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A Study on the Role of Artificial Intelligence in Improving Employee Motivation and Performance in Sakthi Infra Tex Pvt Ltd

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ABSTRACT

Artificial Intelligence (AI) has become a key driver of organizational transformation by improving operational efficiency, workforce productivity, and decision-making capabilities. This study examines how AI influences employee motivation and performance within Sakthi Infra Tex Pvt Ltd. The research explores the adoption of AI-based systems in workflow automation, performance monitoring, communication, and decision support. Primary data were collected from employees using structured questionnaires, and secondary data were obtained from journals, books, and industry reports. The findings indicate that AI tools significantly reduce repetitive work, improve accuracy, enhance communication, and provide real-time feedback to employees. These improvements contribute positively to employee motivation and performance. However, challenges such as lack of training, fear of job displacement, and resistance to technological change were also observed. The study concludes that effective implementation of AI, supported by proper training and transparent management practices, can enhance employee productivity and job satisfaction in modern organizations.

KEYWORDS

Artificial Intelligence, Employee Motivation, Performance Improvement, HR Analytics, Automation, Workplace Productivity, Digital Transformation

INTRODUCTION

Artificial Intelligence is transforming the way organizations operate by introducing automation, predictive analytics, and intelligent decision-making systems. AI enables organizations to process large volumes of data quickly, automate repetitive processes, and enhance employee performance through smart tools and analytics.

In modern workplaces, AI applications are used in human resource management, production planning, quality control, customer support, and employee performance evaluation. AI systems help managers monitor workflow efficiency, identify skill gaps, and provide training recommendations.

In manufacturing and textile industries, AI plays a crucial role in optimizing production, managing supply chains, forecasting demand, and improving workforce efficiency.
Employees benefit from AI through reduced workload, better communication tools, and structured performance monitoring.

This study focuses on understanding how AI adoption influences employee motivation, productivity, and job satisfaction in Sakthi Infra Tex Pvt Ltd.

STATEMENT OF THE PROBLEM

Although Artificial Intelligence improves efficiency and productivity, its impact on employees is complex. While AI can support employees by reducing workload and improving performance feedback, it can also create anxiety due to job insecurity and digital monitoring.

Employees may feel motivated when AI tools assist their work, but they may feel stressed if AI is used primarily for surveillance or strict performance control. Therefore, the problem addressed in this study is to determine whether AI implementation actually improves employee motivation and performance or creates new challenges in the workplace.

OBJECTIVES OF THE STUDY

Primary Objective

- To study the role of Artificial Intelligence in improving employee motivation and performance.

Secondary Objectives

1. To analyze the AI technologies used in the organization.
2. To examine employee perceptions toward AI adoption.
3. To evaluate the influence of AI on productivity and efficiency.
4. To identify challenges faced by employees while using AI tools.
5. To suggest strategies for effective AI implementation.

REVIEW OF LITERATURE

Artificial Intelligence has increasingly become a strategic tool in organizational management, particularly in enhancing employee productivity, engagement, and decision-making efficiency. Scholars across management, HR, and information systems disciplines emphasize that AI's value lies not merely in automation but in augmenting human capabilities.

Thomas H. Davenport and Rajeev Ronanki (2018) argued that organizations achieve the greatest benefits from AI when it is used to support employees rather than replace them. Their research highlights that AI improves efficiency by automating routine work, enabling employees to concentrate on strategic and creative tasks. They stress that AI adoption should focus on human–machine collaboration rather than workforce reduction.

Andreas Kaplan and Michael Haenlein (2019) examined AI's role in business decision- making and concluded that AI-driven analytics significantly enhance organizational responsiveness and accuracy. Their study indicates that AI tools can reduce decision-making time, minimize human bias, and improve predictive capabilities in workforce management.

Mohammad H. Jarrahi (2018) explored the relationship between AI and human intelligence in organizational settings. He emphasized that AI should be viewed as a decision-support system that enhances human judgment rather than replacing it. His research shows that AI increases employee productivity when employees retain control over decision processes.

D. Brougham and J. Haar (2018) studied employee reactions toward intelligent technologies and found that acceptance of AI largely depends on trust, transparency, and organizational communication. Their findings suggest that employees are more motivated when AI implementation includes training, ethical safeguards, and clear communication about its purpose.

