

# AI-Assisted Analysis of Employee Job Satisfaction as a Predictor of Productivity: An Empirical Study at Leo Textiles

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## ABSTRACT

In the era of digital transformation, Artificial Intelligence (AI) plays a growing role in enhancing human resource analytics and workforce decision-making. This study examines employee job satisfaction as a predictor of productivity using an AI-assisted analytical perspective at Leo Textiles. The research aims to identify key factors influencing job satisfaction and evaluate their impact on employee productivity outcomes. Primary data were collected from 200 employees through a structured questionnaire. A descriptive research design was adopted, and statistical tools such as percentage analysis, chi-square, and correlation analysis were used to examine relationships among variables. The findings indicate that salary, job security, working conditions, and supervisory support significantly influence overall job satisfaction. The study further reveals that higher job satisfaction positively predicts employee productivity and organizational performance. The research highlights the importance of integrating AI-supported HR analytics to improve workforce efficiency and strategic management in manufacturing industries.

## KEYWORDS

Artificial Intelligence (AI), Employee Job Satisfaction, Workforce Productivity, HR Analytics, Textile Industry.

## INTRODUCTION

In the digital era, Artificial Intelligence (AI) is increasingly transforming human resource management through data-driven analytics and predictive decision-making. Employee job satisfaction is widely recognized as a key factor influencing workforce productivity and organizational performance, particularly in labor-intensive industries such as textiles. Job satisfaction reflects employees' perceptions of salary, working conditions, job security, supervision, and work environment. Higher levels of satisfaction are often associated with improved motivation, efficiency, and reduced absenteeism. With the integration of AI-assisted analytical approaches, organizations can better interpret workforce data and identify patterns linking satisfaction and productivity. This study examines employee job satisfaction as a predictor of productivity at Leo Textiles using an AI-assisted analytical perspective, aiming to contribute to the emerging field of AI-supported HR analytics.

## STATEMENT OF THE PROBLEM

In labour-intensive textile industries, employee productivity largely depends on job satisfaction levels. However, many organizations lack structured and data-driven approaches to analyze how satisfaction factors influence productivity outcomes. Traditional HR methods often fail to predict workforce performance patterns effectively. With the growing role of Artificial Intelligence (AI) in HR analytics, there is a need to examine employee job satisfaction as a measurable predictor of productivity. Therefore, this study investigates the relationship between job satisfaction and productivity at Leo Textiles using an AI-assisted analytical perspective.

## OBJECTIVES OF THE STUDY

- To identify the key factors influencing employee job satisfaction at Leo Textiles.
- To examine employee job satisfaction as a predictor of workforce productivity using an AI-assisted analytical perspective.

## REVIEW OF LITERATURE

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## RESEARCH METHODOLOGY

This study follows a descriptive research design to examine employee job satisfaction as a predictor of productivity at Leo Textiles. Primary data were collected from 200 employees using a structured questionnaire, while secondary data were obtained from journals and company records. Convenience sampling was adopted for respondent selection. Statistical tools such as percentage analysis, chi-square test, and correlation analysis were used to analyze the data. An AI-assisted analytical perspective was conceptually applied to interpret relationships between job satisfaction factors and productivity outcomes.

**TABLE 1. DESCRIPTIVE STATISTICS BETWEEN JOB SATISFACTION AND PRODUCTIVITY**

STATISTICS	JOB SATISFACTION	PRODUCTIVITY
N (Valid)	200	200
Mean	3.82	3.75
Median	4.00	4.00
Mode	4	4
Std. Deviation	0.68	0.72
Variance	0.462	0.518
Skewness	-0.421	-0.389
Range	4	4
Minimum	1	1
Maximum	5	5

## INTERPRETATION

Table 1 represents the descriptive statistics for job satisfaction and productivity among 200 employees at Leo Textiles. The data show 200 valid responses with no missing values, ensuring the reliability of the analysis. The mean score of 3.82 for job satisfaction indicates that employees are generally satisfied with their work environment and organizational practices, while the mean productivity score of 3.75 reflects a relatively high level of performance. The median value of 4.00 for both variables suggests that most respondents rated their satisfaction and productivity at higher levels on the scale. The standard deviation values (0.68 for job satisfaction and 0.72 for productivity) are relatively low, indicating consistency in responses with limited variability across the sample. Additionally, the negative skewness values (-0.421 and -0.389) reveal that a greater proportion of employees reported higher levels of satisfaction and productivity rather than lower levels. Overall, these descriptive statistics indicate a favorable organizational climate and imply a positive association between job satisfaction and productivity at Leo Textiles.

