IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 5, Issue 1, July 2025
Impact Factor: 7.67

Examining the Impact of Occupational Ergonomics on Job Satisfaction among Tech Industry Workers

Dr. Ranjith Kumar S and A. Vishnu Naidu
Professor, School of Economics and Commerce, CMR University, Bangalore, India
B.Com IAF, School of Economics and Commerce, CMR University, Bangalore, India

Abstract: *This study examines the influence of occupational ergonomics on job satisfaction among employees in the Information Technology (IT) sector, with a focus on Bangalore, India. As one of the most dynamic and demanding industries, the IT sector often overlooks the physical and cognitive well-being of its workforce in pursuit of performance and deadlines. This research addresses how ergonomic factors—including workstation design, environmental conditions, and alignment between job roles and qualifications—affect employee satisfaction and productivity.*

Data was collected from 50 IT professionals using structured questionnaires that evaluated both ergonomic conditions and amounts of job satisfaction. Statistical tools like descriptive analysis, t-tests, and correlation were applied to interpret the results. Findings revealed a moderate level of both occupational ergonomics and job satisfaction across the sample. Importantly, association is seen between ergonomic quality and job satisfaction, underlining the role of ergonomics in enhancing workplace well-being.

The study further observed no much differences in satisfaction based on gender or location. However, certain qualitative insights pointed to dissatisfaction arising from environmental stressors such as noise and the lack of relaxation spaces, as well as from the underutilization of employee skills.

This research underscores the need for a holistic ergonomic strategy that encompasses physical, organizational, and psychological factors. It advocates for proactive organizational policies, employee training, and ergonomic audits to create healthier, more productive workplaces. Addressing these concerns is not just beneficial to employees but vital for long-term organizational success and sustainability.

Keywords: Occupational ergonomics, job satisfaction, IT sector, work stress, employee engagement, workplace design, organizational performance

I. INTRODUCTION

The information technology industry is presently among the most rapidly expanding sectors in India. The rationale behind selecting IT personnel in particular is that their stress is higher than those of other employees. A job is a necessary aspect of life. Job dissatisfaction has an impact on one's quality of life. A person's effectiveness and efficiency might be impacted by stress at work. When it comes to job satisfaction, stress plays a significant role. One of the main factors influencing job commitment is stress and job happiness.

Over the last decade, the IT sector has played a transformative role in reshaping the Indian economy more than any other industry. It has been instrumental in generating employment, boosting foreign exchange reserves, increasing foreign direct investment (FDI), and creating substantial wealth. The industry's exceptional growth can largely be attributed to its skilled workforce. This sector has also been deeply influenced by globalization and the rapid evolution of information technology. These developments have reshaped competitive strategies and organizational management practices. As global competition becomes intense, employees face heightened pressure, leading to increased levels of stress.

DOI: 10.48175/IJARSCT-28450

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429 Volume 5, Issue 1, July 2025 Impact Factor: 7.67

Consequently, occupational stress has emerged as a widespread issue in many companies, negatively impacting the mental health of employees and ultimately influencing organizational performance.

Statement of the Problem

The fast-paced nature of the IT industry, especially in cities like Bangalore, often exposes employees to long hours, poor posture, digital fatigue, and high stress. Despite the sector's growth, many firms overlook ergonomic design and employee well-being, leading to disengagement and reduced productivity.

Issues such as role mismatch, limited autonomy, and lack of personal development further contribute to job dissatisfaction. Poorly arranged workstations, noise, and absence of relaxation spaces only worsen the problem. While job satisfaction is vital for performance and retention, its link with workplace ergonomics remains insufficiently studied in the Indian IT context.

This study explores how ergonomic practices impact job satisfaction among IT professionals in Bangalore and provide insights to improve employee-centric work environments.

