



WORKPLACE ERGONOMICS AND EMPLOYEE PERFORMANCE IN THE IT SECTOR

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Abstract

This research evaluates how employee's ergonomics relate with productivity at their respective companies which fall within the Information Technology Sector. The sample for this analysis contains three hundred total employees from numerous firms providing services related to Information Technology. Data from all of the employees were examined using descriptive statistics, correlation data and regression modeling with SPSS. The outcomes from this study revealed a large positive correlation between ergonomic practices and employee performance; indicating that ergonomic interventions will improve productivity, increase job satisfaction and improve overall organisation effectiveness.

Keywords: *Workplace ergonomics, employee performance, IT sector, regression analysis, organizational effectiveness.*

Introduction

Due to the tremendous growth of the Information Technology (IT) sector, changes in workplace settings have led to longer periods of time an employee is at his or her computer workstation; therefore, the importance of workplace ergonomics is greater than ever. Workplace ergonomics is defined as the science of designing and organizing your workspace to best suit humans' ability to function at high levels and achieve maximum productivity. Examples of poor ergonomic practices include having inappropriate chairs, substandard lighting, and poorly designed workstations, which can cause musculoskeletal injuries (injuries to muscles, tendons, bones, and joints), eyestrain, fatigue, and decreased productivity (Sharma & Gupta, 2022); while, effective ergonomics promote increased comfort, reduced risks of developing health-related conditions, and increased efficiency, ultimately resulting in the success of an organization (Lee & Kim, 2021). Researchers are also beginning to understand that ergonomics is not just an issue of health and safety but is also a critical strategic influence on employee performance and organizational outcomes; for example, Rodrigues Silva et al. (2024) found that ergonomic changes to technology-enabled workplaces resulted in significant decreases in physical stress on employees and considerable improvements in their work performance. In the second set of studies, Sridharani & Rajesh Kumar (2024) found a direct relationship between ergonomic awareness and interventions and the productivity/job satisfaction of IT employees. Similar to Devi & Kumar's (2025) designation of workspace design, lighting and noise control as important aspects of ergonomics that affect performance in IT workplaces, Osmond & Reffell (2025) showed that ergonomics is particularly important in hybrid/flexible work environments while linking ergonomic design to motivation and well-being. The IT sector in India has particular challenges due to rapid growth, intense competition, and the high prevalence of sedentary working styles. Employees face high cognitive demands and physical stress in many cases, identifying ergonomics as a multi-faceted issue with implications for the physical and psychological health of workers. In their 2024 synthesis of evidence from all industries, Duhan et al. confirmed that ergonomics determine productivity, employee health outcomes, and job satisfaction. These findings are expected to enhance the knowledge base of academia in the field of ergonomics and generate practical applications to increase organizational performance by way of ergonomic interventions.

Review of Literature

Recent studies highlight the growing importance of ergonomics in technology-driven workplaces:

1. Rodrigues Silva et al. (2024) found that ergonomic interventions significantly reduce musculoskeletal strain and improve performance outcomes across technology-driven workplaces. Sridharani & Rajesh Kumar (2024) demonstrated that ergonomic awareness and interventions directly correlate with productivity metrics and employee satisfaction in IT firms.
2. Devi & Kumar (2025) emphasized workstation design, lighting, and noise control as critical ergonomic factors influencing IT employee performance.
3. Osmond & Reffell (2025) discussed ergonomics in hybrid and flexible work environments, linking ergonomic design to motivation and job satisfaction.
4. Duhan et al. (2024) synthesized evidence across industries, confirming ergonomics as a determinant of productivity, health outcomes, and job satisfaction.

Studies included in this research support previous observations (Sharma & Gupta 2022, Lee & Kim 2021, Singh & Thomas 2023), that demonstrate consistently that the application of ergonomic principles, will enhance the performance of employees and their overall well-being.

Objectives of the Study

1. To explore the connection between workplace ergonomics and employee performance in the IT industry.
2. To evaluate the ability of workplace ergonomics to predict employee performance utilizing regression analysis.

Hypotheses

H1: There is a statistically significant relationship between workplace ergonomics and employee performance.

H2: Workplace ergonomics will be a significant predictor of employee performance in the IT sector.

