



THE IMPACT OF OVER-EDUCATION AND SKILL MISMATCH ON EMPLOYEE PERFORMANCE: A HUMAN RESOURCE MANAGEMENT PERSPECTIVE

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Abstract

This research investigates the phenomenon of over education within Human Resource Management (HRM) and its implications on employee productivity, job satisfaction, and wage penalties. Specifically, the study explores how individuals with high levels of formal education but insufficient practical skills contribute to inefficiencies in organizational performance. We employ a mixed-methods approach, combining survey data, interviews, and regression analysis to evaluate the relationship between over education, training effectiveness, and marginal utility. The findings reveal a significant negative correlation between excessive training sessions and marginal utility, supporting the application of the Law of Diminishing Marginal Utility (LDMU). Practical recommendations such as industry-academia collaboration, vocational training, and skill-specific development programs are proposed to bridge the education-skills gap.

IndexTerms – Over education, Human Resource Development (HRD), Skill Mismatch, Training Effectiveness, Marginal Utility, Employee Performance, Job Satisfaction.

I. INTRODUCTION

In the evolving job market, over education—where individuals possess academic qualifications surpassing the requirements of their job—has become increasingly prevalent. However, this academic surplus often coexists with a lack of practical or vocational skills, leading to a mismatch between employee competencies and job demands. This gap creates challenges for Human Resource Management (HRM) in optimizing employee performance and satisfaction, impacting organizational productivity and economic growth. Additionally, excessive training sessions designed to bridge this skills gap may fall prey to the Law of Diminishing Marginal Utility (LDMU), wherein each additional session provides progressively fewer benefits.

II. RESEARCH OBJECTIVES

1. To examine the relationship between over education and employee job performance.
2. To assess the impact of skill mismatches on job satisfaction and wage penalties.
3. To analyze the effect of repeated training sessions on employee performance using the Law of Diminishing Marginal Utility.
4. To propose effective strategies for bridging the gap between formal education and required job skills.

III. HYPOTHESES

- H1: Over education is positively associated with wage penalties.
- H2: Over education leads to lower job satisfaction due to skill mismatch.
- H3: Excessive training sessions have a negative relationship with marginal utility.
- H4: Employee experience and performance metrics positively influence marginal utility.

IV. RESEARCH METHODOLOGY

4.1 Research Design

A mixed-methods approach was adopted, combining quantitative surveys with qualitative interviews to collect comprehensive data on the impact of over education and training programs.

4.2 Sample and Data Collection

- Sample Size: 100 employees from various industries.
- Data Collection Tools:
 - Questionnaire: Captured demographic details, number of training sessions attended, perceived training effectiveness, job satisfaction, and job performance metrics.
 - Interviews: Conducted with HR managers to gain deeper insights into training effectiveness and skill mismatch challenges.

4.3 Variables

- Dependent Variable: Marginal Utility of training.
- Independent Variables: Number of Training Sessions, Employee Experience, Performance Metrics.

4.4 Statistical Techniques

Multiple regression analysis was performed using the following equation:

$$\text{Marginal Utility (MU)} = \beta_0 + \beta_1(\text{Training Sessions}) + \beta_2(\text{Employee Experience}) + \beta_3(\text{Performance Metrics}) + \varepsilon$$