II. REVIEW OF LITERATURE

Agarwal et al. (2024) explored how workplace ergonomics influences job performance, with job satisfaction playing a mediating role. Their quantitative analysis demonstrated that employees working in ergonomically designed settings reported higher satisfaction levels, which in turn led to better task completion rates and fewer sick leaves. The researchers concluded that ergonomic interventions—such as adjustable desks, anti-glare screens, and noise control—directly contribute to reducing fatigue and increasing work efficiency. Their work supports the notion that employee-centric office design fosters a more engaged and loyal workforce, particularly within high-pressure industries like IT and finance

Morey-Burrows (2024) highlighted the growing role of modern office design in enhancing job satisfaction. Through a qualitative case study of technology firms, the research emphasized elements like biophilic design (incorporating nature), quiet zones, and flexible furniture as key in improving employee focus and psychological well-being. The report also noted that organizations adopting human-centered design principles were better able to attract and retain top talent.

Atrian and Ghobbeh (2023) investigated the emerging issue of technostress in digital work environments. They found that while technology facilitates speed and efficiency, it can also cause mental overload, role ambiguity, and reduced job satisfaction if not paired with ergonomic design. The study underscored that stressors such as constant connectivity, multitasking demands, and poorly designed digital tools could lead to burnout. They recommended integrating cognitive ergonomics—such as user-friendly software interfaces and digital rest periods—to mitigate stress and sustain job satisfaction in tech-intensive roles.

Sesari et al. (2024) analyzed the role of perceived workplace fairness on job satisfaction among software developers. Using structured interviews and Likert-scale surveys, the researchers found that employees who perceived fairness in performance evaluations, recognition systems, and workload distribution were more satisfied with their jobs. Interestingly, ergonomic factors such as equitable access to quiet workspaces and quality tools were also linked to perceived fairness. The study concluded that both psychological and physical equity are vital for enhancing morale and retaining high-performing tech workers in competitive environments.

Lenberg and Feldt (2018) focused on psychological safety and norm clarity in agile software engineering teams. Although not a purely physical ergonomic study, it provided critical insight into the psychosocial dimensions of work environments. The authors reported that teams with clear expectations, supportive communication norms, and mutual respect had higher levels of job satisfaction. These findings support the idea that mental comfort—such as feeling heard and understood—is just as essential as physical ergonomics in promoting a positive and productive work environment.

Kumar et al. (2025) studied the discrepancy between ideal and actual workweek structures for software developers and its effect on job satisfaction. The study revealed that developers who experienced misalignment in preferred versus real working conditions—such as excessive overtime or inflexible hours—suffered from reduced motivation and engagement. The authors emphasized that ergonomic scheduling (e.g., flexibility, autonomy) can significantly enhance job satisfaction. Their findings add an important dimension to ergonomic research by linking time-related ergonomics to emotional and psychological well-being.

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429 Volume 5, Issue 1, July 2025 Impact Factor: 7.67

Obi et al. (2024) conducted a qualitative study to identify what makes a "bad day" at work for software developers. They found that environmental stressors such as loud workplaces, frequent interruptions, unclear requirements, and inefficient tools had a negative effect on mood and satisfaction. Physical discomfort—stemming from poor seating, lighting, or workstation design—was also mentioned frequently. The study concluded that a combination of organizational, technical, and ergonomic improvements could dramatically reduce dissatisfaction and boost daily productivity in tech teams.

Ehigbochie (2024) developed and validated a specialized job satisfaction scale tailored for tech-sector employees. The researcher emphasized that conventional job satisfaction metrics often ignore ergonomics and industry-specific stressors. This new instrument incorporated dimensions like workplace setup, remote work flexibility, and digital tool usability. The study confirmed that a tech-specific scale provided more accurate measurements of employee satisfaction, thus enabling organizations to identify and address hidden ergonomic pain points more effectively.

Venkatesh et al. (2023) used the Effort-Reward-Imbalance (ERI) model to explore how agile methodologies in software development reduce stress and enhance job satisfaction. Their results showed that agile processes—through their focus on collaboration, manageable workload, and regular feedback—created a psychologically ergonomic environment. This balance between effort and reward fostered intrinsic motivation and reduced burnout.

