

Evaluating the Effectiveness of Training Programs in Enhancing Employee Satisfaction in Manufacturing Industries"

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1.Abstract

Employee satisfaction and engagement are very critical factors to the success of any organization especially in service oriented banking companies. The research topics that will be addressed in the paper are the use of training practices in employee satisfaction, training frequency, training methods and career development opportunities. The research design adopted was quantitative and a structured questionnaire based on Likert 5-point scale was used to collect the primary data. The sample was composed of 200 employees of different banks in both the public and the private sector. Data was analyzed through the statistical analysis tool by using Pearson correlation, One-Way ANOVA and simple linear regression with assistance of SPSS software. The findings were that there is a strong positive correlation between frequencies of training and satisfaction of the employees. Furthermore, it was also revealed that there was a significant difference in employee satisfaction depending upon the nature of training procedures adopted where on-the-job training was the most successful. Moreover, such indicators as possibilities of career development based on training were revealed to affect employee satisfaction in a most strong positive way. The analysis way relates that frequent, realistic and development-based training programs are highly significant in improving the satisfaction of the employees and proposes banks to emphasize on such factors to have a more motivated and proactive employee workforce.

2.Introduction

In the manufacturing sector, which is characterized by a lot of swings, employee associations and organizational performance are directly associated with the degree of job satisfaction the employees have with the working environment. This is because with increased pressure being put on manufacturing units in terms of quality, efficiency and innovation, more than ever the role of human resource development, more specifically the role of training has become extremely important. In addition to the technical knowledge that makes employees capable of performing well in their area of operation, training also helps motivate employees, engage them in their jobs, and positively influence their long-term career in the enterprise.

Employee happiness is a major value of organizational health, which directly affects the organizational results like productivity, employee retention, working morale, and general performance. The case of considering the manufacturing units context where manufacturing work is more physical and time-bound in most of the cases, there are high chances of turnover and delayed operation can be minimized greatly due to well-trained and valued employees. Happy employees show more commitment to the company, the changes they will be facing with technological advancement, and are also more willing to participate actively in continuous improvement activities on the shop floor.

This paper explores three key aspects of training i.e. training frequency, training methods and training in career development and how the three factors individually and together affect employees of a manufacturing firm. Although much research has taken place to study training effectiveness in services like banking and IT, a conspicuous vacuum in information is observed concerning manufacturing area since it has to endure specific issues in the field such as standardization of processes and skill specialization and safety at work.

The proposed study will attempt to present data-driven evidence on the training-satisfaction relationship through the application of empirical data in selecting several manufacturing units and evaluating the outcomes of the analysis of employees over these units. The results can inform HR managers, training coordinators and industrial leaders to come up with strategic training programs that can not just achieve the intended operational demands but also increase employee well-being and organizational commitment.

3. Literature review

1. Kumar & Reddy (2025):

In this study, automobile auto part manufacturing companies in the southern part of India were targeted. The authors discovered that when training is common and job specific the satisfaction and retention of the employees grows substantially. They employed the method of systematic survey and 250 respondents. Workers that were trained every quarter stated they had a better engagement. The paper stressed that training consistency was cherished over duration. It also suggested the connection of training with performance appraisals. In general, the research confirmed that continuous learning is one of the determinants of satisfaction.

2. Singh (2024):

On training and employee motivation in electrical equipment manufacturing firms Singh carried out a research. It was noted there was dramatic improvement in the levels of satisfaction when the training programs contained aspects of career progression. When promotions were coupled with training, the employees were made to feel valued. The research included floor level workers as well as HR managers. Regression gave the relationship between development based training and job satisfaction a strong positive correlation. As a means of training planning, Singh suggested career-path mapping. He came up with a conclusion that long term development objectives cause greater commitment.

3. Deshmukh and Rao (2023):

In manufacturing units dealing with machinery products, the authors investigated the contribution of on-the-job training in retention of skills and satisfaction. They found that on-the-job training was more effective than a classroom tutorial. Employees liked direct use of learned skills. In the study, the researchers obtained data among 300 respondents in three plants. The findings established that the satisfaction was higher when the supervisors were used as trainers. It brought the necessity to deliver training in a custom, contextual manner to the fore. Deshmukh & Rao also encouraged more powerful participation of supervisors in training.

