

A STUDY ON THE EFFECTIVENESS OF AI-SUPPORTED TRAINING AND DEVELOPMENT ON EMPLOYEE PRODUCTIVITY AT LUCKY YARN INDIA PVT. LTD., ERODE

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ABSTRACT

This study examines the effectiveness of AI-supported training and development on employee productivity at Lucky Yarn India Pvt. Ltd., Erode. The research aims to analyze whether modern AI-based training methods contribute to skill enhancement, career improvement, and overall job performance of employees. A descriptive research design was adopted, and primary data were collected from 100 employees using a structured questionnaire through Google Forms, supported by secondary data from journals and company sources. Statistical tools such as percentage analysis, descriptive statistics, correlation, regression, and ANOVA were used for data analysis. The age distribution shows that 73% of respondents belong to the 25–35 age group, while 17% are below 25 years, 8% are between 35–45 years, and only 2% are above 45 years. A majority of employees (86%) agreed that the current training programs improve their career prospects. Descriptive statistics indicate a mean value of 1.95 (SD = 0.575) for age group and 1.58 (SD = 0.496) for the perception that training improves career, showing consistent responses. The Spearman's correlation coefficient between age group and career improvement perception is 0.005 with a significance value of 0.961, indicating no statistically significant relationship. Regression analysis reveals an R value of 0.004 and R² of 0.000, demonstrating negligible explanatory power, while ANOVA results (F = 0.001, Sig. = 0.972) confirm that age does not significantly influence employees' views on training effectiveness. Overall, the findings suggest that AI-supported training programs positively influence employee productivity and career development, and their effectiveness is perceived similarly across different age groups. The study concludes that well-designed AI-based training, combined with proper guidance and continuous evaluation, can enhance employee performance and organizational efficiency.

Key Words : AI-Supported Training, Employee Productivity, Training and Development, Career Improvement, Statistical Analysis

INTRODUCTION

In today's competitive business environment, organizations are increasingly using modern technologies to improve employee skills and performance. Artificial Intelligence (AI) has become an important tool in training and development because it provides personalized learning, faster knowledge delivery, and continuous skill improvement. AI-supported training programs can identify employee needs, track progress, and deliver suitable learning content, which ultimately enhances work efficiency. Employee productivity is a key factor that determines the success of any organization, and effective training programs help employees update their knowledge, improve job performance, and adapt to changing work requirements. When AI is integrated into training, it makes learning more interactive, flexible,

and data-driven compared to traditional methods. Lucky Yarn India Pvt. Ltd. is a textile manufacturing company where employee performance plays a vital role in maintaining production quality and organizational growth. Therefore, this study aims to examine the effectiveness of AI-supported training and development on employee productivity, skill enhancement, and overall organizational performance, and the findings may help management design better training strategies to achieve higher efficiency and job satisfaction among employees.

STATEMENT OF THE PROBLEM

Many organizations are introducing Artificial Intelligence (AI) in training and development, but the actual effectiveness of AI-supported training on employee productivity is still unclear, especially in traditional manufacturing companies like Lucky Yarn India Pvt. Ltd. Employees may face difficulties in adapting to new AI-based learning methods due to lack of technical skills, awareness, or proper guidance. In addition, the company may not have fully developed systems to measure whether AI training truly improves performance, skills, and work efficiency. Therefore, there is a need to examine how AI-supported training influences employee productivity, skill enhancement, and overall job performance, and to identify the challenges faced by employees while using such modern training approaches.

OBJECTIVES

- To study the effectiveness of AI-supported training on employee productivity at Lucky Yarn India Pvt. Ltd.
- To examine how AI-based training helps in improving employee skills and job performance.

REVIEW OF LITERATURE

Application of AI in Employee Training and Development (DOI: 10.54097/gg5eemnb)

AI in the Workplace: Skill Transformation (DOI: 10.3390/admsci14060127)

Babashahi et al. (2024) systematically review how AI influences skill transformation in the workplace, showing that AI adoption both reshapes required competencies and supports upskilling. Enhanced skill transformation through AI-supported training contributes to productivity improvements by aligning employee capabilities with organizational needs.

AI, Performance, and High-Performance Work Systems (Springer Article)

(2024) investigates how AI applications integrated with high-performance work systems and employee development initiatives can improve performance outcomes. It emphasizes AI-enabled training programs that enhance employee potential development and thus contribute to productivity.