DigitalDefynd (2025) discussed the critical importance of work-life balance for software engineers, particularly in remote or hybrid environments. The article highlighted that flexible working hours, personal time boundaries, and mental health considerations are vital contributors to job satisfaction. The review emphasized that when organizations respect employees' time and support their work-life integration, it results in reduced stress and increased loyalty. Ergonomic factors such as home workstation setups and workload management tools were noted to complement work-life balance, indicating a holistic approach is necessary to optimize well-being in tech roles

Moreover, recent studies by the University of South Florida (2024) and Knowella (2025) have endorsed the use of advanced ergonomic solutions, such as wearable technology and AI-driven posture correction tools. Their insights illustrate that physical and digital ergonomics together shape modern workplace satisfaction.

Collectively, this literature underscores that job satisfaction is not merely about task content but about the ergonomic ecosystem—physical, psychological, and procedural—in which employees operate.

Research gap

The research is conducted in order to evaluate the educational qualification and to provide the suitable job to the worker and to evaluate how much employees are comfortable in their day to day work in the IT sector with special reference to Bengaluru city which is the main core area of the study.

Objectives if the study

- To identify the level of occupational ergonomics provided by IT company with special reference to Bangalore city
- To analyze the job satisfaction of employees working in IT sector with special reference to Bangalore city
- To explore the connection between workplace ergonomics and employee job satisfaction
- To test significant difference on occupational ergonomics and job satisfaction based on gender and location.

Hypothesis of the study

H1: Occupational ergonomics and job satisfaction have positive correlation.

Ho: There are no notable differences in occupational ergonomics and job satisfaction when analyzed by gender and geographic location.

III. RESEARCH METHODOLOGY

The survey study has been conducted in order to find out occupational ergonomics and job satisfaction in IT sector with special reference to Bangalore city

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 5, Issue 1, July 2025
Impact Factor: 7.67

Tools and Data collection

In occupational ergonomic scale various factors in organization flexibility process are considered in the form of 14 statements as structured questionnaires with linker scale like 'strongly agree' 'agree' 'neutral' 'disagree' 'strongly disagree'.

In the job satisfaction scale various factors in individuals' satisfaction with work conditions are considered in the form of 15 statements as structured questionnaires with linker scales like 'strongly agree' 'agree' 'neutral' 'disagree' 'strongly disagree'.

Sampling size

The sample size of the study is 50 employees which consist of two variables that is occupational ergonomic and job satisfaction

Sampling technique

The study would be conducted among employees of organization in IT sector with special reference to Bangalroe city through simple random sampling technique

Statistical technique

The study involve descriptive statistics, t-test, correlation which is used as statistical technique

Need for the study

The present study tries to evaluate the educational qualification of the employees of the IT sector and allot them to the suitable job based on qualification It also aims to find out how satisfied employees are with their current jobs.

Scope of the study

The purpose of the study is to determine the level of the job satisfaction among the employees of IT sectors in Bangalore city and their occupational ergonomics towards their job which suits their educational qualification to fulfill their level of satisfaction.

IV. FINDINGS

Both occupational ergonomics and job satisfaction are at a moderate level among IT sector employees in Bangalore city.

No much statistically differences were observed in occupational ergonomics or job satisfaction between the male and female employees.

Despite similar overall satisfaction levels, some employees expressed a mismatch between their qualifications and assigned roles, indicating a potential underutilization of skills.

The correlation analysis revealed a significant positive relationship between occupational ergonomics and job satisfaction, suggesting that improvements in ergonomic conditions may enhance overall job satisfaction.

Although job satisfaction scores were moderate, feedback indicated that environmental noise and lack of relaxation spaces contributed to reduced focus and occasional dissatisfaction.