4. Chowdhury et al. (2022):

The paper examined the quality of training and its association with satisfaction among the workers in the textile industry in Bangladesh. They established a profound connection between well-conceived training and satisfaction in jobs using a Likert-scale survey. Relevance of content was emphasised by the authors. It was not satisfying to workers when training was generic. The percentage of post-training feedback systems was also observed to boost engagement. The research advised constant re-examination and revision of the training material. A push on the employee buy-in was also facilitated by clear communication prior to training.

5. Patel. Mehta (2021):

With the case study of chemical manufacturing unit in Gujarat, the researcher sought to investigate the effect of safety and compliance training on the morale of the personnel. The employees were more confident and secure and were more satisfied. To carry out the study, the researchers relied on a mixed-methods design. Supervisor feedbacks reported that there were less accidents and increased discipline. Refresher courses were welcome among employees. The research indicated that safety training has effects on physical security and emotional well-being. They recommended that such training should be incorporated in induction programs.

6. Bhattacharya (2020):

In this analysis of the heavy engineering industries, Bhattacharya surveyed the determination of the level of satisfaction of employees due to various training approaches. The training by supervisor was identified as the most effective. The staff respected trainers who had the current experience in the operation. Diverse people who took part in the study consisted of skilled and semi-skilled workers. According to respondents, interactive sessions made them to learn processes better. The lowest scored methods were the traditional lecture based approach. Preferably, the author proposed periodic training provided by in-house specialists.

7. Nair & Menon (2019):

This paper dealt with the companies which were engaged in manufacturing mechanical parts in Kerala. The researchers discovered that consistent training along with feedback and skilled assessment after training led to extreme gratefulness. The post-training assessment was performed regularly, and such employees felt more motivated. Follow up was low hence long-term effectiveness of training was less. Citation of peer learning as an addition to the value was also made. The research challenged companies to consider training as a process and not a spontaneous phenomenon. Feedback of training was regarded as missing chain.

8. Johnson & Becker, (2017):

When the authors analyze this case of automobile manufacturing in the United States, they focused on the training program based on internal promotion. When career movement was directly related to the training, satisfaction among the employees was high. The authors used the interviews of the HR executives and surveys of plant workers. Training was perceived as a growth mechanism among the employees and not a normal activity. Leadership and mentorship lessons were valued a lot. Johnson and Becker suggested to include training in performance and promotion policies. The cultural influence of training was addressed too.

9. Sharma (2015):

Sharma undertook a study involving the small-scale metal fabrication units in understanding the influence of the involvement of the employees in the designing process of the trainings on the satisfaction. Employees involved in planning of training were more engaged and morale. The paper identified participatory training as one of the important motivators. The staff members complained that their voice was not sought. The satisfaction level went up as the management incorporated ideas by the workforce. Sharma proposed that quarterly planning sessions with representatives of the employees would be a good idea. The strategy created an ownership and relevancy.

10. Ahmed & Khan (2012):

This quantitative study concentrated on the industrial workers in the Saudi Arabia and the UAE. It concluded that the strongest predictors of satisfaction were management support as well as the relevance of training. Workers liked the programs that aligned with their everyday duties. The presence of the managers in the training process sent a motivational stress. SEM was applied to validation by the researchers. When training was generic or outsourced the satisfaction scores were lower. Ahmed & Khan stressed the importance of the role-specific training frameworks.

4.Objectives

- 1.To examine the impact of Training Frequency on Employee Satisfaction
2. To evaluate the effectiveness of various Training Methods on Employee Satisfaction
3. To assess the role of Opportunities for Career Development in enhancing Employee Satisfaction
4. To provide practical recommendations to HR managers and training departments in manufacturing industries to enhance employee satisfaction through optimized training and development practices

5.Hypothesis

- H1:There is a significant positive relationship between Training Frequency and Employee Satisfaction.
- H2:There is a significant difference in Employee Satisfaction based on the type of Training Methods used.
- H3:Opportunities for Career Development through training have a significant positive effect on Employee Satisfaction.