(2024) reviews how **AI technologies are transforming employee training and development** by enabling personalized learning paths, real-time feedback, automated assessment, and optimization of learning outcomes. The study identifies key opportunities — such as improved skill acquisition and dynamic career development advice — as well as challenges like data governance and technological readiness.

AI in Employee Training & Development: Opportunities & Challenges (DOI: 10.51386/25815946/ijssm-v8i5p123)

Uddin et al. (2025) provide a literature overview highlighting AI's ability to facilitate data-driven insights, adaptive learning environments, and improved accessibility, which support employee productivity. They also outline challenges related to ethical use, data privacy, and readiness of learners and trainers.

Bibliometric Analysis of AI & Machine Learning in HRM (DOI: 10.1186/s43093-025-00602-x)

Koştı & Kayadibi (2025) analyze the evolution of research on AI/ML in human resource management, showing a growing trend of studies focused on AI’s role in training, recruitment, performance evaluation, and employee development. The bibliometric evidence supports the view that AI adoption is increasingly linked to productivity improvements across HR practices.

AI-Driven HR Analytics & Productivity (DOI: 10.62207/tvrkt534)

Hidayat & Mahdia (2025) focus on how AI-driven HR analytics can predict employee well-being and productivity outcomes. The study suggests that analytics tools can inform training needs, facilitate better decision-making in HR development, and correlate predicted outcomes with actual performance metrics.

RESEARCH METHODOLOGY

This study follows a descriptive research design to understand how AI-supported training influences employee productivity. Both primary and secondary data are used. Primary data is collected directly from employees using a structured questionnaire prepared in Google Forms. The questionnaire includes simple questions related to training methods, usefulness of AI-based learning tools, skill improvement, and changes in work performance. The survey link is shared with employees of Lucky Yarn India Pvt. Ltd., Erode, and responses are collected online. Secondary data is gathered from company records, journals, books, and reliable websites to support the study. A convenience sampling method is used to select respondents based on availability and willingness to participate. The collected data is analyzed using basic statistical tools such as percentage analysis, charts, and tables to interpret the results clearly. This methodology helps to evaluate whether AI-supported training programs improve employee productivity in the organization.

TABLE 01. DESCRIPTIVE STATISTICS BETWEEN AGE GROUP AND CURRENT TRAINING PROGRAMS IMPROVE CAREER

Classification		Age Group	Current Programs Career	Training Improve
N	Valid	100	100	
	Missing	0	0	
Mean		1.95	1.58	
Std. Error of Mean		.058	.050	
Median		2.00	2.00	
Mode		2	2	
Std Deviation		.575	.496	
Variance		.331	.296	
Range		3	1	
Minimum		1	1	
Maximum		4	2	

INTERPRETATION

The descriptive statistics table presents the relationship between age group and the opinion that current training programs improve career, based on 100 valid responses with no missing data (N = 100, Missing = 0 for both variables). For age group, the mean value is 1.95 with a standard error of 0.058, a median of 2.00, and a mode of 2, indicating that most respondents fall around category 2. The standard deviation is 0.575 and the variance is 0.331, showing moderate dispersion. The range is 3, with a minimum value of 1 and a maximum value of 4, indicating that respondents are spread across four age categories. Regarding the perception that current training programs improve

career, the mean score is 1.58 with a standard error of 0.050, while the median and mode are both 2. The standard deviation is 0.496 and the variance is 0.296, reflecting relatively low variability in responses. The range is 1, with a minimum of 1 and a maximum of 2, indicating that responses are concentrated within two categories.

