | RESEARCH ARTICLE

The Effect of Work Environment and Individual Characteristics on Employee Productivity

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Abstract: This study investigates the impact of the work environment and individual characteristics on employee productivity at PT. Bumi Sarana Beton Kalla. The hypothesis posits that both factors significantly influence work productivity. Utilizing a quantitative approach, the research surveyed all 138 company employees in Makassar, with a sample size of 58 respondents determined via the Slovin formula. Primary data were gathered through questionnaires addressing demographic information and responses to measured variables: work environment and individual characteristics. Data analysis involved multiple linear regression, partial t-tests, F-tests, and determination coefficients (R^2). The findings reveal that the work environment and individual characteristics positively and significantly affect employee productivity. The regression analysis shows positive coefficients for both variables, indicating that improvements in these factors correlate with increased productivity. These results align with previous studies highlighting the importance of environmental and individual factors in driving work productivity. The implications of this study suggest that companies should focus on creating supportive work environments and fostering the development of individual employee characteristics to enhance productivity. Further research is recommended to validate these findings across different industries and locations and explore technology's role in the work environment.

Keywords: Work Productivity, Work Environment, Individual Characteristics

JEL Classification Code: E44, F31, F37, G15

1. INTRODUCTION

In today's competitive landscape, human resources (HR) have become the backbone of organizational success, shaping the trajectory of institutions and companies. The premise is straightforward: human capital is the driving force, thinker, and planner essential to achieving organizational goals. (Alvisyahri & Syarifuddin, 2021). However, achieving these objectives necessitates a balanced integration of human equipment, machinery, financial, and informational resources. Through a systems approach, HR management is seen not merely as an isolated function but as an integral part of the more extensive organizational system, whose efforts must be continually evaluated for their contributions to overall productivity. (Zhang et al., 2020). As a strategic facet of any organization, effective HR management demands a profound understanding of human behavior and the skills to manage it. (Soetrisno, 2016). The primary goal is to optimize productivity, which, in the business context, translates to the efficiency with which a company turns inputs into outputs—goods and services. Consequently, HR departments support line and functional managers in managing workers effectively. (Peoni, 2014). Productivity is the cornerstone of organizational success, directly correlating with individual, managerial, and company performance. High or increasing productivity signals success, while low or declining productivity suggests challenges. Defined by Mangkunegara & Prabu (2016), productivity represents the ratio between output achieved and the total resources utilized over a specific period. It embodies a mindset and mental attitude geared towards improving quality of life by continuously enhancing work results.

In exploring the determinants of workplace productivity, several recent studies have underscored the critical role of the work environment and individual characteristics. Environmental factors, including physical conditions like lighting, color, music, temperature, and air quality, significantly influence worker productivity and comfort (Hidayat & Cavorina, 2017). On the other hand, non-physical environmental aspects—such as relationships with colleagues, superiors, and subordinates—also impact the workplace experience, affecting morale and efficiency (Wahyuaji & Nasir, 2019). For instance, supportive work environments are linked to higher employee satisfaction and productivity, while adverse environments dampen morale and output (Nisakurohma & Sunuharyo, 2018). Additionally, the quality of workplace facilities, including amenities like canteens, is pivotal in influencing productivity (Dian Pratama, 2022). In parallel, individual characteristics have been found to play a crucial role in productivity. According to Robbins and Judge (2013), these include biographical features (age, gender, marital status, and tenure), personality traits, values, attitudes, perceptions, and basic abilities. These attributes shape behavior in the workplace, suggesting that employees' unique characteristics can significantly affect their work performance. Abadylla (2015) further delineates that individual characteristics encompass inherent differences such as needs, values, attitudes, and interests, collectively influencing how employees engage with their work. Moreover, personality differences—shaped by genetic and environmental factors—affect productivity, creating a spectrum of work behavior even among employees in identical roles (Dianta, 2020). These insights are supported by empirical evidence, with studies highlighting the significant impact of both work environment and individual characteristics on productivity across various industries. For example, Akbar et al. (2018) demonstrated these influences in the steel smelting industry, while Suwena et al. (2019) observed similar effects in the Kembang Sari industry.