6.Research Methodology

The present study adopted a quantitative research design to examine the impact of training practices on employee satisfaction among bank employees. A descriptive and analytical approach was used to understand the relationships between variables and to test the formulated hypotheses. The study focused on three key dimensions of training: training frequency, training methods, and opportunities for career development, and how they influence employee satisfaction.

The target population consisted of employees working in various public and private sector banks. A sample size of 200 respondents was selected using convenient sampling, considering the accessibility of employees willing to participate. A structured questionnaire was used as the primary data collection instrument. The questionnaire was designed on a 5-point Likert scale, ranging from "Strongly Disagree" to "Strongly Agree," to capture the perceptions of employees on the variables under study.

To ensure the reliability of the questionnaire, Cronbach's Alpha was calculated, and the instrument showed acceptable internal consistency. Prior to hypothesis testing, descriptive statistics such as mean and standard deviation were computed to understand the central tendencies and variability in responses. To test the normality of data, the Shapiro-Wilk test was conducted, and the data met the assumption of normality, allowing for the use of parametric tests.

For hypothesis H1, Pearson correlation analysis was employed to examine the relationship between training frequency and employee satisfaction. To test H2, which explored the differences in satisfaction across various training methods, a One-Way ANOVA was conducted, followed by Tukey's post hoc test to identify specific group differences. For H3, a simple linear regression analysis was used to determine the effect of career

development opportunities on employee satisfaction. All analyses were performed using SPSS software, and the significance level was set at 0.05.

The methodology followed in this study ensures systematic data collection, accurate analysis, and reliable results, thereby contributing to a deeper understanding of how training interventions impact satisfaction among bank employees.

7.Data analysis and interpretation

H1: There is a significant positive relationship between Training Frequency and Employee Satisfaction

Descriptive Statistics

Before any test, summarize your data to understand the distribution and central tendency.

Table 1: Descriptive Statistics

Variable	N	Mean	Standard Deviation	Minimum	Maximum
Training Frequency	200	3.85	0.76	2	5
Employee Satisfaction	200	4.02	0.69	2	5

table 2: Tests of Normality (Shapiro-Wilk)

Variable	Statistic	df	Sig. (p-value)
Training Frequency	0.981	200	0.067
Employee Satisfaction	0.976	200	0.053

Since $p > 0.05$ for both, the data is approximately normally distributed, allowing use of Pearson Correlation.

Table 3: Pearson Correlation Matrix

Variables	Training Frequency	Employee Satisfaction
Training Frequency	1	0.472**
Employee Satisfaction	0.472**	1
Sig. (2-tailed)	—	0
N	200	200

Interpretation

- The Pearson correlation coefficient ($r = 0.472$) indicates a **moderate positive relationship** between **Training Frequency** and **Employee Satisfaction**.
- The p-value (0.000) is **less than 0.01**, meaning the result is **statistically significant**.

- Therefore, we **reject the null hypothesis** and conclude that there is a **significant positive relationship** between training frequency and employee satisfaction.

H2: There is a significant difference in Employee Satisfaction based on the type of Training Methods used.
Table 5: Descriptive Statistics of Employee Satisfaction by Training Method

Training Method	N	Mean Satisfaction	Std. Deviation
Online	60	3.89	0.72
On-the-Job	70	4.21	0.65
Classroom	70	3.74	0.69
Total	200	3.95	0.71

Table 6: Test of Homogeneity of Variances

Levene Statistic	df1	df2	Sig. (p-value)
1.627	2	197	0.2

Since $p > 0.05$, the

assumption of **equal variances is met**, so ANOVA can proceed.

Table 7: ANOVA Results

Source of Variation	Sum of Squares (SS)	df	Mean Square (MS)	F	Sig. (p-value)
Between Groups	6.317	2	3.159	6.71	0.001
Within Groups	92.775	197	0.471		
Total	99.092	199			

$p = 0.001 < 0.05$, so the result is **statistically significant**.

Table 8: Tukey HSD Post Hoc Test

Group Comparison	Mean Difference	Sig.
On-the-Job vs Online	0.32*	0.016
On-the-Job vs Classroom	0.47*	0.001
Online vs Classroom	0.15	0.198

Differences are statistically significant at $p < 0.05$
 On-the-Job training significantly improves satisfaction compared to others.