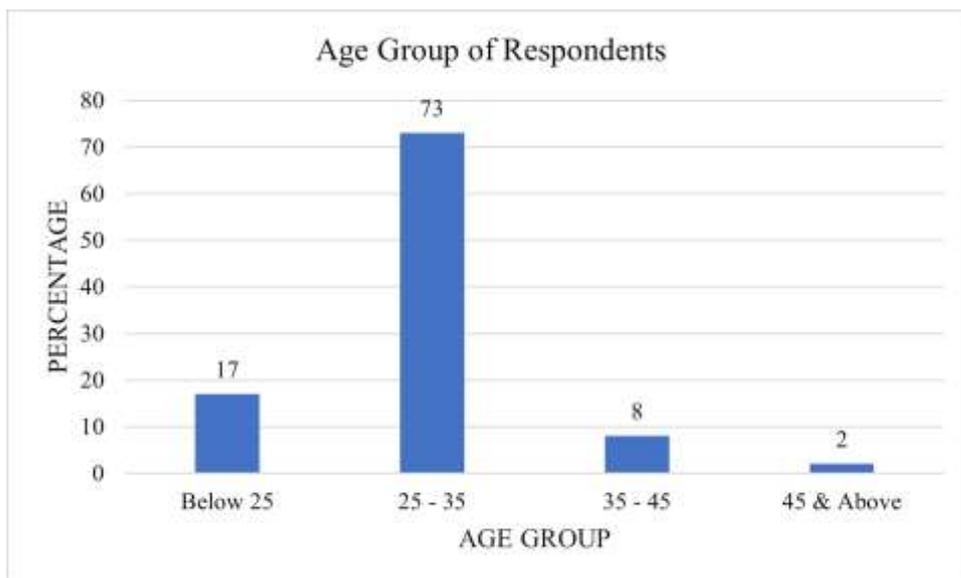
TABLE 02. AGE GROUP OF THE RESPONDENTS

		Frequency	Percent	Valid Percent	Cummulative Percent
Valid	Below 25	17	17	17	17
	25 - 35	73	73	73	90
	35 - 45	8	8	8	98
	45 & Above	2	2	2	100
	Total	100	100	100	100

INTERPRETATION

The table presents the age-wise distribution of 100 valid respondents, with no missing data. Among them, 17 respondents fall under the “Below 25” category, representing 17 percent, with a valid percent of 17 and a cumulative percent of 17. The majority of respondents, 73 individuals, belong to the “25–35” age group, accounting for 73 percent, with a valid percent of 73 and increasing the cumulative percent to 90. In the “35–45” age group, there are 8 respondents, constituting 8 percent, with a valid percent of 8 and a cumulative percent of 98. The “45 & Above” category includes 2 respondents, representing 2 percent, with a valid percent of 2 and bringing the cumulative percent to 100

FIGURE 01. AGE GROUP OF THE RESPONDENTS



INTERPRETATION

The chart shows the age distribution of respondents. A large majority (73%) of the respondents belong to the 25–35 age group, indicating that most participants are young adults in their early career stage. About 17% are below 25 years, suggesting a smaller proportion of very young employees or fresh entrants. Only 8% fall within the 35–45 age group, and just 2% are aged 45 and above, showing minimal representation of older employees.

Table 03. CURRENT TRAINING PROGRAMS IMPROVES CAREER

Valid		Frequency	Percent	Valid Percent	Cumulative Percent
	Agree	86	86	86	86
	Disagree	14	14	14	100
	Total	100	100	100	100

INTERPRETATION

The table titled “Current Training Programs Improves Career” presents the responses of 100 valid participants, with no missing data. Out of the total 100 respondents, 86 respondents agreed that current training programs improve career prospects, representing 86 percent of the total, with a valid percent of 86 and a cumulative percent of 86. On the other hand, 14 respondents disagreed, accounting for 14 percent, with a valid percent of 14 and bringing the cumulative percent to 100. The total number of responses is 100, which constitutes 100 percent and 100 valid percent, with the cumulative percent also reaching 100.

Table 04. CORRELATION BETWEEN AGE GROUP AND

CURRENT TRAINING PROGRAM IMPROVES CAREER

Spearman’s Correlation			Age Group	Current Training Program Improves Career
	Age Group	Correlation Coefficient	1.000	.005
		Sig. (2-tailed)	-	.961
		N	100	100
	Current Training Program Improves Career	Correlation Coefficient	.005	1.000
		Sig. (2-tailed)	.961	-
N		100	100	

INTERPRETATION

The table presents the Spearman's correlation between Age Group and the perception that the current training program improves career. The correlation coefficient between these two variables is 0.005, which indicates a very weak (almost no) positive relationship. The significance value (Sig. 2-tailed) is 0.961, which is much higher than the standard level of 0.05, showing that the relationship is not statistically significant. The sample size (N) for the analysis is 100 respondents. Therefore, it can be concluded that age group does not have any meaningful influence on employees' opinions about whether the current training program improves their career. In other words, employees of different age groups share similar views regarding the effectiveness of the training program.