Despite these comprehensive insights, gaps still need to be identified in understanding the interplay between work environment and individual characteristics on employee productivity. Many studies have examined these factors in isolation and have yet to explore their combined effects adequately. Furthermore, while the impact of physical and non-physical environmental factors has been well-documented, less attention has been paid to how these factors interact with individual characteristics to influence productivity. This oversight suggests a need for a more integrated approach that considers both environmental and personal factors concurrently. For instance, while Akbar et al (2018) and Suwena et al (2019) Having established the significance of these factors independently, their combined effects still need to be explored, especially in specific industrial contexts like concrete production. Moreover, the empirical evidence from these studies has focused mainly on general workplace environments, with insufficient attention to particular conditions such as those found in heavy manufacturing or production facilities like PT. Bumi Sarana Beton Kalla. This particular company, one of the largest concrete production plants in Makassar, presents unique challenges in its physical and non-physical work environments, which may significantly affect productivity. Therefore, The current research seeks to fill these gaps by focusing on the combined influence of work environment (physical and non-physical) and individual characteristics on productivity. Specifically, this study aims to address the unique conditions at PT. In Bumi Sarana Beton Kalla, productivity issues are linked to environmental and individual factors. Previous studies have yet to sufficiently discuss these combined effects within the context of a concrete production facility, indicating a clear gap in the literature.

This study seeks to answer the following research questions: How do work environment factors (physical and non-physical) and individual characteristics influence employee productivity at PT? Bumi Sarana Beton Kalla? What specific environmental and personal factors are most critical in this context? The primary objective is to elucidate the combined effects of these factors on productivity, offering new insights into how organizations can optimize work conditions and address individual needs to enhance performance. This research aims to contribute to the field by comprehensively analyzing how environmental and personal factors collectively shape productivity, particularly in the unique setting of a large-scale concrete production facility. By integrating these dimensions, the study offers practical recommendations for improving workplace productivity and creating more supportive environments for employees, ultimately enhancing overall organizational performance. Through this exploration, the study intends to extend existing theories on productivity by integrating environmental and individual perspectives, providing a nuanced, theoretically rich, and practically

applicable understanding. The novelty of this research lies in its focus on the specific context of PT. Bumi Sarana Beton Kalla and its approach to examining the interplay between various factors affecting productivity, aiming to deliver actionable insights for similar industrial settings.

2. LITERATURE REVIEW

2.1 Work Environment

Various studies highlight the intricate relationship between work conflict and employee performance. Task conflict, involving differing opinions on work tasks, can positively impact performance by stimulating innovative solutions and constructive debate when managed effectively. (Arıcan & Arabacı, 2023). However, unmanaged task conflict can lead to clarity and reduced efficiency, positively affecting performance. (Kurniawan & Dewanti, 2023). Relational conflict, characterized by interpersonal animosities, harms performance by undermining team cohesion and trust and increasing stress levels. (Moreira et al., 2023)]. Studies consistently show that well-managed task conflicts can enhance performance, while unmanaged conflicts, especially relational ones, can significantly impair organizational productivity and collaboration. (Hidayat, 2023; Paresashvili et al., 2023). A conducive work environment promotes discipline, supports an encouraging atmosphere, and motivates employees to work more diligently and effectively. (Semmaila, 2018). The physical aspect of the work environment includes tools, equipment, materials, the workspace layout, and the surrounding area, affecting how employees perform tasks individually and in groups. (Sedarmayanti, 2009).