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 5, Issue 1, July 2025
Impact Factor: 7.67

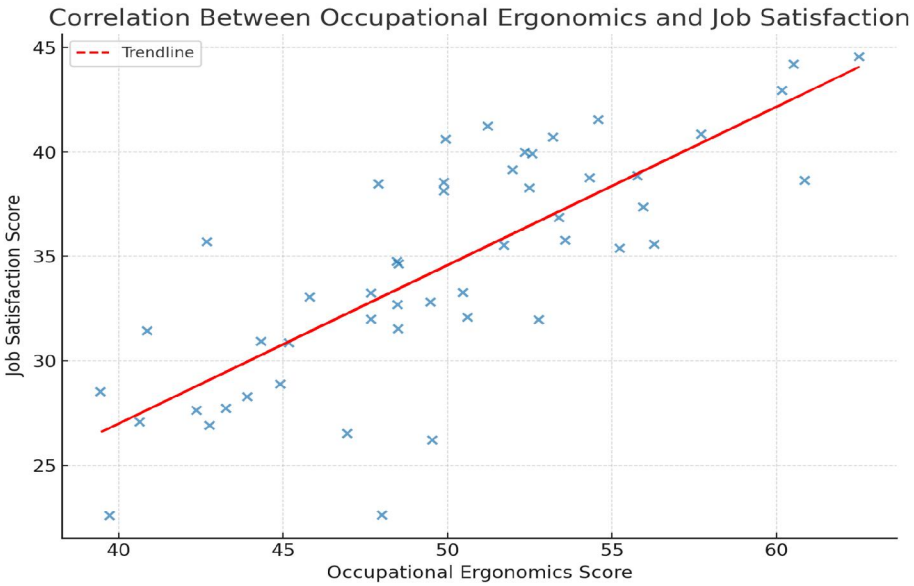

Figure 1:

Scatter plot illustrating the correlation between Occupational Ergonomics and Job Satisfaction among IT employees. Each point represents an individual respondent's scores. The positive linear trend line indicates a statistically significant correlation ($r \approx 0.69$, $p < 0.001$), suggesting that better ergonomic conditions are linked with higher job satisfaction.

Legend:

Blue Dots represent individual employees' paired scores on occupational ergonomics and job satisfaction.

● The red dashed line represents the linear trend line, illustrating both the direction and intensity of the correlation.

X-axis: Occupational Ergonomics Score

Y-axis: Job Satisfaction Score

Pearson Correlation Coefficient: **r = 0.69**, indicating a moderate to strong positive relationship Occupational ergonomics and job satisfaction

Suggestions

Empower Decision-Making and Role Significance

Employees should be granted greater autonomy in their decision-making processes, as lack of control over tasks has been shown to negatively impact job satisfaction. Additionally, organizations should reinforce the value of each employee's role within their department to enhance engagement and commitment.

Enhance Job Design and Career Development

Most of the employees feel that their skills are underutilized, which can lead to disengagement. To address this, companies should align the correct job roles with the correct individual qualifications and career aspirations. Structured career development programs could also support personal and professional growth, fostering a more motivated workforce.

Optimize Physical Ergonomics and Workspace Design

Investing in adjustable furniture, ergonomic tools, and updated equipment can significantly enhance employee comfort and performance. This includes ensuring that monitors are positioned at eye level, workstations are adapted to individual needs, and that task lighting supplements general lighting.

Create Comfortable and Quiet Work Environments

Noise reduction strategies and the provision of comfortable relaxation spaces during breaks can improve focus and reduce fatigue. Replacing noisy or outdated machinery and introducing quiet zones are effective ways to enhance environmental ergonomics.

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429 Volume 5, Issue 1, July 2025 Impact Factor: 7.67

Promote Health through Training and Micro-Breaks

Regular training on proper posture, equipment handling, and ergonomic practices should be provided

Strengthen Organizational Support and Resource Allocation

Management should actively support ergonomic initiatives by allocating financial and human resources for workspace improvements. Conducting regular ergonomic assessments can help prioritize issues and implement the most effective solutions.

Adapt to Mobile and Flexible Work Environments.

Organizations should offer guidance on creating temporary ergonomic setups and encourage the use of accessories like headsets, document holders, and task lights to support comfort outside the traditional office.

V. CONCLUSION

In today's environment, companies must make optimal use of their limited resources to improve overall efficiency and performance, deliver greater value to customers, and ensure employee satisfaction. This helps minimize physical and mental strain caused by work-related stress and movement, ultimately boosting workforce productivity..