TABLE 05. MODEL SUMARRY BETWEEN AGE GROUP AND CURRENT TRAINING PROGRAM IMPROVES CAREER

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.004	.000	-.010	.499

INTERPRETATION

The table shows the model summary for the relationship between age group and the perception that the current training program improves career. The correlation value (R) is 0.004, indicating an extremely weak relationship between the variables. The R Square value is 0.000, which means that age group explains virtually none of the variation in employees' views about career improvement through training. The Adjusted R Square is -0.010 , further confirming that the model has no predictive power. The Standard Error of the Estimate is 0.499, indicating the average deviation of observed values from the predicted values.

TABLE 06. ANALYSIS OF VARIANCE

	Sum of Squares	df	Mean Square	F	Sig.
Regression	.000	1	.000	.001	.972
Residual	24.360	98	.249		
Total	24.360	99	.249	.001	.972

a: Dependent Variable Current training programs improve career

b. Predictors: (Constant, Age Group)

INTERPRETATION

The above Table 06 represents the Analysis of Variance (ANOVA) for the regression model where the dependent variable is current training programs improve career, and the predictors are (Constant, Age Group). The table shows that the Regression Sum of Squares is 0.000 with $df = 1$ and a Mean Square of 0.000. The Residual Sum of Squares is 24.360 with $df = 98$ and a Mean Square of 0.249. The Total Sum of Squares is 24.360 with $df = 99$ and a Mean Square of 0.249. The calculated F value is 0.001 and the Significance (Sig.) value is 0.972. Since the significance value of 0.972 is much higher than the 0.05 level, the model is not statistically significant. This indicates that the predictor variable, Age Group, does not significantly explain the variation in employees' perception that current training programs improve career, and the regression model has no meaningful predictive power.

FINDINGS OF THE STUDY

- The majority of respondents (73%) belong to the 25–35 age group, indicating that most employees are young adults in the early stage of their careers.
- About 17% of respondents are below 25 years, while only 8% fall in the 35–45 age group and 2% are 45 years and above, showing very low participation from older employees.
- A large majority of employees (86%) agreed that the current training programs improve their career prospects, while only 14% disagreed, indicating a strong positive perception toward training.
- The mean value for age group is 1.95 with a standard deviation of 0.575, showing moderate variation in respondents' age categories.
- The mean score for the opinion that training improves career is 1.58 with a standard deviation of 0.496, indicating low variability and consistent responses among employees.
- The correlation between age group and the belief that training improves career is 0.005, which shows an extremely weak positive relationship.
- The significance value for the correlation is 0.961, which is much higher than 0.05, indicating that the relationship is not statistically significant.
- The regression model shows an R value of 0.004 and an R Square value of 0.000, meaning age group explains almost none of the variation in employees' perceptions.
- The adjusted R Square is -0.010 , confirming that the model has no predictive power.
- The ANOVA results show an F value of 0.001 with a significance level of 0.972, indicating that the model is not statistically significant.
- Overall, the findings indicate that employees across different age groups share similar views, and age does not significantly influence their perception of training effectiveness.

SUGGESTIONS

- The organization should introduce more advanced AI-supported training methods to enhance employee learning and productivity.
- Management should provide proper technical guidance and support to help employees adapt to AI-based training systems.
- Training programs should be designed according to employees' job roles and skill requirements to ensure maximum effectiveness.
- Regular evaluation of training programs should be conducted to measure their impact on employee performance and productivity.
- The company should offer continuous learning opportunities such as refresher courses and skill-upgradation programs.

CONCLUSION

The study concludes that AI-supported training and development have a positive impact on employee productivity, skills, and career growth at Lucky Yarn India Pvt. Ltd., Erode. The majority of employees expressed favorable opinions toward the training programs, with 86 percent agreeing that these programs improve their career prospects. The statistical analysis shows that most respondents belong to the 25–35 age group, indicating that young employees form the major part of the workforce in the organization. The results of correlation, regression, and ANOVA analyses reveal that age does not significantly influence employees' perceptions of training effectiveness, as the relationship between age and career improvement through training is extremely weak and not statistically significant. This indicates that the training programs are beneficial and equally accepted across different age groups.

Overall, the effective implementation of AI-supported training, along with proper guidance and continuous evaluation, can enhance employee performance, improve organizational efficiency, and support long-term growth and competitiveness.

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