For example, lighting, color, music, temperature, and air quality are physical elements that can significantly impact worker productivity and comfort. (Hidayat & Cavorina, 2017). Non-physical aspects, such as interpersonal relationships with colleagues and supervisors, play a critical role in shaping the workplace experience and can influence employee morale and efficiency. (Wahyuaji & Nasir, 2019). A supportive work environment is linked to higher employee satisfaction and productivity, while a hostile environment diminishes morale and output. (Nisakurohma & Sunuharyo, 2018). Workplace amenities like canteens also contribute to a supportive environment that fosters productivity. (Dian Pratama, 2022). Creating a favorable work environment is a strategic endeavor for companies aiming to enhance employee productivity. This includes providing education, training, fair compensation, motivation, and a conducive work environment (Hanafi, 2016). A supportive work environment allows employees to focus better on their tasks, complete them efficiently, and reduce boredom and fatigue, ultimately boosting productivity (Handayani et al., 2017).

2.2 Individual Characteristics

Various research studies highlight that individual characteristics are crucial in influencing employee productivity. The survey by Putra et al. emphasizes that individual characteristics significantly affect employee motivation and performance, showcasing the importance of personal traits in driving productivity. (Putra et al., 2022) Additionally, the research conducted by Subarto demonstrates that individual characteristics, discipline, and competency collectively impact organizational behavior, which in turn affects employee work productivity. This further underlines the significance of personal attributes in enhancing performance. (Subarto, 2023). However, while individual characteristics are influential, the study by Luna Dianti and Rosaline indicates that, in their specific case, individual characteristics do not significantly affect employee performance, suggesting potential variations based on different organizational contexts. (Dianti & Rosaline, 2022). Therefore, it can be concluded that individual characteristics are critical in shaping employee productivity and the work environment, as evidenced by the interplay between personal traits, motivation, and overall organizational behavior. These characteristics include biographical traits (age, gender, marital status, tenure), personality traits, values, attitudes, perceptions, and fundamental abilities that influence workplace behavior. (Robbins & Judge, 2013). For instance, biographical traits and personality

differences affect how employees engage with their work, resulting in diverse work behaviors even among employees with identical roles. (Mahambeng, 2015).

Inherent traits such as physical size, attractiveness, gender, temperament, muscle composition, energy levels, and biological rhythms contribute to personality and significantly influence workplace behavior. These inherited traits and environmental factors shape how employees perform their duties and interact within the workplace (Mahambeng, 2015). Latifah (2020) argues that individual characteristics, such as unique traits or special qualities, distinguish employees and enable them to maintain and improve their work within the organization. Personal characteristics also include interests, attitudes towards oneself, work and work situations, individual needs, abilities and competencies, knowledge about the job, emotions, moods, feelings, beliefs, and values (Dessy et al., 2018). Each person's intellectual and physical abilities vary, and these differences influence their performance in complex and demanding tasks and routine tasks requiring stamina and dexterity (Dianta, 2020).

2.3 Employee Productivity

Employee productivity measures the efficiency of transforming inputs into outputs, essentially how well an organization converts labor, materials, and capital into products and services. (Wahyuningsih, 2018). Employee productivity is vital for organizational success and competitiveness, as it directly impacts the efficient execution of tasks within a company. Various factors influence productivity, such as wages, job satisfaction, work motivation, and discipline. (Nurfadllika & Adinata, 2023). Research emphasises the importance of managing employee performance to enhance productivity, efficiency, and the quality of work produced. The relationship between outputs (goods or services) and inputs (labor, materials, money) defines productivity, which is crucial for long-term viability and success in today's dynamic economic climate. (Varun & Ganesh, 2023). Companies must prioritize factors like employee welfare, wages, and motivation to ensure optimal utilization of skills and capabilities, ultimately leading to improved work productivity and organizational performance. It measures productive efficiency and represents the ratio of output to input over a specific period. (Sutrisno, 2016). In technical terms, productivity involves comparing the results achieved to the total resources used, reflecting efficiency in labor market participation per unit of time and serving as a benchmark for assessing the expansion and activity levels of resources used during productivity. (Panjaitan, 2018).