V. RESULTS AND ANALYSIS

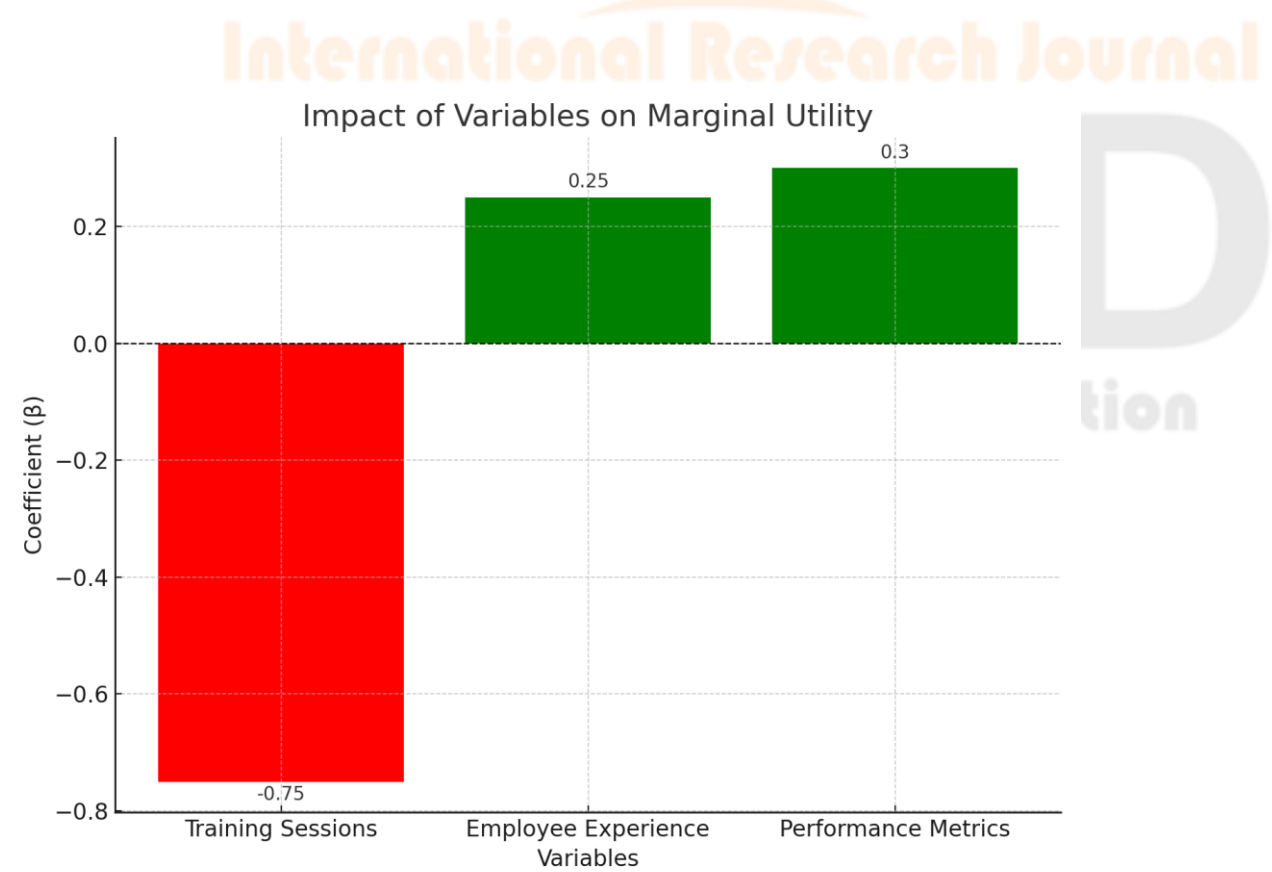
5.1 Descriptive Statistics

- 45% of employees reported attending more than five training sessions in the past six months.
- 62% reported that training sessions did not fully align with their job responsibilities.
- 70% acknowledged lacking practical skills despite holding advanced degrees.