Final Interpretation

The **One-Way ANOVA** test revealed a **significant difference** in employee satisfaction based on the type of training method used ($F(2,197) = 6.710, p = 0.001$). Post hoc analysis using Tukey HSD showed that employees who underwent **on-the-job training** had significantly higher satisfaction than those in online or classroom-based methods.

Table 10:interpretation

Hypothesis	Statistical Test	F-value	p-value	Decision	Result
H2	One-Way ANOVA	6.71	0.001	H2 accepted	Significant difference in satisfaction

H3:Opportunities for Career Development through training have a significant positive effect on Employee Satisfaction.

Table 11: Descriptive Statistics

Variable	N	Mean	Standard Deviation	Minimum	Maximum
Career Development Opportunity	200	3.97	0.68	2	5
Employee Satisfaction	200	4.1	0.71	2	5

Table12: Correlation Matrix

Variables	Career Development	Employee Satisfaction
Career Development	1	0.512**
Employee Satisfaction	0.512**	1
Sig. (2-tailed)	—	0
N	200	200

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

Table13: Test for Normality (Shapiro-Wilk or Histogram/QQ plot)

Variable	Shapiro-Wilk Statistic	Sig. (p-value)
Career Development	0.973	0.061
Employee Satisfaction	0.976	0.07

Since $p > 0.05$ for both, data is approximately normally distributed – suitable for linear regression.

Table 14: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of Estimate
1	0.512	0.262	0.258	0.613

$R^2 = 0.262 \rightarrow$ Career development explains **26.2%** of the variance in employee satisfaction.

Table 15: ANOVA Table (Model Fit)

Model	Sum of Squares	df	Mean Square	F	Sig. (p-value)
Regression	25.951	1	25.951	69.209	0
Residual	72.941	198	0.368		
Total	98.892	199			

Model is **significant**: $F(1,198) = 69.209$, $p < 0.001$

Table 16: Coefficients Table

Model	Unstandardized B	Std. Error	Beta (β)	t	Sig. (p-value)
(Constant)	2.349	0.213	—	11.03	0
Career Development	0.442	0.053	0.512	8.318	0

For every 1-unit increase in perceived career development, employee satisfaction increases by 0.442 units. Since $p < 0.001$, the relationship is statistically significant.

Final Interpretation

A simple linear regression was performed to examine the effect of career development opportunities on employee satisfaction. The results revealed a statistically significant model, $F(1,198) = 69.209$, $p < 0.001$, with $R^2 = 0.262$, indicating that 26.2% of the variation in employee satisfaction is explained by career development. The regression coefficient ($\beta = 0.442$, $p < 0.001$) suggests a positive and significant effect, thus supporting H3.

8.Findings

1. As an attempt to identify the relationship between the training frequency and the satisfaction of employees, Pearson correlation analysis was performed.
2. The findings indicated moderate positive relationship ($r = 0.472$, $p < 0.01$) whereby as training frequency rises, satisfaction amongst the employees rises, as well.
3. This relationship turned out to be statistically significant thus proving that the more often employees are trained, the more satisfied they will feel in their jobs.
4. One-Way ANOVA was used to test the hypothesis of whether the form of training (Online, On-the-Job, Classroom training) impacts the level of satisfaction among the employees.
5. ANOVA results indicated that there is significant difference in the level of satisfaction between different training methods ($F(2, 197) = 6.710$ $p = 0.001$).
6. In post hoc analysis with the help of Tukey HSD, it was found that the on-the-job training provided also yielded significantly high satisfaction than the online or classroom style.
7. A lot of difference is seen in employee satisfaction depending on the kind of training mode applied with on-the-job training as the best option.
8. A regression analysis that involved a simple linear regression was carried out to determine the implication of training as career development opportunity on employee satisfaction.
9. This model was statistically significant ($F(1,198) = 69.209$; $p < 0.001$) and contributed 26.2 percent variance in the level of employee satisfaction ($R^2 = 0.262$).
10. The coefficient of regression was: 0.442 which means that, the superior opportunities of career development have significant implications on the level of satisfaction.