Companies must address behavioural and technical aspects to enhance employee productivity. Increasing productivity is possible through improved efficiency (time-material-labor) and work systems. A thorough understanding of the factors influencing productivity is essential, including continuous improvement, enhancing work quality, and empowering human resources. (Ulum et al., 2018). Continuous improvement involves all organizational components in a relentless pursuit of better performance. Enhancing work quality is closely tied to ongoing improvement efforts, requiring every individual and component within the organization to strive for better work outcomes. Empowering human resources is fundamental to organizational success, as it emphasizes the strategic role of human capital and the need for effective management practices that foster productivity and engagement within the workforce.

2.4 Integrating Work Environment and Individual Characteristics

Understanding the combined effects of work environment and individual characteristics on productivity is crucial for organizations aiming to optimize employee performance. While studies have explored these factors separately, their interactive effects still need to be explored. Addressing this gap requires an integrated approach considering how environmental and individual factors influence productivity. For instance, Akbar et al (2018) and Suwena et al (2019) Have highlighted the significance of environmental and individual factors independently, but their combined effects in specific industrial contexts like concrete production need further exploration. Companies like PT Bumi Sarana Beton Kalla face unique challenges in both physical and non-physical work environments that significantly impact productivity.

The research conducted at PT. Bumi Mineral Sulawesi delves into the impact of the work environment and individual characteristics on employee performance, emphasizing the significant positive influence of the work environment on employee productivity. (Rahmawati et al., 2022). While individual characteristics were found to have no direct effect on performance, the combined impact of the work environment and individual traits was notably influential, with a substantial 11.8% impact on employee performance. This study contributes to the understanding of productivity by highlighting the importance of fostering a supportive work environment and recognizing the role of individual characteristics in enhancing organizational performance. By integrating environmental and personal perspectives, the research offers valuable insights for improving workplace productivity in similar industrial settings, bridging theoretical knowledge with practical implications for organizational success. Based on the background, problem formulation, and theory in this study, the hypotheses in this study are as follows:

- H1: The work environment has a significant effect on employee productivity.
- H2: Individual characteristics have a significant effect on employee productivity.

3. RESEARCH METHOD AND MATERIALS

This research is a type of quantitative research. The population in this study were all employees at PT. Bumi Sarana Beton Kalla Makassar City, totaling 138 employees. The number of samples in this study was determined using the Slovin formula to obtain a sample size of 58 people. The data source used in this study is primary data. Primary data is the source of data obtained directly from respondents. Primary data from this study was obtained from a questionnaire completed by PT. Bumi Sarana Beton Kalla Makassar City employees, including identity and responses according to the questionnaire results. In measuring each variable indicator in this study used the Likert scale with five alternative answers, namely: Strongly agree (SS) with a score of 5, Agree (S) with a score of 4, Disagree (KS) with a score of 3, Disagree (TS) with a score of 2 and Strongly Disagree (STS) with a score of 1. The data that has been collected will be analyzed through several stages of testing. The first stage is to conduct a descriptive statistical test. The second stage is the research data instrument test (validity test, reliability test). The third stage is the classic assumption test (normality test, heteroscedasticity, multicollinearity). The fourth stage tests all hypotheses proposed in this study, which will be proven through partial test (t test), simultaneous test (f test), and coefficient of determination test.

4. RESULTS AND DISCUSSION

4.1. Result

This research was conducted by distributing questionnaires to 58 respondents who are employees of PT. Bumi Sarana Beton Kalla Makassar City about the influence of Work Environment and Individual Characteristics on employee work productivity. The characteristics of respondents presented in this study are divided into 3 groups based on gender and age. For more details, the characteristics of respondents in this study will be described individually in Figure 1.