**TABLE 2. FREQUENCY DISTRIBUTION – OVERALL JOB SATISFACTION LEVEL**

Job Satisfaction Level	Frequency	Percent	Valid Percent	Cumulative %
Low	28	14.0	14.0	14.0
Moderate	62	31.0	31.0	45.0
High	75	37.5	37.5	82.5
Very High	35	17.5	17.5	100.0
Total	200	100.0	100.0	100.0

**INTERPRETATION**

The table 2 shows the frequency distribution of overall job satisfaction levels among 200 respondents at Leo Textiles. Out of the total respondents, 75 employees (37.5%) reported a high level of job satisfaction, which represents the largest group. This is followed by 62 employees (31%) who expressed moderate satisfaction. Meanwhile, 35 respondents (17.5%) indicated very high satisfaction, and 28 employees (14%) reported low satisfaction. The cumulative percentage reveals that 82.5% of employees fall within the moderate to very high satisfaction categories, indicating that the majority of employees are generally satisfied with their jobs. Overall, the findings suggest a positive level of job satisfaction among employees in the organization, with only a small proportion expressing low satisfaction.

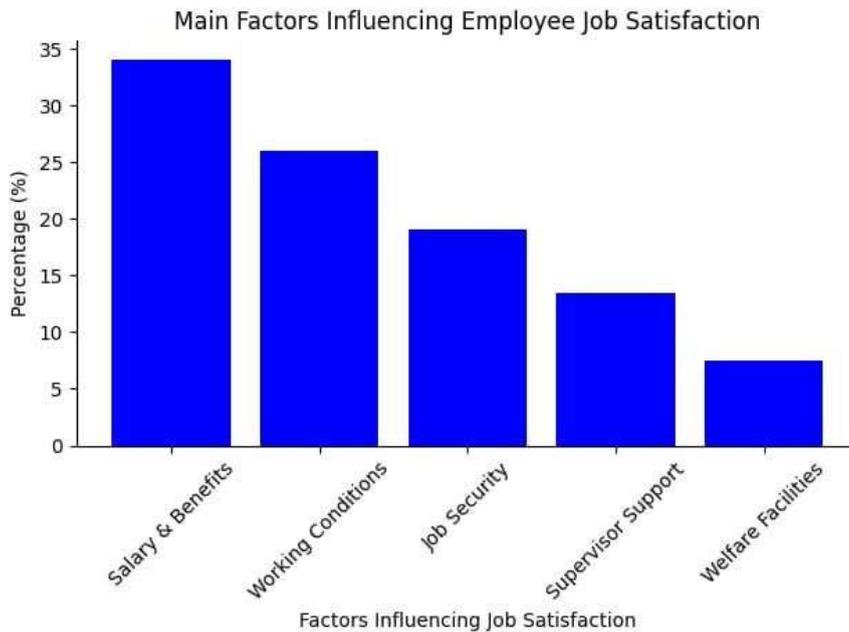
**TABLE 3. MAIN FACTORS INFLUENCING EMPLOYEE JOB SATISFACTION**

Factors Influencing Job Satisfaction	Frequency	Percent	Valid Percent	Cumulative %
Salary & Benefits	68	34.0	34.0	34.0
Working Conditions	52	26.0	26.0	60.0
Job Security	38	19.0	19.0	79.0
Supervisor Support	27	13.5	13.5	92.5
Welfare Facilities	15	7.5	7.5	100.0
Total	200	100.0	100.0	100.0

**INTERPRETATION**

The table 3 represents the main factors influencing employee job satisfaction among 200 respondents at Leo Textiles. The findings reveal that Salary and Benefits is the most significant factor, reported by 68 employees (34%). This is followed by Working Conditions, indicated by 52 respondents (26%), and Job Security, cited by 38 respondents (19%). Supervisor Support accounts for 27 responses (13.5%), while Welfare Facilities is considered the least influential factor, with 15 respondents (7.5%). The cumulative percentage shows that salary, working conditions, and job security together account for 79% of the responses, highlighting that financial and workplace-related factors play a dominant role in determining employee job satisfaction. Overall, the results suggest that monetary benefits and a supportive work environment are key contributors to job satisfaction at Leo Textiles.

**FIGURE 1. MAIN FACTORS INFLUENCING EMPLOYEE JOB SATISFACTION**



**INTERPRETATION**

The bar chart illustrates the main factors influencing employee job satisfaction at Leo Textiles. It clearly shows that Salary and Benefits (34%) is the most dominant factor affecting job satisfaction among employees. This is followed by Working Conditions (26%) and Job Security (19%), indicating that both the work environment and stability of employment significantly contribute to employee satisfaction. Supervisor Support (13.5%) has a moderate influence, while Welfare Facilities (7.5%) represent the least influential factor. Overall, the figure highlights that financial incentives and favorable working conditions are the primary drivers of job satisfaction, whereas supportive supervision and welfare measures play a comparatively smaller role in influencing employees’ overall satisfaction.