5.2 Regression Analysis

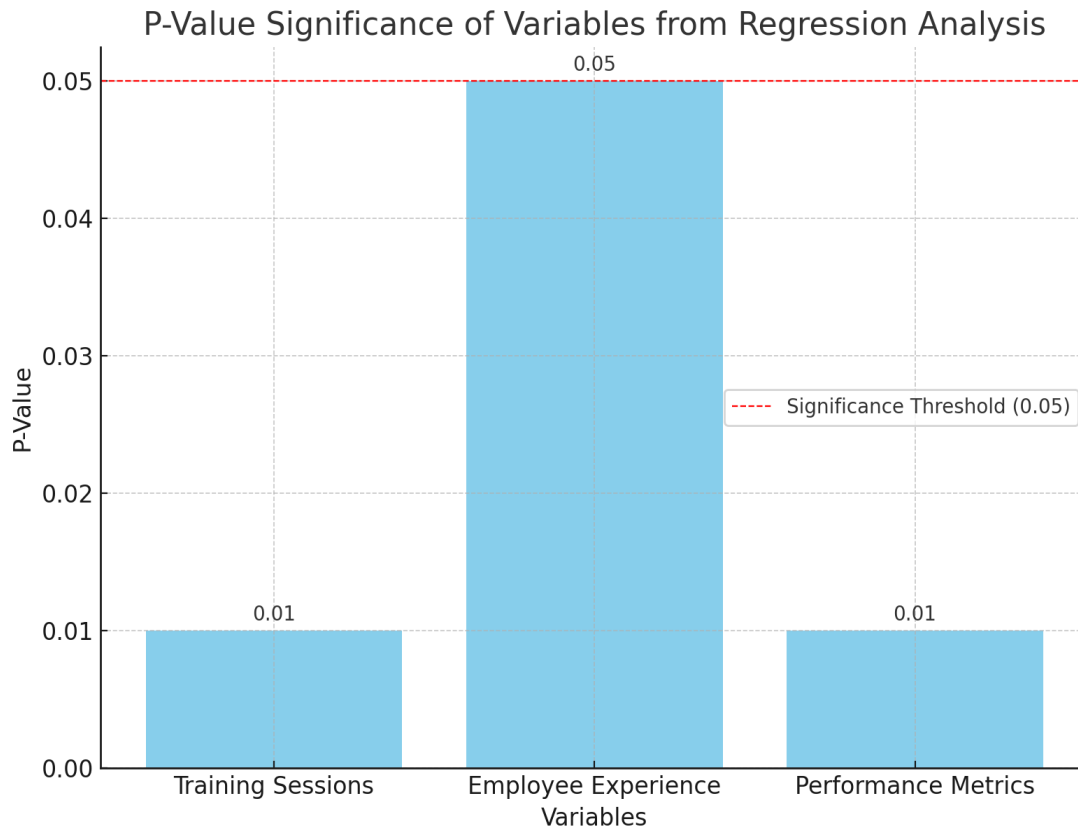
Variable	Coefficient (β)	Significance value)	(p-	Relationship
Training Sessions	-0.75	p < 0.01		Negative
Employee Experience	0.25	p < 0.05		Positive
Performance Metrics	0.3	p < 0.01		Positive