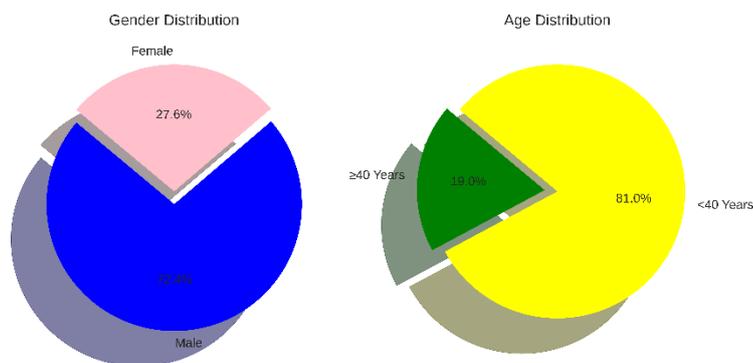


Figure 1. Demographic Data

From Figure 1, it can be identified that there were 58 respondents in this study, which, based on gender groups, were dominated by men as many as 42 people (72.4%). The remaining 16 people (27.67%) are female respondents. From the table, it can also be identified that the respondents in this study totaled 58 respondents based on the age group; the <40 age group dominated 47 people (81.1%). The remaining 11 people (18.9%) were respondents aged ≥40 years.

The first stage carried out is descriptive statistical analysis. This method is a statistical method used to analyse the collected data. It is intended to describe the data of the object under study. The results of the statistical description of the research variables, consisting of work environment, individual characteristics, and work productivity, are shown in Table 1.

Table 1. Descriptive Statistics

	N	Min	Max	Sum	Mean	Std. Deviation
Works Environment	58	1.00	5.00	3.7783	.81458	4.137
Individual Characteristics	58	1.00	5.00	3.7655	.68481	4.464
Work Productivity	58	1.00	5.00	3.8966	.85285	
Valid N (listwise)	58					

Source: SPSS Output

Table 1 shows that the average respondents' perceptions of Work Environment, Individual Characteristics, and Work Productivity were 3.78, 3.77, and 3.90 on a scale of 1 to 5, reflecting a generally positive view. All variables have a range of values between 1.00 and 5.00, with 58 valid respondents for each variable. The standard deviations for Work Environment (0.81), Individual Characteristics (0.68), and Work Productivity (0.85) indicate that the variation in respondents' responses is moderate, with perceptions of Individual Characteristics being slightly more uniform than the other variables. These results suggest that most respondents have a favorable view of their work environment conditions, personal characteristics, and productivity.

Table 2. Validity and Reliability Test Results

Variable	Instrument	r-calculated	Cronbach Alpha	Result
X1	X1.1	0,809	0,920	Valid and reliable
	X1.2	0,886		
	X1.3	0,832		
	X1.4	0,808		
	X1.5	0,715		
	X1.6	0,817		
	X1.7	0,831		
	X1.8	0,754		
X2	X2.1	0,645	0,777	Valid and reliable
	X2.2	0,682		
	X2.3	0,820		
	X2.4	0,842		
	X2.5	0,675		
Y	Y1.1	0,868	0,933	Valid and reliable
	Y1.2	0,937		
	Y1.3	0,888		
	Y1.4	0,838		
	Y1.5	0,915		

Source: SPSS Output

The second stage is a data quality test consisting of validity and reliability tests. This test is carried out to test the validity and reliability of each statement item in measuring variables. The validity test is calculated by looking at the corrected item-total correlation number, provided that the condition is said to be valid if it has a corrected item-total correlation value > 0.30. The basis for decision-making

in the reliability test in this study is if the Cronbach's Alpha (α) value is > 0.60 , the questionnaire is declared reliable or consistent. The data in Table 2 shows that all indicators used to measure the variables used in this study have a correlation coefficient or corrected item-total correlation value greater than 0.30, so it can be said that all indicators of this research variable are valid. While the reliability test results in the table above show that all variables in the study have a reasonably significant alpha coefficient of > 0.6 , all concepts measuring each variable from the questionnaire are reliable, which means that the questionnaire used in this study is reliable.