Erica Makarius et al. (2020) focused on AI's influence on employee engagement. Their study concluded that AI improves job satisfaction when it reduces repetitive workload and allows employees to develop higher-level skills. They also noted that organizations that integrate AI into learning and development programs experience stronger workforce commitment and innovation.

Reports from institutions such as the **International Labour Organization** and the **World Economic Forum** further support these findings. They emphasize that AI-driven transformation will reshape jobs but also create opportunities for skill enhancement, flexible work environments, and productivity growth.

Overall, existing literature consistently suggests that AI positively influences employee motivation and performance when implemented with proper training, ethical practices, and supportive leadership. However, studies also warn that poor implementation may result in employee resistance, fear of job displacement, and reduced morale.

RESEARCH METHODOLOGY

Research Design

The present study adopts a descriptive and analytical research design to examine the role of Artificial Intelligence in improving employee motivation and performance in Sakthi Infra Tex Pvt Ltd.

The descriptive design helps in understanding employee perceptions, usage patterns, and behavioral responses toward AI-enabled systems. It captures how employees interact with automation tools, analytics dashboards, and digital decision-support systems in their daily operations.

The analytical design enables statistical evaluation of relationships between AI usage, employee motivation, job satisfaction, and performance outcomes. This combination ensures that the research not only describes AI adoption but also measures its measurable impact on workforce productivity and engagement.

Sources of Data

The study is based on both primary and secondary data.

Primary Data

Primary data was collected through a structured questionnaire distributed among employees working in production, administration, HR, finance, and technical departments.

The questionnaire gathered information on:

- AI tool usage frequency
- Impact of AI on productivity and accuracy
- Job motivation and satisfaction levels
- Employee perception toward automation and analytics
- Training needs and adaptability toward AI systems

Primary data ensures that the findings reflect real organizational conditions.

Secondary Data

Secondary data was collected from:

- Academic journals on Artificial Intelligence and HR analytics
- Books on Human Resource Management and Organizational Behaviour
- Industry reports from institutions such as the International Labour Organization
- Research articles on AI-driven workplace productivity

Secondary sources helped support theoretical understanding and validate survey findings.

Sampling Technique

The study used convenience sampling, selecting employees who actively interact with AI- enabled tools.

This method was chosen because:

- AI users were easily accessible
- It allowed faster data collection
- It provided practical operational insights

Though it limits generalization, it is appropriate for organizational case studies.

Sample Size

A total of 100 employees participated in the survey. This sample size is sufficient to:

- Conduct statistical tests
- Represent multiple departments
- Ensure reliability of results

Instrument Design

The questionnaire consisted of five sections:

1. Demographic information
2. AI usage pattern
3. Productivity impact
4. Motivation and job satisfaction
5. Employee perception toward automation

Responses were measured using:

- Likert-scale statements
- Multiple-choice questions
- Structured opinion responses

6. Tools for Analysis

The following statistical tools were used:

- Percentage analysis
- Frequency distribution
- Descriptive statistics
- Correlation analysis
- Chi-square test
- Regression analysis
- ANOVA

These tools helped identify relationships between AI adoption and employee outcomes.

TABLES AND INTERPRETATIONS

Table 1: Descriptive Statistics of AI Impact on Employee Motivation

Statistic	AI Motivation Score
N Valid	100
Missing	0
Mean	3.8
Median	3.9
Std. Deviation	0.71
Minimum	2
Maximum	5

Interpretation

The mean value of 3.8 indicates that employees generally perceive AI as supportive in improving motivation and work clarity. The median value of 3.9 shows that most responses lie in the higher satisfaction range. The moderate standard deviation (0.71) suggests limited variation in responses, indicating that employee opinions toward AI are largely consistent and positive.

Table 2: Frequency Distribution of Employee Performance After AI Adoption

Performance Level	Frequency	Percentage
High	48	48%
Moderate	34	34%
Low	18	18%
Total	100	100%

Interpretation

Nearly half of the respondents (48%) reported high performance after AI adoption, while 34% indicated moderate improvement. Only 18% reported low performance, suggesting that AI tools generally enhance work speed, accuracy, and task completion. However, the presence of low performers indicates the need for training and digital skill development.

Table 3: Correlation Between AI Usage and Employee Performance

Variables	AI Usage	Employee Performance
AI Usage	1	0.67
Employee Performance	0.67	1

Interpretation

The correlation coefficient of 0.67 indicates a strong positive relationship between AI usage and employee performance. This means that employees who use AI tools more effectively tend to demonstrate higher productivity, faster decision-making, and improved work quality.