Figure 1: Impact of Variables on Marginal Utility



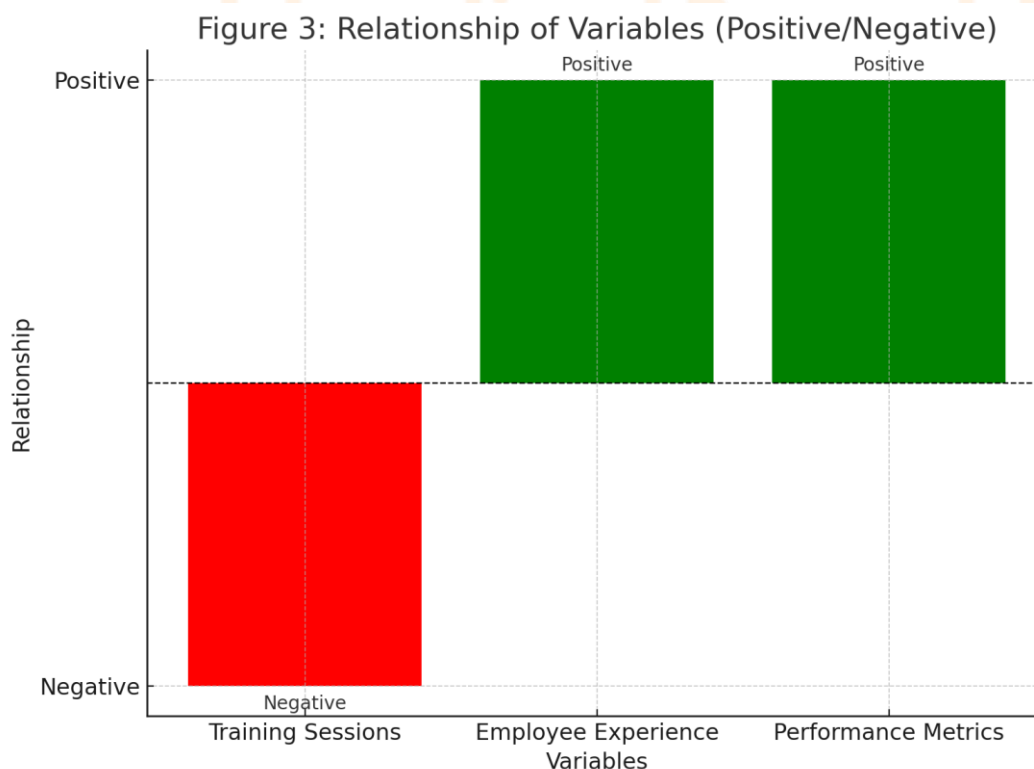
Explanation: This bar graph shows the strength and direction of each variable's impact on marginal utility using Beta Coefficients.

Figure 2: P-Value Significance of Variables



Explanation: This graph presents the p-values of each variable, indicating their statistical significance.

Figure 3: Relationship of Variables (Positive/Negative)



Explanation: This bar chart simplifies whether the relationship is positive or negative.

VI. DISCUSSION

The findings validate the hypotheses, showing that:

- Overeducated employees face wage penalties and lower job satisfaction due to insufficient practical skills.
- The effectiveness of training diminishes with repetitive, non-targeted sessions, aligning with the Law of Diminishing Marginal Utility.
- Employee experience and performance feedback contribute positively to maximizing training benefits.

VII. RECOMMENDATIONS

1. Strengthen Industry-Academia Collaboration: Align curricula with market demands to ensure skill relevance.
2. Implement Vocational and Skill-Based Training: Focus on practical skill development instead of redundant theoretical sessions.
3. Customize Training Programs: Use performance evaluations to design tailored training interventions.
4. Limit Excessive Training: Ensure optimal frequency and relevance of training to avoid diminishing returns.

VIII. LIMITATIONS AND SCOPE FOR FUTURE RESEARCH

While this study offers valuable insights into the effects of overeducation and skill mismatch on employee performance, it is not without limitations. Firstly, the sample size was limited to 100 employees from selected industries, which may restrict the generalizability of the findings across diverse sectors or geographic regions. Future research could benefit from a larger and more diverse sample to enhance the robustness of the conclusions.

Secondly, the study primarily relied on self-reported data, which may be influenced by personal biases or inaccuracies in perception, especially regarding job satisfaction and perceived training effectiveness. Incorporating longitudinal data or direct performance evaluations may yield more objective results.

Additionally, the research focused on the number of training sessions rather than the quality or content of those sessions. Future studies could explore the effectiveness of different training methods and delivery formats (e.g., digital vs. in-person, group vs. individualized) in overcoming skill mismatches.

Finally, while this study applied the Law of Diminishing Marginal Utility in the context of training, further research could quantitatively test this economic principle across other HR interventions, such as performance reviews or incentive systems.

IX. CONCLUSION

This study emphasizes that over-education, without corresponding practical skills, leads to inefficiencies in HRM, including wage penalties and reduced job satisfaction. Moreover, excessive training sessions have diminishing returns, underlining the importance of targeted skill development. Addressing the over-education-skills mismatch through strategic interventions can improve workforce productivity and organizational growth.

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