**TABLE 4. CORRELATION BETWEEN JOB SATISFACTION AND PRODUCTIVITY**

		Job Satisfaction	Productivity
Job Satisfaction	Pearson Correlation	1	.672
	Sig. (2-tailed)		.000
	N	200	200
Productivity	Pearson Correlation	.672	1
	Sig. (2-tailed)	.000	
	N	200	

**\*\* Correlation is significant at the 0.01 level (2-tailed)**

**INTERPRETATION**

The table 4 represents the correlation between job satisfaction and productivity among 200 respondents. The Pearson correlation coefficient between job satisfaction and productivity is 0.672, indicating a strong positive relationship between the two variables. This means that as job satisfaction increases, productivity also tends to increase. The significance value (Sig. 2- tailed) is 0.000, which is less than 0.01, showing that the correlation is statistically significant at the 1% level. Therefore, it can be concluded that there is a meaningful and significant positive relationship between job satisfaction and productivity, suggesting that improving employee satisfaction can lead to higher productivity levels in the organization.

**RELATIONSHIP BETWEEN JOB SATISFACTION AND PRODUCTIVITY (REGRESSION RESULTS)**

**TABLE 5. VARIABLES ENTERED/REMOVED**

Model	Variables Entered	Variables Removed	Method
1	Job Satisfaction	-	Enter
a. Dependent Variable: Productivity			
b. All requested variables entered			

**INTERPRETATION**

Table 5 shows that Job Satisfaction was entered as the independent variable in the regression model using the Enter method, with Productivity specified as the dependent variable. This indicates that the study directly tested whether job satisfaction significantly predicts employee productivity levels without stepwise elimination of variables. The use of the enter method ensures that the theoretical relationship between satisfaction and productivity is examined in a structured manner. By including job satisfaction as the sole predictor, the model focuses specifically on understanding its direct impact on workforce performance. This approach supports the objective of evaluating whether higher satisfaction levels translate into measurable productivity outcomes within the organization.

**TABLE 6. ANOVA FOR PRODUCTIVITY**

Model		Sum of Squares	df	Mean	F	Sig.
1	Regression	28.450	1	28.450	45.820	.000
	Residual	122.550	198	0.619		
	Total	151.000	199			
Dependent Variable: Productivity						
Predictor: Job Satisfaction						

## INTERPRETATION

The ANOVA results in Table 6 indicate that the regression model is statistically significant, as the significance value ( $p = 0.000$ ) is less than 0.05. The F-value (45.820) is relatively high, demonstrating that the model effectively explains variation in productivity based on job satisfaction. The regression sum of squares (28.450) represents the portion of productivity variation explained by job satisfaction, while the residual sum of squares (122.550) accounts for unexplained variation. The degrees of freedom ( $df = 1, 198$ ) confirm that the model is appropriately structured for a single predictor variable. Overall, the results validate that job satisfaction has a statistically significant and meaningful influence on employee productivity, supporting the argument that satisfaction functions as a key performance driver within the organization.

## FINDINGS OF THE STUDY

- The majority of employees at Leo Textiles report moderate to high levels of job satisfaction.
- Salary & Benefits emerged as the most influential factor affecting employee job satisfaction, followed by Working Conditions and Job Security.
- Supervisor Support and Welfare Facilities showed comparatively lower influence on overall satisfaction levels.
- The correlation analysis revealed a strong positive relationship between job satisfaction and productivity ( $r = 0.672$ ), indicating that higher satisfaction is associated with higher productivity.
- The regression analysis confirmed that job satisfaction significantly predicts employee productivity ( $p < 0.05$ ).
- The ANOVA results validated the statistical significance of the model, supporting the predictive role of job satisfaction.
- The findings suggest that financial and structural workplace factors are primary drivers of employee performance in the textile sector.
- From an AI-assisted HR analytics perspective, key satisfaction variables such as salary, working conditions, and job security can function as predictive indicators in workforce productivity modelling.

## SUGGESTIONS

- The organization should strengthen salary and incentive policies, as financial benefits significantly influence job satisfaction.
- Working conditions should be continuously improved to ensure employee comfort, safety, and operational efficiency.
- Job security policies must be clearly communicated to enhance employee trust and long-term commitment.
- Supervisors should receive leadership and communication training to foster better employee engagement.
- Employee welfare measures such as health benefits and work-life balance initiatives should be enhanced.
- AI-assisted HR analytics tools can be implemented to regularly monitor satisfaction levels and predict productivity trends for strategic decision-making.

## CONCLUSION

This study analysed employee job satisfaction as a predictor of productivity at Leo Textiles using an AI-assisted analytical perspective. The results revealed a significant positive relationship between job satisfaction and productivity. Salary, working conditions, and job security were identified as key determinants of satisfaction. The findings highlight the importance of effective HR practices in enhancing workforce performance. The study also emphasizes that AI-supported HR analytics can assist organizations in predicting productivity trends and improving strategic decision-making.

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