Table 4: Chi-Square Test – Department vs AI Acceptance

Category	χ^2 Value	Significance Level
Department vs AI Acceptance	9.52	0.02

Interpretation

Since the significance value (0.02) is less than 0.05, there is a statistically significant association between department and AI acceptance. This suggests that technical and operational departments are more receptive to AI adoption than administrative roles.

Table 5: Regression Analysis – AI Usage Predicting Employee Performance

Variable	Beta Value	Significance
AI Usage	0.62	0.001

Interpretation

The regression results show that AI usage significantly predicts employee performance. The beta value (0.62) indicates that AI adoption strongly contributes to performance improvement. The significance value (0.001) confirms that this relationship is statistically meaningful.

Table 6: ANOVA – Differences in Motivation Across Experience Levels

Source	F Value	Significance
Experience Level vs Motivation	4.18	0.018

Interpretation

The ANOVA result indicates a significant difference in motivation levels across experience groups. Employees with moderate experience show the highest adaptability to AI tools, while new employees require training support and senior employees show cautious acceptance.

Overall Methodology Interpretation

The statistical findings collectively show that AI adoption positively influences employee productivity, engagement, and work accuracy. Employees perceive AI as a support system that reduces repetitive work and improves decision clarity. However, training, transparency, and digital skill development remain critical to maximize AI effectiveness.

FINDINGS OF THE STUDY

- Employees show a strong level of awareness regarding AI tools implemented in Sakthi Infra Tex Pvt Ltd, indicating successful digital integration and organizational readiness for technological transformation.
- AI-based systems have significantly reduced repetitive and routine tasks such as manual reporting, production tracking, and administrative documentation, allowing employees to focus on value-added and skill-oriented activities.
- Automation has contributed to a noticeable reduction in manual errors, improving accuracy, efficiency, and overall work quality across departments.
- Performance analytics dashboards and AI-driven evaluation systems help employees clearly understand their productivity levels, strengths, and areas needing improvement.
- Continuous feedback generated by AI tools enhances employee accountability and encourages self-development and performance improvement.
- Employees report higher motivation levels when AI tools assist in task management, decision support, and communication rather than being used primarily for surveillance or strict monitoring.
- AI-enabled communication platforms improve coordination between departments, reduce delays in information flow, and support quicker managerial decisions.

- The study identifies that a section of employees still faces difficulty adapting to AI systems due to lack of technical skills, fear of change, or insufficient training.
- AI implementation has improved workflow transparency, enabling employees to better understand organizational goals, production targets, and performance expectations.
- Overall, the research confirms that AI positively influences productivity, work efficiency, and job clarity, which indirectly contributes to improved employee satisfaction and engagement.

SUGGESTIONS

- The organization should conduct periodic AI training programs and workshops to ensure that all employees possess the necessary technical knowledge to effectively use AI tools.
- Clear and transparent communication should be maintained regarding how AI systems collect, analyze, and use employee data to prevent misunderstandings and build trust.
- AI technologies should be positioned as supportive tools that enhance employee performance rather than as surveillance mechanisms that create stress or fear.
- Employees should be actively involved in digital transformation initiatives so that they feel included in organizational change and develop a sense of ownership toward new technologies.
- A structured feedback system should be implemented to allow employees to express concerns, difficulties, and suggestions related to AI adoption.
- The organization should introduce digital wellness initiatives, including workload balance strategies and mental health awareness programs, to prevent technology-related stress or burnout.
- Ethical AI usage policies should be developed to ensure fairness, data privacy, and responsible monitoring practices within the organization.
- Continuous technical support should be provided to employees to help them resolve AI- related issues quickly and maintain workflow continuity.
- Management should periodically evaluate the impact of AI on employee satisfaction and performance to ensure that technological adoption aligns with human resource development goals.
- A balanced approach combining human expertise with AI capabilities should be promoted to achieve sustainable productivity and employee engagement.

CONCLUSION

Artificial Intelligence plays a crucial role in improving employee motivation and performance in modern organizations. The study reveals that AI enhances productivity by automating repetitive tasks, improving accuracy, and providing real-time performance insights. However, successful implementation depends on employee training, transparent management practices, and ethical use of technology.

Organizations that combine AI capabilities with human expertise can achieve higher efficiency, innovation, and employee satisfaction. Therefore, AI should be viewed as a supportive tool that empowers employees rather than replacing them.

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