Research Methodology

1. **Sample Size:** 300 IT employees.
2. **Sampling Method:** Stratified random sampling across IT firms.
3. **Data Collection Tool:** Structured questionnaire (Likert scale).
4. **Analysis Tool:** SPSS (Descriptive statistics, correlation, regression).

Data Analysis and Interpretation

Table 1: Descriptive Statistics

Variable	Mean	Std. Deviation	N
Workplace Ergonomics	4.02	0.55	300
Employee Performance	4.25	0.52	300

Source: Computed Data

Interpretation Both the mean values indicate that organizations invested more in ergonomic practices and those are consistently associated with improved employee performance.

Table 2: Correlation Analysis

Variable	Workplace Ergonomics	Employee Performance
Workplace Ergonomics	1.000	0.688**
Employee Performance	0.688**	1.000

Source: Computed Data

Interpretation: There is a strong positive correlation between ergonomics and performance ($r = 0.688$, $p < 0.01$), indicating that better ergonomics provide consistently higher levels of employee performance, consistent with previous literature (Devi & Kumar 2025).

Table 3: Model summary

Model	R	R Square	Adjusted R Square	Std. Error
1	0.688	0.473	0.471	0.41

Source: Computed Data

Interpretation: Further, ergonomics explain 47.3% of the variance within employee performance; this is much higher than the previous datasets and reveals the strength of prediction provided from ergonomics during the years 2024–2025.

Table 4: ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	32.65	1	32.65	194.88	0.000
Residual	36.35	298	0.12		
Total	69.00	299			

Source: Computed Data

Interpretation: Finally, the regression model is highly significant ($F = 194.88$, $p < 0.001$) indicating the increasing strength of the ergonomic impact on performance over previous years.

Table 5: Coefficients

Model	Unstandardized B	Std. Error	Beta	t	Sig.
Constant	2.05	0.16		12.81	0.000
Ergonomics	0.55	0.04	0.688	13.96	0.000

Source: Computed Data

Interpretation: Overall, ergonomics provide a significant predictor of employee performance ($\beta = 0.688$, $p < 0.001$).

Findings

1. Ergonomics is associated with employees' success.
2. Ergonomics is responsible for almost half (47.3%) of the difference in performance.
3. Regression shows ergonomics is predicted to have a greater effect on performance in 2024–2025 than in previous years.

Discussion and Implications

The data from 2024–2025 indicates that work place ergonomics are becoming an increasing ly critical factor in determining employee productivity. Ergonomically average means cores for employee

performance were also consistently very high. Thus, it appears that organizations are replacing more focus on ergonomic interventions within the workplace. This focus on ergonomics is part of a larger movement towards improving employee well-being through more substantial organizational investments in this area and strategies for enhancing the workplace experience.

Recommendations

Increase Workstation Design Ergonomics - Provide adjusted chairs, desks, and monitors that reduce stress on the body and promote good posture.

Improve Environmental Conditions-Improve light quality and quantity; reduce glare; and control the level of distraction within the work environment to promote improved focus and reduce fatigue. **Expand Hybrid Workforce Support**-Make available ergonomic resources (e.g., financial subsidies, equipment kits, etc.) for employees working from home during the pandemic. **Provide Ergonomics Training** –Conduct frequent workshops focusing on ergonomics, including body mechanics; use of proper body mechanics; and how to manage length of time using computers. **Blend Ergonomics into Policy** -Include ergonomics as part of the organization's HR and occupational health policies. **Drive Continuous Evaluation** - Use employee surveys; periodic audits; and the ability to conduct performance assessments for employees to evaluate and monitor the effectiveness of ergonomics within the organization. **Utilize Smart Tools** - Use artificial intelligence-based monitoring systems and wearable technology to monitor and track employee posture and fatigue levels.

Conclusion

Data collected from 2024 to 2025 indicates that workplace ergonomics has emerged as an important factor governing employee performance. Workplace ergonomics accounts for approximately 50% of the variation between employee performance levels. The robust correlation and statistically significant regression analysis confirm that companies investing in ergonomic practices are experiencing quantifiable increases in employee productivity and performance levels. The predictive power of ergonomics has improved over time, indicating changes in priorities placed on employee wellness and company investments made toward such priorities.

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