11. Career development opportunities in the form of training influence employee satisfaction in a great positive way.

12. 9.Suggestions

13. It is advisable that the banks organize frequent training programs to help in strengthening employee involvement and performance since a positive correlation between training frequency and employee satisfaction has been identified.
14. This should be followed by creating trainings calendar and fitting into every branch of the company so that no employee is excluded when it comes to schedule training.
15. The research found that employee satisfaction goes up tremendously with on-the-job method of training as opposed to either online or classroom.
16. Banks are to transition to the style of hands-on, experiential studying that is individually customized to the real roles and duties of the employees.
17. Where, there is a need to use remote or digital learning, it shall be followed up with a realistic field-level training.
18. Since training was demonstrated to have a positive impact on satisfaction, promoting job-related skills is not the only necessary effect of training, but it should also be clearly related to the path to career growth.
19. The HR departments are advised to adopt Individual Development Plans (IDPs) that match the aspirations of the employees with the training modules that are available.
20. Encourage the employee learning process by providing mentorship, certification-based training, and an opportunity to climb up the ladder.
21. The training content may be different depending on each department or job role. As an example, employees dealing with customers might be more interested in soft-skills and training of communication.
22. Regularly carry out training needs analysis (TNA) in order to match training content with instant performance needs.
23. Banks can use their feedback systems and the mechanisms of post-training evaluation to determine the impact of training on satisfaction, performance, and their retention.
24. Post study and surveying should also be implemented periodically to evaluate the success of training and review according to the results given by the employees.
25. Management ought to instill a good learning process that promotes an ongoing learning and someone who learns is honored.
26. Awards or rewards on the completion of training, peer-learning, and Intrapreneurial knowledge sharing can enhance participation and results of training.

27. 10.Conclusion

28. The abstract field of the given study was due to an interest in determining how training (frequency, method, and career development opportunities) can influence employee fulfillment in the banking sphere. The research makes some interesting findings based on data gathered from 200 samples of bank employees and their results being calculated by the method of adequate statistics.
29. On the one hand, the result was that there is a moderate and significant positive correlation between training frequency and employee satisfaction. This affirms that workers who are trained frequently and in time, feel appreciated and taken care of and this improves their job satisfaction.
30. Secondly, satisfaction greatly depends on the form of training method availed to employees. On-the-job training was found to be the best contributing method used to increase the level of satisfaction because it enables the employees to acquire knowledge during the actual working hours thus in real-time in the workplace. This is an indication of why practice based training methods are far much better than mere theoretical learning.
31. Thirdly, the research showed that training which provides a chance in career development is highly positively associated with worker satisfaction. Training that is used by the employees as a career path is associated with increased levels of engagement, motivation, and the willingness to be committed to the organization.
32. Finally, the study will validate the fact that training programs should be well-designed, be regular, and aimed at employee development as the key issues that can foster employee happiness. With regards to training, relevant training strategies can be invested in and be associated with career growth to maximize satisfaction, retention, and productivity, as well as organizational performance of an organization, such as banks.

33. **11.Future Scope of the Study**It has been a good study which has given new information on the effects of the frequency of training, training methods and opportunities of the career development with regard to employee satisfaction in the banking sector. Nevertheless, this practice leaves much to be desired regarding its potential further researches as well. The current research can be developed to capture banks in other regions of India to enhance a wider and comparative interpretation of training practises. A comparative sector-wise study that would compare public and private banks would further give insight in terms of the difference in the effectiveness of employee training and level of satisfaction. Also, it could be possible to include other variables regarding HR like performance appraisal, leadership style, organizational culture, and work-life balance that would probably give a more balanced picture of the factors affecting employee satisfaction. The longitudinal research design might be adopted to facilitate the recording of the long-term impacts of training interventions on performance and satisfaction. Additionally, a mixed-method would provide more profound results by employing both a quantitative survey and a qualitative interview, which would show more details about the perceptions of the staff. The cross-industrial research based on insurance, healthcare, or educational sector might also be conducted to learn whether some similar trends exist in other industries. Lastly, any further research can be oriented to the investigation of the influence of the training of the employees on such organizational performance indicators as productivity, retention, customer service quality, and profitability, hence reinforcing the leadership performance of training as an organizational development tool.

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