The employment market is heating up and organizations start to worry about losing good talents and struggling to retain them since human resources is one of the vital competitive advantages. Some of the organizations are facing constant high employee turnover which accompanied with unsatisfactory performance and low productivity. Frequent employee turnover and reduced productivity are clear signs of dissatisfaction in the workplace. Thus better understanding on the factors which influence job satisfaction is very crucial for all organizations. By identifying these factors, organizations can recognize early signs of dissatisfaction and take proactive steps to enhance employee job satisfaction. For long-term business growth and sustainability, fostering job satisfaction is key to retaining talent and boosting overall performance and productivity.

REFERENCES

[1] Agarwal, R., & Chaturvedi, S. (2024). "*Workplace ergonomics and employee performance: Mediating role of job satisfaction*." Indian Journal of Management.

[2] Agustina, L., & Susilo, H. (2024). "*The effect of ergonomic workstation design on employee satisfaction in academic settings*." Journal of Workplace Design, 10(2), 45–57.

[3] Ashraf, F. (2017). "*Office ergonomics: Deficiency in computer workstation design*." International Journal of Ergonomic Studies, 6(1), 11–19.

[4] Atrian, S., & Ghobbeh, M. (2023). "*Technostress and job satisfaction in digital workplaces*." Ergonomics Research Journal.

[5] Dandale, A., Verma, K., & Das, P. (2023). "*Effectiveness of ergonomic training on musculoskeletal health"*. Journal of Occupational Safety, 15(4), 27–36.

[6] DigitalDefynd. (2025). "*Work-life balance and ergonomic strategy in tech industries*." Retrieved from https://digitaldefynd.com

[7] Ehigbochie, O. (2024)." *Developing an industry-specific job satisfaction scale for IT employees*." Journal of Occupational Health Psychology.

[8] Gumasing, M. J., et al. (2023). "*Sustainable ergonomics in BPO sectors: Enhancing human capital productivity*." BPO Journal of Management and Design.

[9] Kumar, N., Sharma, R., & Deshmukh, A. (2025). "*Time-based ergonomics and job motivation in software development*." Human Resource Insights, 11(2), 34–47.

[10] Lenberg, P., & Feldt, R. (2018). "*Psychological safety and norm clarity in agile teams*." Software Engineering Journal, 13(3), 44–59.

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 5, Issue 1, July 2025
Impact Factor: 7.67

[11] Morey-Burrows, L. (2024).” *Human-centered office design and employee happiness in tech firms*.” Workspace Quarterly, 8(1), 23–38.
[12] Mărcuță, L., & MoldStud Research Team. (2025). “*Remote work ergonomics and satisfaction among full-stack developers*.” International Review of Management and Business Research, 14(1), 1–15.
[13] Obi, I., Akinwale, T., & Rajan, S. (2024). “*What makes a “bad day” in tech? Environmental and organizational triggers*.” Journal of Applied Workplace Studies, 16(2), 110–125.
[14] Pijus Kanti Bhuin. (2014). “*Work-related stress and its global concern: Focus on teachers in India*. “International Education Review”, 9(1), 55–67.
[15] Sesari, H., Malik, Z., & Rawat, R. (2024).” *Workplace fairness and ergonomic equity in software firms*.”International Journal of HR Studies, 12(4), 56–73.
[16] Trstenjak, D., et al. (2025). “*Ergonomics in Industry 5.0: Human-machine collaboration and sustainability*.” Journal of Industrial Innovation, 21(1), 89–103.
[17] University of South Florida. (2024). “*Public health implications of workplace ergonomics*.” USF Center for Ergonomics Research Report.
[18] Venkatesh, R., Chauhan, M., & Patel, S. (2023). “*The ERI model and psychological ergonomics in agile IT teams*.” Indian Journal of Occupational Health, 10(3), 49–60.
[19] Yattani, M., & Karam, J. (2024). “*Ergonomic design and performance in Kenyan private security firms*.” Journal of Management Studies in Africa, 6(2), 75–91