The third stage is the calculous assumption test, which tests normality, heteroscedasticity, and multicollinearity. The normality test is carried out to see whether the regression model's dependent and independent variables have a normal distribution. A good regression model is a normally distributed regression model.

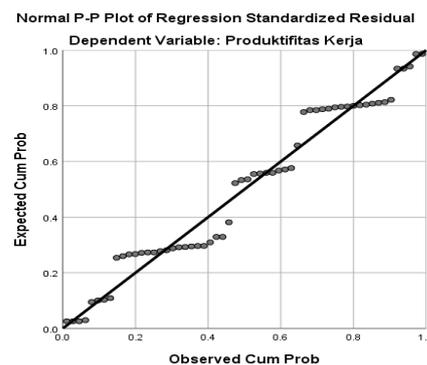


Figure 2. Normality Test Results
Source: Primary data processed by SPSS

The standard probability plot, commonly called a Q-Q (quantile-quantile) plot, is a diagnostic tool to assess whether a dataset follows a normal distribution. In this study, the standard probability plot in Figure 2 reveals that the data points align closely with the diagonal reference line, representing the expected distribution if the data were perfectly normal. This alignment indicates that the residuals of the regression model are approximately normally distributed. Specifically, the proximity of the data points to the diagonal line suggests no significant deviations from normality. This pattern supports the assumption that the error terms in the regression model are symmetrically distributed around zero, an essential requirement for valid hypothesis testing and reliable inference in regression analysis. If the data points were to diverge substantially from the diagonal line, it would suggest departures from normality, such as skewness or kurtosis, which could imply that the model's predictions or estimates may be biased or inefficient. In addition to the visual confirmation provided by the standard probability plot, the alignment with the diagonal line indicates homoscedasticity, meaning the variability of the residuals is consistent across all levels of the independent variables. This consistency is crucial because heteroscedasticity (unequal variance of residuals) can distort statistical tests and confidence intervals, leading to unreliable conclusions.

The adherence to the normality assumption, as evidenced by the standard probability plot, validates parametric tests within the regression analysis framework employed in this study. It enhances the robustness of the statistical tests used to evaluate the significance of the independent variables (work environment and individual characteristics) on the dependent variable (employee productivity). Furthermore, fulfilling the normality assumption ensures that the estimates of the regression coefficients are unbiased and efficient, facilitating accurate predictions and reliable confidence intervals. The standard probability plot serves as a crucial diagnostic tool confirming the appropriateness of this study's regression model. Ensuring that the residuals are normally distributed provides confidence that the statistical inferences drawn from the model are valid and that the conclusions about the relationships between the independent and dependent variables are sound. This diagnostic step is essential for validating the assumptions underlying the regression model, thereby underpinning the integrity and credibility of the research findings.

Table 3. Summary of Statistical Tests

Test	Variable	Coefficients	Std. Error	Beta	t	Sig.	VIF	Remarks
Multicollinearity	Work Environment	-	-	-	-	-	1.325	No Multicollinearity
	Individual Characteristics	-	-	-	-	-	1.325	No Multicollinearity
Regression Analysis	(Constant)	3.297	2.601	-	1.268	0.210	-	Not significant
	Work Environment	0.172	0.079	0.262	2.160	0.035	-	Significant
	Individual Characteristics	0.584	0.151	0.469	3.864	0.000	-	Significant
F-Test	Model	-	-	-	-	-	-	F=19.917, Sig.=0.000
Coefficient of Determination (R ²)	Model	-	-	-	-	-	-	R=0.648, R ² =0.420

Source: SPSS Output

Table 3 provides a comprehensive summary of the statistical tests conducted to analyze the impact of the Work Environment and Individual Characteristics on Employee Productivity. The evaluation incorporated several statistical techniques, including multicollinearity tests, multiple linear regression analysis, hypothesis testing (T-test), F-test, and the coefficient of determination (R²). The multicollinearity test revealed that both independent variables had Variance Inflation Factor (VIF) values of 1.325, indicating no multicollinearity issues, thus confirming the reliability of including these variables in the regression model without concerns of inflated standard errors. The multiple linear regression analysis demonstrated that Work Environment (coefficient 0.172, p-value 0.035) and Individual Characteristics (coefficient 0.584, p-value 0.000) significantly positively affect Employee Productivity, suggesting that improvements in these areas are associated with increased productivity. The T-test further supported these findings by indicating that the coefficients for both independent variables are significantly different from zero, with respective t-values of 2.160 and 3.864, reaffirming their significant impact. The F-test, which assesses the overall fit of the regression model, produced an F-value of 19.917 and a significance level of 0.000, confirming that the model explains a substantial portion of the variance in Employee Productivity. Lastly, the coefficient of determination (R²) was 0.420, indicating that 42% of the variability in Employee Productivity is explained by the Work Environment and Individual Characteristics, reflecting a solid relationship and highlighting these factors' importance in understanding PT productivity outcomes. Bumi Sarana Beton Kalla. This comprehensive analysis provides clear evidence that the Work Environment and Individual Characteristics play crucial roles in enhancing productivity, offering valuable insights for optimizing workplace conditions and employee development strategies.

4.2. Discussion

The Effect of Work Environment on Work Productivity

The work environment is not just the backdrop in which employees operate; the physical and non-physical elements boost or restrain their productivity. This research highlights how an adequate work environment at PT Bumi Sarana Beton Kalla, Makassar, improves productivity. Multiple linear regression analysis revealed a positive coefficient for the work environment variable, signaling that improvements in these elements go hand in hand with increased productivity. This is not just a number but rather a reflection of how employees perceive the tangible benefits of their environment. Employees at PT Bumi Sarana Beton Kalla respond positively to work environment conditions, which include good lighting, efficient equipment layout, noise minimization, and comfortable temperature settings. These conditions fulfill their basic needs and create an atmosphere that supports collaboration and harmonious interactions among employees and their superiors. These factors

contribute significantly to a higher sense of job satisfaction and the drive to achieve optimal productivity. Furthermore, partial tests show that the work environment significantly influences productivity. This underscores the role of the work environment as a critical determinant of employee performance. This phenomenon is not only in line with previous research results as found by Suwena et al (2019), but also supported by other literature. Research by Taiwo (2010) and Pratiwi & Yudianto (2023) showed a strong positive correlation between work environment and productivity. Taiwo noted that improvements in the work environment brought significant productivity improvements, while Pratiwi found that work environment factors could explain 46.2% of the variability in productivity. Niemelä et al (2002) Also, improved workplace thermal conditions, air quality, and lighting increased labor productivity by 9%.

The implications of these results are clear: to drive higher productivity, companies need to focus on creating a supportive work environment. It is about the physical infrastructure and how employees perceive the environment. Comfort, practicality, and harmony in daily interactions contribute to better results. As such, companies should allocate resources to continuously improve these aspects of their work environment to achieve greater efficiency and higher employee satisfaction. However, while these findings provide valuable insights, this study has limitations that must be addressed in future research. One of these is the localized nature of this study, which is limited to PT Bumi Sarana Beton Kalla in Makassar. Further studies must expand the geographical and industry coverage to test whether similar results can be observed in different environments. In addition, while this study focused on the physical and social aspects of the work environment, the increasingly dominant digital and technological elements in the modern workplace should also be explored. How the integration of technology and innovation in the work environment can improve productivity is a promising area for future research. Moving forward, a holistic approach that combines the management of physical, social, and technological work environments will be vital to understanding and improving productivity. Future research should consider these factors to develop a more comprehensive model of how the work environment affects employee performance. By deepening our understanding of these dynamics, we can build more productive, fulfilling, and sustainable workplaces for employees. This research serves as an important steppingstone towards that goal, confirming that a well-designed work environment is a worthwhile investment that provides tangible returns regarding employee productivity.

Effect of Individual Characteristics on Work Productivity

In an organizational context, individual characteristics determine employee work productivity. These characteristics include various aspects such as biographical traits, personality, values, attitudes, and basic abilities possessed by everyone. This study found that at PT Bumi Sarana Beton Kalla, good individual characteristics significantly increase employee work productivity. Multiple linear regression analysis shows that the coefficient of the individual characteristic variable is positive, indicating a direct and positive relationship between individual characteristics and work productivity. In other words, the better the individual characteristics, the higher the productivity. Partial test results support these findings, revealing that individual characteristics significantly affect productivity. Respondents in this study felt that their work experience, interest in the job, and skills directly affected their ability to work effectively. This confirms that when adequately considered and developed, personal factors positively impact work output.

This finding is in line with previous research by Jaya & Rahmawati (2022), which also showed that individual characteristics significantly influence employee work productivity. Their study used partial tests and found similar results, which underscores the importance of understanding and managing individual attributes in the context of work productivity. Additional support comes from studies by Jaya & Rahmawati (2022), Susanti et al (2023), Sodik & Sumartik (2022), and Riyanto & Wiwoho (2022), who all found that motivation, job satisfaction, and work discipline are individual characteristics that significantly influence productivity. One important implication of these findings is the need for companies to focus more on developing the characteristics of their employees. This includes ongoing training, skills development, and programs that support employees' interests and talents. By recognizing that individual characteristics determine productivity, companies can take

proactive steps to create programs reinforcing these positive characteristics. However, it is also important to remember that the influence of individual characteristics may vary depending on the specific work setting and industry. While this study confirms the significant influence at PT Bumi Sarana Beton Kalla, similar results may only be directly applicable across some organizations when considering their specific context. Therefore, ongoing studies are needed to explore how individual characteristics can be understood and effectively utilized in various work environments.

As a further step, future research could focus on identifying the most influential individual characteristics across different sectors and how these factors can be integrated with management strategies to improve productivity. In addition, considering the interaction between personal characteristics and the work environment may provide more comprehensive insights into optimizing employee productivity. This research confirms that paying attention to and developing employees' characteristics is critical in improving work productivity. In an increasingly competitive world of work, a deep understanding of these factors can give companies an edge in creating a workforce that is productive, motivated, and satisfied with its work.

5. CONCLUSION

This study identified that the work environment and individual characteristics significantly affect employee productivity at PT Bumi Sarana Beton Kalla. Multiple linear regression analysis showed that improvements to work environment elements, such as lighting, temperature, and equipment layout, were positively correlated with increased productivity. In addition, individual characteristics such as work experience, interest, and skills also have a substantial influence on employee performance. Partial tests confirmed that work environment and personal characteristics contribute significantly to achieving optimal productivity. These findings highlight the importance of creating a supportive work environment and paying attention to employees' personal development to improve work output.

From a scientific and practical standpoint, this study adds valuable insights into the internal factors influencing work productivity. The results of this study not only strengthen existing empirical evidence but also provide a foundation for a more integrated approach to human resource management and work environment design. The findings encourage companies to adopt strategies considering the physical aspects and how employees perceive and utilize their work environment. In addition, this study emphasises the importance of developing employees' skills and interests to increase productivity. Applying the results of this study to company policies can help create better working conditions, increasing efficiency and job satisfaction.

However, this study has limitations that need to be recognized. The study's limited scope to one company in one geographical location limits the generalizability of the results. The study also focused more on the physical and social aspects of the work environment without considering the increasingly important influence of technology and digitalization in the modern workplace. Therefore, further research is needed to test these findings across different industry sectors and locations and explore the role of digital and technological elements in work productivity. In addition, future studies could consider a longitudinal approach to understand the long-term impact of work environment and individual characteristics on employee productivity. By continuing to expand and refine this research, we can develop more comprehensive and relevant strategies to improve employee productivity and well-being.

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